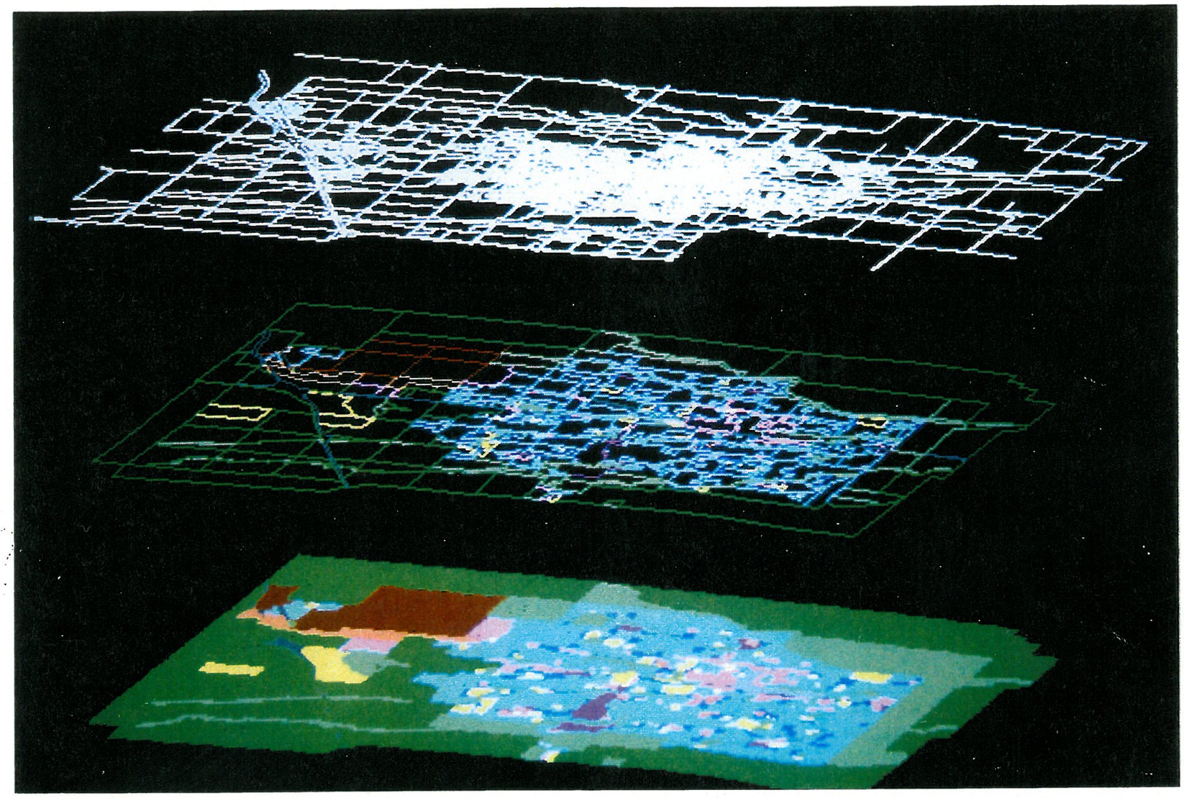
City of Visalia

Sewer System Master Plan



February 1994

BOYLE
ENGINEERING CORPORATION

Sewer System Master Plan

City of Visalia

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FR-V16-100-01

February 1994

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PLATES

LIST OF TABLES

Section 1

INTRODUCTION

1.1 BACKGROUND

The City of Visalia's (City) existing sanitary sewer system consists of over 200 miles of collection lines and some 15 sanitary sewer pumping stations (Plate 1). This system currently serves most developed areas within the city limits.

The collection system was expanded in 1985-1986 with the construction of trunk lines that provided for full buildout of the Northeast Area Specific Plan, buildout to the then-existing General Plan boundary, and allowance for additional development in the industrial park area in the northwest area of the city. A 36-inch sewer constructed to serve the industrial park was also designed to serve residential growth in the northwest part of the community.

In September of 1991, the City adopted an updated Land Use Element (LUE) to its General Plan. The updated LUE established development boundaries for the community (through the year 2020) and the distribution of residential, commercial, industrial, open space, and institutional uses within those boundaries. To ensure that development of the planned land uses is not restricted by infrastructure constraints, the LUE (also referred to as the *2020 Plan*) contains a specific policy pertaining to the preparation of a master plan for the City's sewer system. Policy 5.1.4 of the LUE states "*Prepare and implement a 50-year sanitary sewer master plan which implements adopted land use goals, objectives, and policies and which stresses oversizing to meet long-range demand.*"

1.2 AUTHORIZATION

Boyle Engineering Corporation (Boyle) was authorized by the City of Visalia, according to an agreement dated August 9, 1991, to prepare a Sanitary Sewer Master Plan, a Storm Drainage Master Plan update, and Sanitary Sewer and Storm Drainage Management Plans consisting of a computer-based graphical database of sewer and storm drainage facilities with modeling capability. This document includes the Sewer System Master Plan element of the work including an analysis of the existing City sewer system and recommended improvements to provide for future growth.

1.3 STUDY AREA

The City of Visalia, Tulare County, is located in the southeastern portion of the San Joaquin Valley. State Route 198 bisects the city west to east, and State Route 99 passes at the western edge of the city. The study area considered in this report (Figure 1-1) encompasses the following staged growth boundaries, as defined in the 1991 LUE of the City's General Plan.

1.3.1 Urban Development Boundary (UDB)

Urban Development Boundaries (UDBs) represent areas to which a full range of urban services, including sanitary sewers, need to be extended over a specific planning period. The City's planning department has developed several staged UDBs associated with anticipated population projections and growth time periods as follows:

- Year 2000 UDB coincides with a projected population of 98,700.
- Year 2010 UDB coincides with a projected population of 129,000.
- Year 2020 UDB coincides with a projected population of 165,000. The Land Use Element of the General Plan identifies it as the Urban Growth Boundary (UGB).

1.3.2 Urban Area Boundary (UAB)

The Urban Area Boundary (UAB) encompasses an area of approximately 90 square miles. In addition to the UGB, which is anticipated to be mostly developed by the year 2020, it includes an area that provides an open space buffer by the community. Although the area between the UGB and the UAB is generally not projected for urban development within the 30-year planning and implementation period of this Master Plan, the City's LUE policies encourage the preparation of a long-range 50-year sewer master plan. Therefore, for the purpose of this study, it was assumed that much of this area will develop between 2020 and 2040 and be served by planned truck lines that also will serve pre-2020 development.

1.4 LAND USE

1.4.1 General

Identification of planned land uses was based on the Land Use Element of the City's 1991 General Plan which provides detailed descriptions on the City's land use designations. Aerial photos of the city (flown in 1991), as well as input from City staff, were utilized to identify the current developed areas and vacant lands.

1.4.2 Land Use Designations

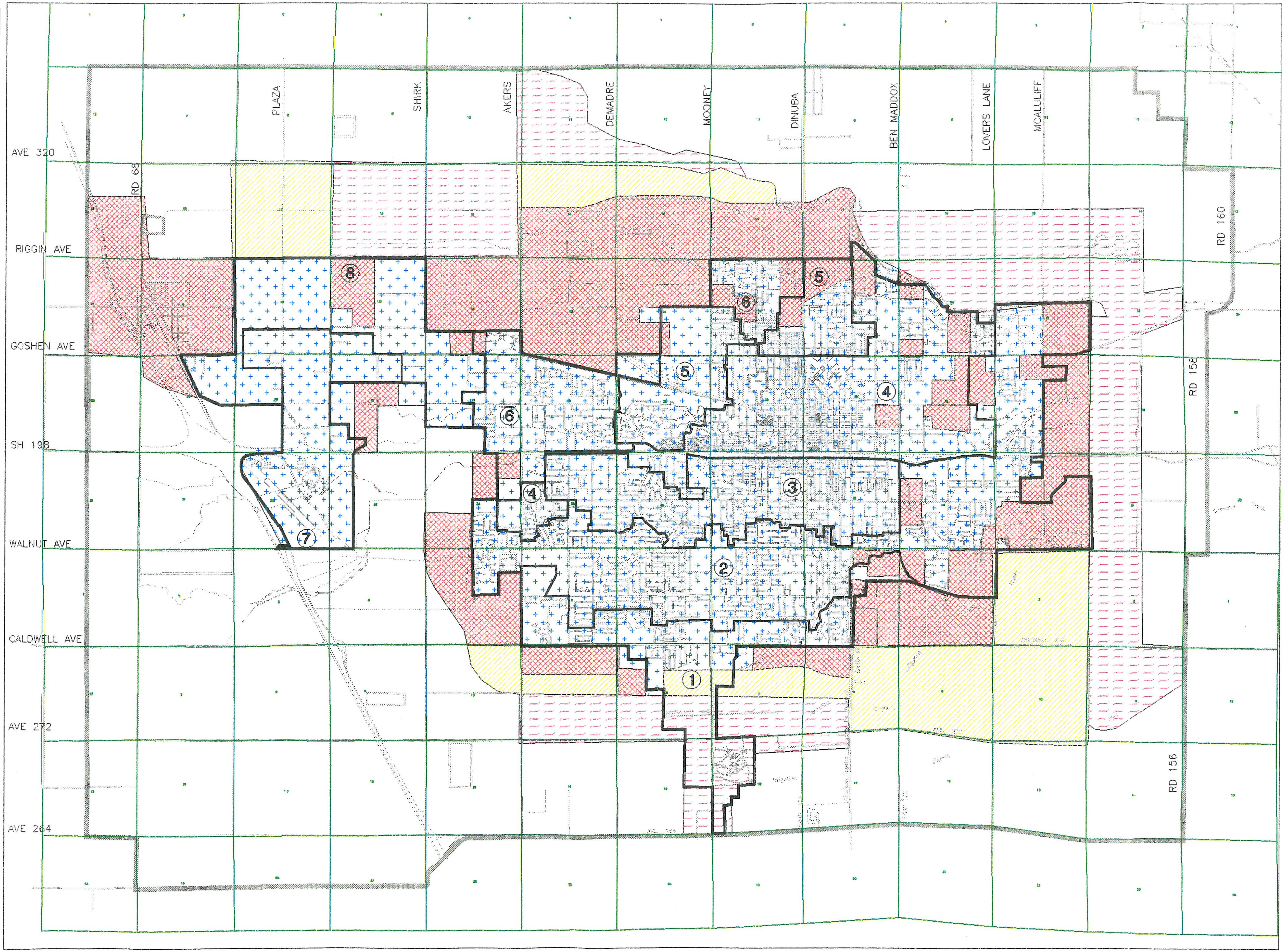
Land use categories/designations taken from the City's General Plan are summarized below.

Residential

This land use category is further divided into the following designations:

- Rural Density:

  Up to 2 dwelling units per acre (DU/AC), and 3 persons per acre.



N

Legend

EXISTING DEVELOPEMENT
1992 – 2000 DEVELOPMENT
2000 – 2010 DEVELOPMENT
2010 – 2020 DEVELOPMENT
POSSIBLE DEVELOPEMENT
EXISTING URBAN AREA BOUNDARY
SERVICE AREA BOUNDARY
9 SERVICE AREA NUMBER
SECTION LINE
SECTION NUMBER

City of Visalia

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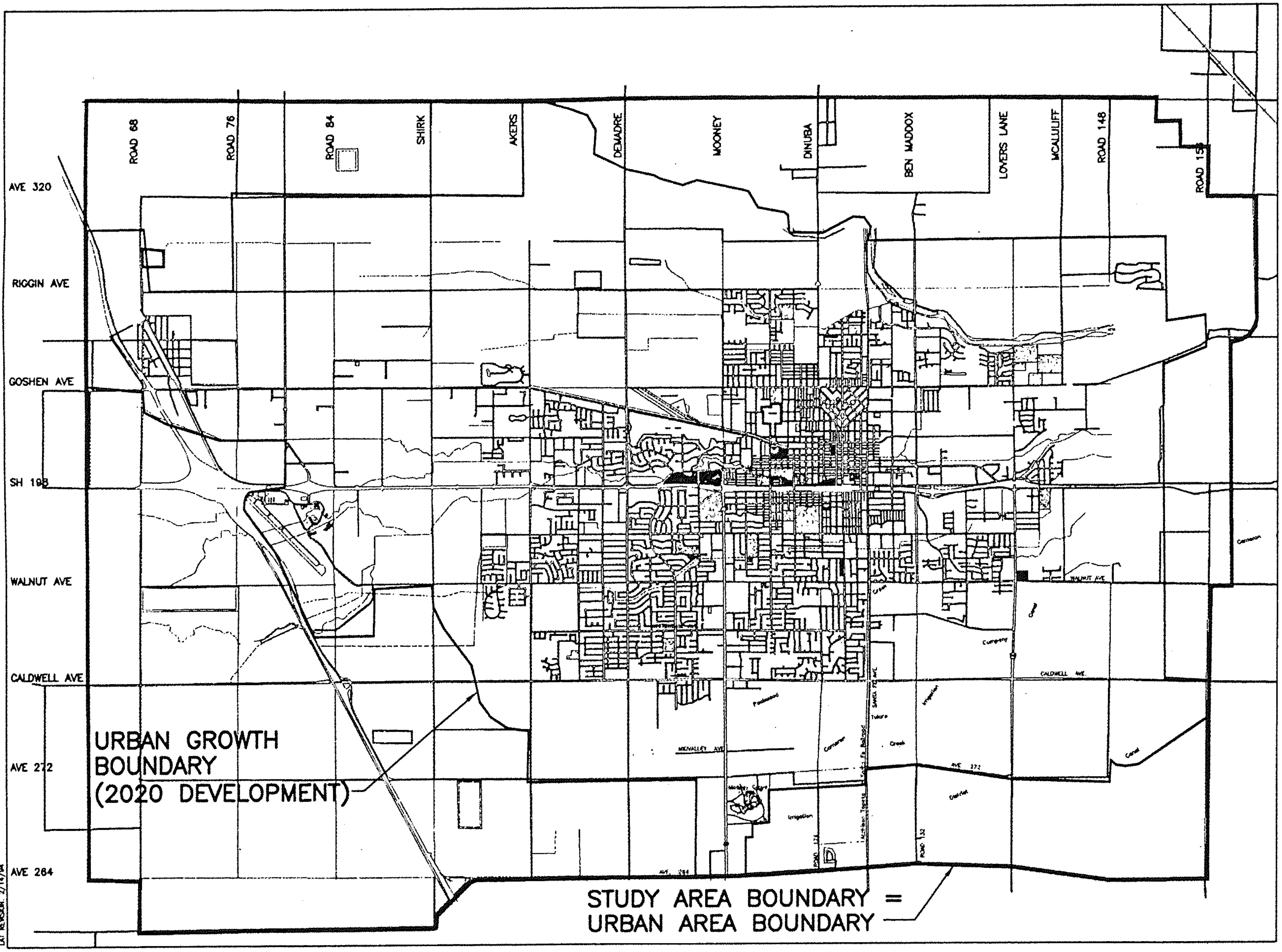
STAGED GROWTH MAP

Figure 1–2



City Of Visalia

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SANITARY SEWER MASTER PLAN

STUDY AREA

Figure 1-1

FILE NAME: FIG_1-1.DWG
PLOT SCALE: FIT 8 1/2 x 11 (PAPERSPACE)
LAT REVISION: 2/14/94

- o Low Density:

  2-10 DU/AC, and up to 21 persons per acre.

- o Medium Density:

  11-14 DU/AC, and up to 33 persons per acre.

- o High Density:

  15-29 DU/AC, and up to 58 persons per acre.

With the exception of the northwest area (primarily industrial), the number of residential units is evenly distributed throughout the city. Sixteen percent (16%) of the residential units are multiple family units. Twenty-one percent (21%) of the total units in the southwest quadrant of the city are multiple-family units. Eighty-five percent (85%) of rural residential units are located in the northwest quadrant of the city.

Commercial

This land use category is further divided into the following designations:

- o Convenience Center
- o Neighborhood Center
- o Community Centers
- o Shopping/Office Center
- o Central Business District
- o Regional Center
- o Highway Commercial
- o Service
- o Professional/Administrative Offices

The major areas of commercial concentration, encompassing nearly two-thirds of the existing retail space, are:

- o Mooney Boulevard, between Highway 198 and Caldwell Avenue
- o Central Business District
- o Western Highway 198 corridor, between County Center Drive and Akers Road.

Other areas offering lesser retail concentrations are located at the intersections of Demaree Road and Walnut Avenue, Giddings Avenue and Walnut Avenue, and Houston Avenue east of Ben Maddox Way.

Community Facilities

This land use category consists of public/institutional facilities including schools and hospitals.

The projected growth areas are shown on Figure 1-2. The expansion areas correspond with the UDBs discussed in Section 1.3 and form the basis of staged expansion of the sewer system.

1.5 POPULATION

The California Department of Finance maintains yearly population estimates for all the state's counties and cities. Between the years 1980 and 1989, the city's population grew at an average annual growth rate of approximately 4.2%.

Year	Rate	Year	Rate
1975	8.40%	1983	3.46%
1976	7.09%	1984	3.84%
1977	6.36%	1985	3.93%
1978	6.62%	1986	3.39%
1979	8.10%	1987	2.31%
1980	12.00%	1988	4.07%
1981	5.87%	1989	5.43%
1982	0.75%	1990	9.07%

The City's Community Development Department has estimated the existing population, and projected future population as shown below.

	Year 1992	Year 2000	Year 2010	Year 2020
Population:	81,635	98,700	129,000	165,000
Growth Rate:	--	2.40%	2.71%	2.49%

1.6 SCHOOLS AND HOSPITALS

Schools and hospitals, depending on their size, can generate substantial wastewater flows. A database of current major school enrollment and hospital occupancy in the Visalia area was compiled for this study.

Table 1-1 lists Visalia schools with corresponding 1991 enrollment and projected rate of growth, and Visalia hospitals with corresponding 1991 bed capacities and projected future expansions.

TABLE 1-1

SCHOOL ENROLLMENT AND HOSPITAL OCCUPANCY

	Enrollment/Occupancy	Projected Increase
VISALIA SCHOOLS		
College of the Sequoias	8,694 students	4.6 % per year
Visalia Unified School District		
Elementary Schools		
Conyer	572 students	5.6% per year
Crestwood	873 students	5.6% per year
Crowley	672 students	5.6% per year
Elbow	122 students	5.6% per year
Elbow Creek	467 students	5.6% per year
East Union	109 students	5.6% per year
Fairview	834 students	5.6% per year
Golden Oak	454 students	5.6% per year
Goshen	624 students	5.6% per year
Highland	586 students	5.6% per year
Houston	864 students	5.6% per year
Ivanhoe	481 students	5.6% per year
Linwood	435 students	5.6% per year
Mineral King	766 students	5.6% per year
Mountain View	788 students	5.6% per year
Packwood	94 students	5.6% per year
Pinkham	599 students	5.6% per year
Royal Oaks	637 students	5.6% per year
Union	435 students	5.6% per year
Viva Blunt	766 students	5.6% per year
Washington	432 students	5.6% per year
Willow Glenn	721 students	5.6% per year
Middle Schools		
Divisadero	968 students	5.6% per year
Green Acres	1,014 students	5.6% per year
Valley Oak	1,089 students	5.6% per year
High Schools		
Golden West	1,596 students	5.6% per year
Mount Whitney	1,541 students	5.6% per year
Redwood	1,590 students	5.6% per year
Sequoia	379 students	5.6% per year

TABLE 1-1 (continued)

	Enrollment/Occupancy	Projected Increase
VISALIA HOSPITALS		
Visalia Convalescent Hospital	176 beds	not available
Visalia Community Hospital	52 beds	not available
Kaweah Delta District	280 beds	60 new beds in 1992

Section 2

DESIGN STANDARDS/ANALYSIS CRITERIA

2.1 GENERAL

In order to determine the adequacy of the existing system and to identify the existence of deficiencies, a system of standards and criteria must be established. The City design standards were used when available, and additional analysis criteria were developed by Boyle based upon criteria previously used for cities with climatic characteristics and population size similar to Visalia. These design standards and analysis criteria are described in this section.

2.2 CHARACTERISTICS OF WASTEWATER FLOWS

Since the City's wastewater collection system combines domestic and industrial flows, the quantity characteristics (i.e., variations in flows) of the system is a function of both types of flows.

Variations in domestic wastewater flow rates occur on an hourly, daily, and monthly basis. Hourly changes in flow over a 24-hour period are generally predictable in that they follow the daily patterns of activity, with minimum flows occurring in the early morning hours (3 to 4 a.m.) and peak flows occurring in the late morning and early evening hours. This phenomenon is known as the diurnal cycle.

Variations in industrial wastewater flow rates are more difficult to predict because the flow is generated by a myriad of industrial processes utilizing water for a variety of purposes. However, most major industrial water users are required to meter their discharged wastewater and regularly report the metered data for billing purposes. This data was used to identify sources and flow characteristics of significant industrial wastewater.

2.3 FLOW METERING PROGRAM

To establish flow characteristics of the City's sewer system, direct field measurements were performed at selected locations throughout the sewer system. These locations were selected to provide representative flow data of the system's service areas, to determine the relationship between average day flows and maximum hour flows, to aid in determining the wastewater-generation factors (flow coefficients) for the various land use categories, and to monitor existing flow conditions in major trunk sewers.

2.3.1 Flow Monitoring

The flow metering program was conducted by Boyle staff, in cooperation with the City of Visalia sewer maintenance crews, between August 13 and September 10, 1991. It consisted of monitoring sanitary sewer flows at the 14 locations listed in Table 2-1. Areas generating sewer flows tributary to these locations are shown in Appendix A.

Two flow meters were utilized in this program. Each meter was connected to a sensor that was mounted inside the upstream pipe. The sensor was set up to record data at 10- or 15-minute intervals for a 2- to 5-day period, and it measured and recorded both velocity and depth of flow within the pipe. The recorded data was then transferred to a computer for analysis.

Table 2-1 lists the flow metered locations, along with the corresponding diameter of the metered pipe. Appendix B contains flow metering tables listing the recorded velocities, depths of flow, and flow rates (in gpm) for each flow metered location. The recorded data was then used to generate computer graphical plots depicting the diurnal variation of the wastewater flows (gpm) versus time (hours), as shown in Appendix C. These graphs also show graphical plots of the variations of velocity (fps) versus time (hours).

2.3.2 Sewer Maintenance

During installation of the flow meter sensors, sand and other materials were sometimes found settled at the bottom of the sewer pipes. An attempt was made each time to remove the settled material in order to install the meter sensor. At times it was discovered that the meter sensor read erroneous data when the upstream section of the pipe was partially plugged.

Due largely to manpower constraints, the City does not have a preventive maintenance program to clean sanitary sewer pipes on a regular basis. Pipes are cleaned on an as-needed basis when problems are indicated. The City does, however, keep a list of locations that receive regular cleaning due to recurring problems.

Analysis of the sewer system indicates that many trunk sewers will reach their design capacity by the year 2000. It is thus desirable to maintain the carrying capacity of those pipes as high as possible to provide the designed flow.

This study recommends that the City develop a sanitary sewer maintenance program that includes cleaning pipes on a regular basis. A typical program would divide the sanitary sewer system into service areas and classify pipes into categories for frequency of cleaning. Classification of pipes will depend on existing slopes, age of pipes, odor complaints, and occurrence of other problems such as surcharging, overflowing, etc. A schedule would then be assigned for each category of pipe, whereby pipes would be cleaned at appropriate frequencies.

2.4 FLOW PEAKING EQUATION

Since the sewer flow rate fluctuates during the day, sewer pipe sizes are not designed for the average flow; instead they are designed for peak flows. To properly estimate the sewer capacity required to carry flow from various tributary areas, it is necessary to establish the relationship between the average daily flow generated and the maximum or peak flow experienced. The peak flow is then used to determine the necessary hydraulic capacity and, therefore, the size of the sewer.

TABLE 2-1

FLOW METERED LOCATIONS

Flowmetered Location Number	Date Flow Metered	Pipe Size	City Atlas Map	Manhole Location
--[1]	8/13/91	16"	70 A	James Avenue, 600 ' e/o Mooney Boulevard
1	8/13/91	21"	62 D	Walnut Avenue, 680' e/o Pinkham Road
2[2]	8/15/91	21"	14 A	Burke Street, 700' n/o Center Street
3[3]	8/20/91	15"	117 D	Akers Road, 150' n/o Hillsdale Drive
4	8/20/91	36"	114 A	Akers Road, 600' s/o Wagner Avenue
5	8/22/91	16"	70 A	Alley 300' e/o Mooney Blvd, 300' s/o James Avenue
6	8/26/91	24"	41 C	Caldwell Avenue, at Dollner Street
7	8/26/91	33"	77 D	Alley 300' n/o Tulare Avenue, 480' e/o Linwood Avenue
8[2]	8/29/91	18"	25 A	Houston Avenue, 1700' w/o Mooney Boulevard
9	9/03/91	15"	25 A	Houston Avenue, 1600' w/o Mooney Boulevard
10	9/03/91	21"	117 D	Mineral King Avenue, 980' e/o Akers Road
11	9/05/91	21"	432 B	Road 84, first MH n/o Crowley Avenue
12	9/05/91	36"	615 B	Road 76, first MH n/o Goshen
13	9/10/91	33"	44 A	Walnut Avenue, at Colonial Drive
14[2]	9/10/91	30"	46 A	State Hwy 198, 1150' e/o Demaree Road

[1] Erroneous data. Upstream pipe was plugged by a contactor and flow diverted. Not shown on Atlas maps.
[2] Problem areas where minor debris was found. Flowmetered data is most likely reliable.
[3] Debris was found settled at the bottom of the sewer pipe upstream from the flowmeter. Data is questionable.

The relationship between peak and average flow has been found to be reasonably predictable for the major land use classifications including the various residential and commercial designations.

Flow metering data, collected at the 14 locations (Table 2-1), has been analyzed to determine the relationship between average flow and peak flow. The diurnal curves obtained from the flow metering data (Appendix C) were analyzed to determine peak and average flow rates at each location. In order to derive the most representative peak and average flow rates, the data was filtered to remove inconsistencies such as abnormal peak or low readings obtained as a result of erroneous meter measurement. Weekend flows were excluded from the data when they proved to be significantly lower than weekday flows.

The highest peak from each diurnal curve has been plotted as a function of the average flow in Figure 2-1 using a logarithmic scale. A straight-line approximation of all points was then plotted over the average flow range included. The straight line on a log-log scale follows a power curve relationship which can be represented in an equation of the following form:

$$Y = a * X^b$$

The City's sanitary sewer flow peaking equation was derived from Figure 2-1 as follows:

$Q_{peak} = 1.90 * Q_{avg}^{0.90}$ (Q_{peak} and Q_{avg} are in million gallons per day, MGD)

or

$Q_{peak} = 1.98 * Q_{avg}^{0.90}$ (Q_{peak} and Q_{avg} are in cubic feet per second, cfs)

where:

Q_{peak} = Maximum flow rate during a 24-hour period.
Q_{avg} = Average flow rate during that same 24-hour period.

The peaking equation can also be rearranged to derive the peaking factor. This factor is also defined as the multiplier applied to the average flow to yield the largest amount of flow.

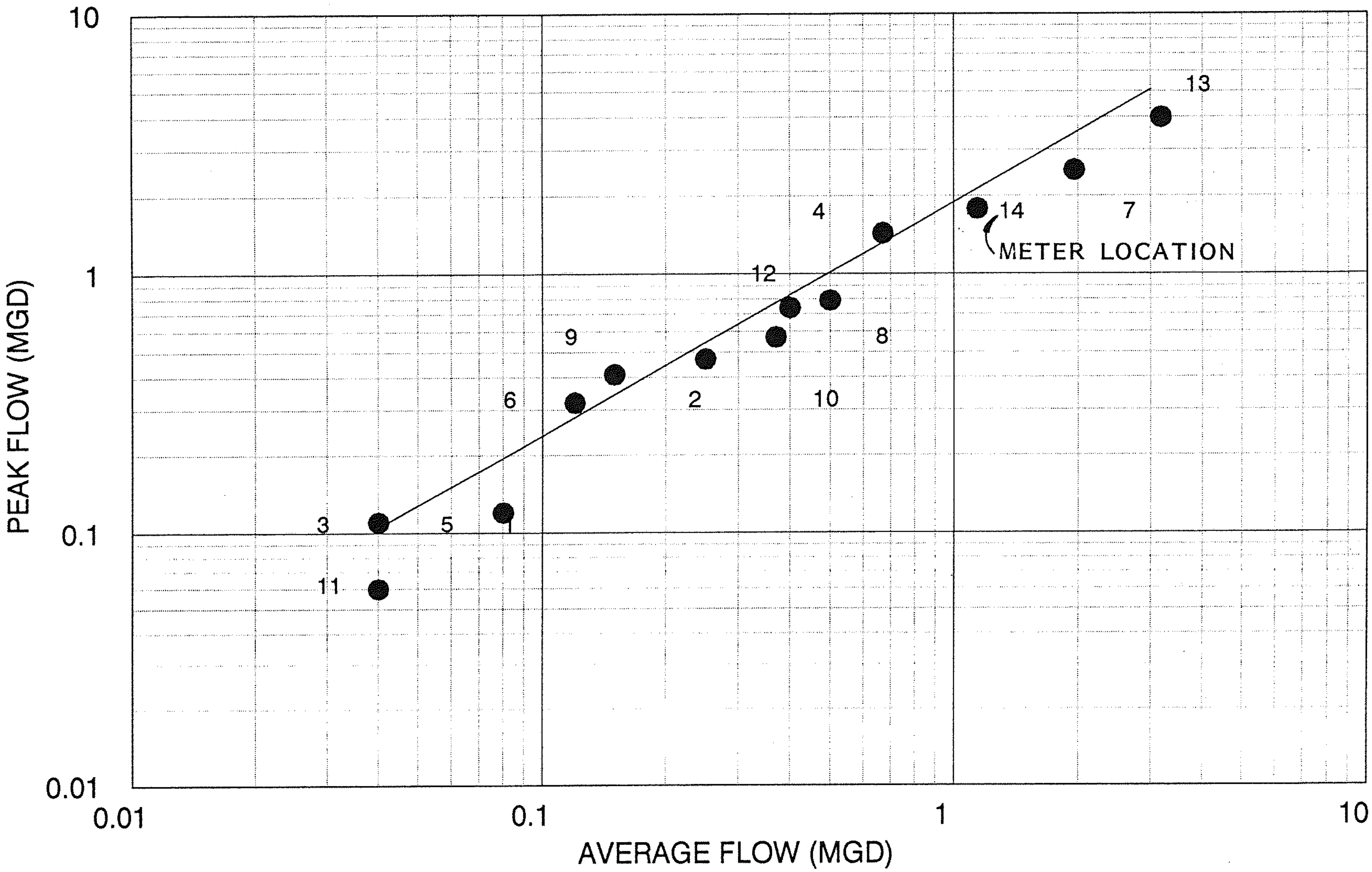
Peaking Factor = $Q_{peak} \div Q_{avg}$

The derived peaking equation does not yield a single peaking factor, instead, the peaking factor is a function of average flow, with higher average flows resulting in lower peaking factor values.

Peaking Factor = $1.90 * (Q_{avg})^{-0.10}$ (Q_{avg} in MGD)

The derived equation is compared to peaking equations used by other cities in the San Joaquin Valley and in southern California (Figure 2-2) and to peaking ratios experienced at the Visalia wastewater treatment plant (Figure 2-3).

FLOW PEAKING EQUATION



CITY OF VISALIA - SANITARY SEWER SYSTEM MASTER PLAN
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FIGURE 2-1

PEAKING FACTOR COMPARISON

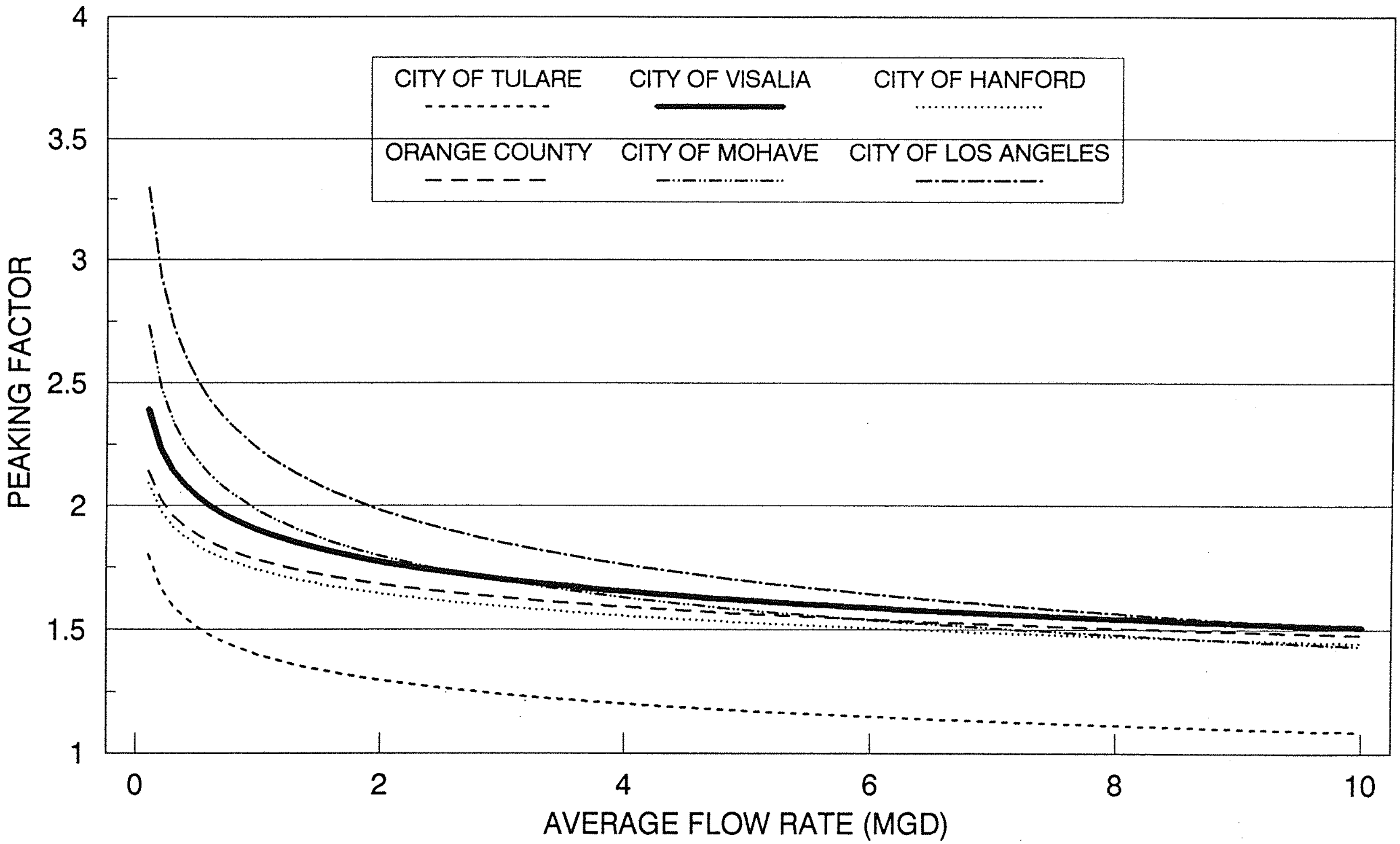

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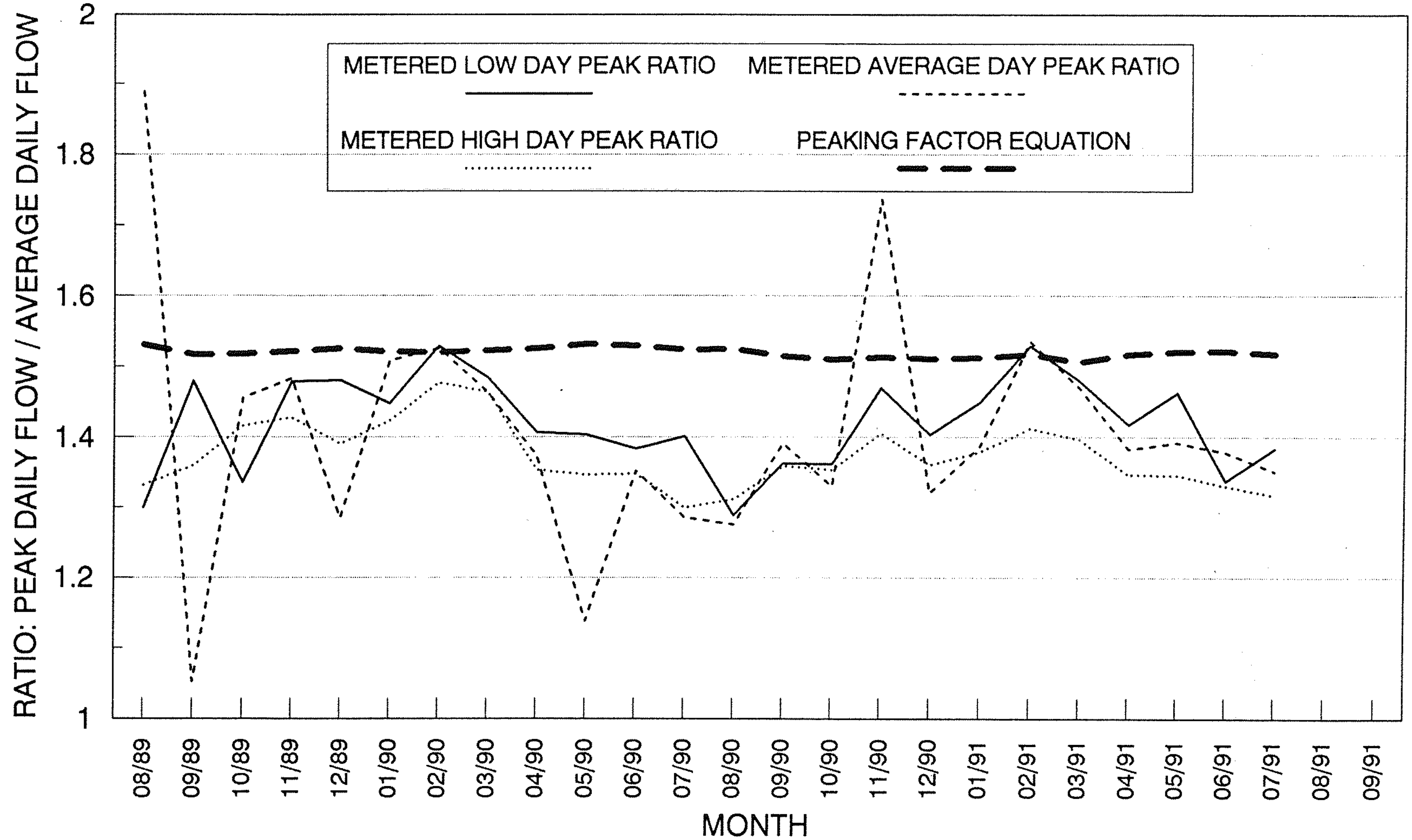
FIGURE 2-2

WASTEWATER TREATMENT PLANT
PEAK-TO-AVERAGE FLOW RATIO VARIATION



CITY OF VISALIA - SEWER SYSTEM MASTER PLAN
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FIGURE 2-3

2.5 WASTEWATER TREATMENT PLANT INFLOWS

City staff compile monthly discharge reports that list daily meter readings at the wastewater treatment plant (WWTP). Appendix D tabulates the minimum, maximum, average, and standard deviation values for the daily influent flow, the influent peak flow, the influent peak time, the influent low flow, the influent flow time, the filter flow, the bypass flow, and the effluent flow at the WWTP.

According to the WWTP monthly discharge reports, and as plotted on Figure 2-4, the month of March 1991 shows the highest maximum meter reading of 13.61 MGD. Differences between average day and maximum day for each month are attributable to variations in industrial flows during the particular month.

2.6 FLOW COEFFICIENTS

To determine the sanitary sewer flows from existing and future land uses in the city, a relationship was established between land use and wastewater flow generation. This relationship is expressed as a flow coefficient for the various land use designations.

The City's 1991 land use map was computer-digitized and used in generating summaries for the areas which are tributary to the 14 metered locations. The City's 1991 land use map consists of 20 land use designations.

Wastewater flows for significant public and institutional (PI) facilities, namely Visalia schools and hospitals, were treated as point source flows. These flows were primarily based on current student enrollment for schools and on current bed capacity for hospitals, as follows:

Elementary Schools	15 gpd per student
Middle Schools	20 gpd per student
High Schools	20 gpd per student
Colleges	25 gpd per student
Hospitals	300 gpd per bed

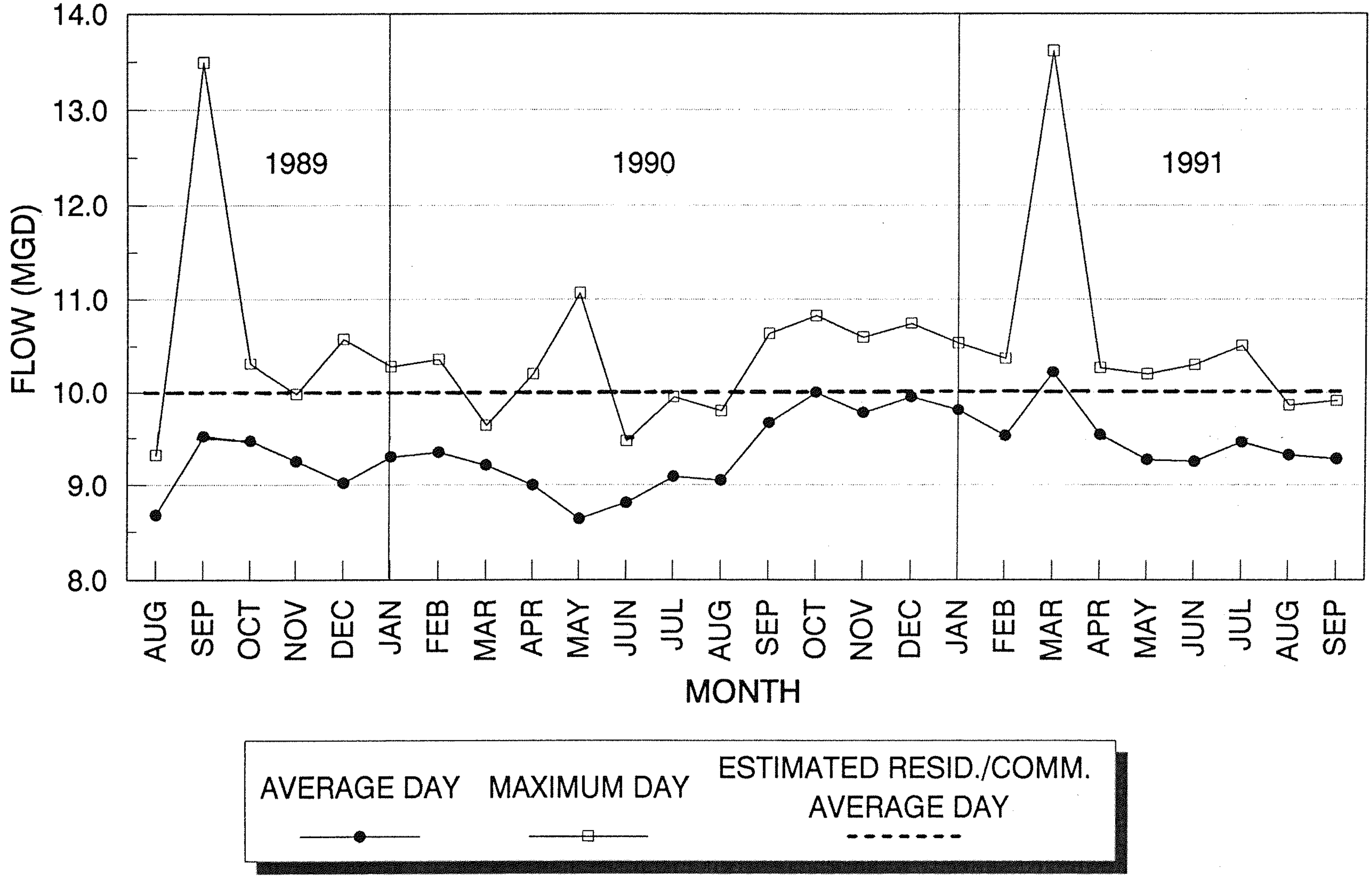
Point source flows generated by schools are based on the maximum student enrollment and point source flows for hospitals are based on the maximum bed capacity. These flows are considered maximum day flows and were peaked using the developed peaking equation.

Most rural density residential (RA) developments are currently on septic systems; however, City staff have indicated that these developments will eventually be connected to the City's sewer system. For the purpose of planning the City's expansion improvements, this study has considered all these developments connected to the City's sewer system by the year 2000.

Residential, commercial, and industrial flow coefficients were calibrated to simulate the maximum flow condition recorded at the wastewater treatment plant, as obtained from the metered flow records between August 1989 and September 1991 (Appendix D) and as illustrated in Figure 2-4.

WASTEWATER TREATMENT PLANT

DAILY AVERAGE & MAXIMUM FLOWS



CITY OF VISALIA - SANITARY SEWER SYSTEM MASTER PLAN
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FIGURE 2-4

The maximum flow value of 13.61 MGD at the wastewater treatment plant, which was recorded in March 1991, was the primary basis for calibrating all coefficients. Table 2-2 lists individual residential land use designations with their corresponding calculated flow coefficients. Average residential/commercial flows are generally known to be constant from month to month, and they were estimated at 10.07 MGD (8.08 MGD residential flows and 1.99 MGD commercial flows). Figure 2-4 also shows a plot of the estimated 10.07 MGD residential/commercial maximum flows. The City's seasonal industries cause the fluctuations in the sewer flows and were estimated at 3.54 MGD during the maximum flow value of 13.61 MGD.

The City of Visalia typically utilizes a wastewater generation factor of 100 to 125 gallons per day per capita (gpdc), and the 1987 Wastewater Treatment Plant Master Plan evaluated future needs using a factor of 120 gpdc for residential developments.

The analysis first assumed flow coefficients that were calculated based on a wastewater generation factor of 120 gpdc for residential areas. These coefficients (listed below) were then adjusted, as necessary, to reflect the flows obtained during the flow metering program. The resulting coefficients are consistent with ones that were derived by Boyle for other San Joaquin Valley cities with similar climate and size as Visalia and are equivalent to a wastewater generation factor of 90 gpdc for residential areas.

Land Use Designation	Visalia Flow Coefficient (MGD/acre)	Typical Flow Coefficient (MGD/acre)
Rural Residential	0.0005	0.0004-0.0008
Low-Density Residential	0.0010	0.0008-0.0011
Medium-Density Residential	0.0018	0.0011-0.0018
High-Density Residential	0.0025	0.0018-0.0025
All Commercial	0.0010	0.0010-0.0014
Light Industry	0.0011	0.0010-0.0014
Heavy Industry	0.0019	0.0014-0.0025

Note: These coefficients were applied to generate average sanitary sewer flows.

The remaining land use designations consisting of Agricultural (OSA), Parks (OSP), and Urban Reserve (UR) do not generate significant wastewater flows, and they were assigned a wastewater flow coefficient of zero.

In the absence of land use designations on the 1992 General Plan Map, sewer flow rates were estimated by applying a wastewater generation factor that assumes development of new areas will be divided into 70 percent residential, 20 percent commercial, and 10 percent open space. The assumed coefficient was calculated at 0.0010 MGD/acre and, like other coefficients, is applied to determine average flows.

Major industrial dischargers were identified and their flows treated as point source loads. These discharges are listed as follows:

TABLE 2-2

FLOW COEFFICIENTS ANALYSIS

Land Use Designation	1991 General Plan Areas[1,2] (acres)	Model-Generated Areas[3] (acres)	Flow Coefficients (MGD/acre)	Calculated Flow (MGD)
Residential + Commercial				
Low Density	6,797	6,243	0.0010	6.24
Medium Density	368	415	0.0018	.75
High Density	181	181	0.0025	.45
Commercial	1,799	1,994	0.0010	1.99
Point Loads (schools & hospitals)				0.63
Total Residential + Commercial (including Point Loads)				10.07
Industrial				
Light Industry	678	369	0.0011	0.41
Heavy Industry	1,488	892	0.0019	1.69
Point Loads				1.44
Total Industrial (including Point Loads)				3.54
Total Residential + Commercial + Industrial				**13.61**[4]

[1]Within the 1988 Urban Improvement Boundary.
[2]Column presented for information only.
[3]Model-generated areas were calculated based on the 1991 General Plan Map. These areas exclude areas treated as point source loads.
[4]Metered maximum flow rate at treatment plant = 13.61 MGD.

Major Industrial Discharge	Service Area	Point Source Flow (MGD)	Peaked Point Source Flow (MGD)
Eagle Snacks, Inc.	8	0.494	1.00
Early California Foods	1	1.850	3.31
Early California Foods	3	0.330	0.70
Josten's Printing and Publishing	7	0.034	0.09
Kawneer/Amax Corp.	7	0.072	0.18
Kraft, Inc.	4 and 5	0.586	1.17
Mission Uniform & Linen Service	4	0.032	0.09
Real Fresh, Inc.	3	0.119	0.28

2.7 DESIGN CAPACITIES

Sewer capacities are dependent on many variable factors. These include roughness of the pipe, the chosen maximum allowable depth of flow, and limiting velocity and slope. The Boyle sewer analysis computer program (BSWAN) utilizes the continuity equation and the Manning equation in determining flow conditions:

- o Continuity Equation: $Q = V A$

  where: Q = peak flow, cfs
  V = velocity, fps
  A = flow cross-sectional area, ft^2

- o Manning Equation: $V = \frac{1.486}{n} * R^{2/3} * S^{1/2}$

  where: V = velocity, fps
  n = coefficient of pipe roughness
  R = hydraulic radius, ft
  S = slope of pipe, feet per foot

The roughness coefficient n, is a friction coefficient and varies with respect to pipe material, size of pipe, depth of flow, smoothness of joints, root intrusion, and other factors. For sewer pipes, "n" normally ranges between 0.011 and 0.017. A value of 0.013 was used for this study.

When planning a future sewer system, it is common practice to adopt variable flow depth criteria for various pipe sizes. In general, smaller pipes are usually designed to flow at less depth since they are statistically more likely to experience peaks greater than planned, and as a consequence, require a greater safety factor. The criteria used in this study to design proposed future lines are as follows:

Pipe Diameter	Maximum Depth to Pipe Diameter Ratio During Peak Flows
10" and smaller	1/2
12" to 16"	2/3
Larger than 16"	3/4

The variable flow depth criteria shown is sometimes used in analyzing existing systems. In some cases, however, this can lead to premature or unnecessary replacement of existing pipelines. In this study, all existing pipelines were allowed to flow at a maximum (during peak flow periods) d/D ratio of 1.0.

2.8 DESIGN VELOCITIES

Standard practice in the design of gravity sewers is to specify that a minimum velocity of 2 feet per second or greater be maintained when the pipeline is half full. At this velocity, the sewer flow will typically provide self cleaning for the pipe. Due to hydraulics of a circular conduit, this velocity will also be the same when it is nearly full.

While the City prefers to design slopes for maintaining self-cleaning velocities of 2 fps, the flat topography in the Visalia area makes it difficult to consistently achieve these slopes without the use of lift stations, which require frequent maintenance. Therefore, the City will continue its current practice of accepting flatter slopes when the preferred slopes are not practical. The following listed slopes were provided by the City for the purpose of planning future improvements.

Pipe Size (inches)	Master Plan Slopes	Velocity[1]
8"	0.00300	1.9
10"	0.00220	1.9
12"	0.00150	1.8
15"	0.00100	1.7
18"	0.00090	1.8
21"	0.00080	1.9
24"	0.00070	1.9
27"	0.00060	1.9
30"	0.00050	1.9
36" & larger	0.00050	2.1+

[1]Pipe half full, Manning's n = 0.013.

Section 3

EXISTING COLLECTION SYSTEM ANALYSIS

3.1 ANALYSIS OVERVIEW

In computer modeling, large and complex sewer systems are usually simplified to model only main trunks and subtrunks. This process is called "skeletonizing" the system. The Visalia sewer system was skeletonized to include all pipes that are 10 inches in diameter or larger, as well as critical 8-inch pipes. In general, an 8-inch pipe was considered to be critical if it had a tributary drainage area of 100 acres or more.

A computer database of the city's collection system was compiled using SEWPLAN--a DBase IV program compiled by Boyle that provides an interface between a graphical mapping package (AutoCAD), a relational database (DBase IV), and a sewer analysis program (BSWAN). SEWPLAN is a user-friendly computer program that can be used by City staff to update the existing sewer system as new development occurs.

The compiled database includes information on most sewer pipe sizes, lengths, slopes, and invert elevations at manholes. Manholes in any one service area were assigned unique numbers for ease of identification. At each manhole, BSWAN accumulates the sewer flow by combining the acreage, land use, and land use flow coefficients for all upstream manholes, thus computing the average daily flow in the trunk. The empirical flow peaking equation is then used to estimate peak flow. This peak flow is the expected maximum in the trunk during any given day.

BSWAN then calculates the design capacity of each reach of the modeled trunk system based upon pipe diameter and slope. The design capacity is the greatest flow that the sewer can carry when flowing at the maximum depth selected under the analysis criteria and with the slope specified in the geometry input data. If the peak flow rate is greater than the design capacity, BSWAN flags it as deficient. For any sewer that does not have sufficient capacity, BSWAN indicates the necessary pipe size for a parallel relief sewer and also for a replacement sewer at the same slope as the existing sewer.

Most of the sewer system data entered in the database were extracted from the city's sewer atlas maps. These maps show streets and the approximate location of the sewer pipes and manholes. They also provide the pipe size, manhole rim elevation, and invert elevations. The atlas maps were found to be missing some sheets and lacking many manhole invert elevations which were crucial for analyzing the sewer system.

To model the city's main trunk and subtrunk system, pipe slopes (or invert elevations at manholes) need to be known. Since the data on the atlas maps was not always complete, the City searched their records and provided some of the missing data in the form of pipe slopes (as opposed to invert elevations), and the City conducted a topographic survey and provided

- o Low Density:

  2-10 DU/AC, and up to 21 persons per acre.

- o Medium Density:

  11-14 DU/AC, and up to 33 persons per acre.

- o High Density:

  15-29 DU/AC, and up to 58 persons per acre.

With the exception of the northwest area (primarily industrial), the number of residential units is evenly distributed throughout the city. Sixteen percent (16%) of the residential units are multiple family units. Twenty-one percent (21%) of the total units in the southwest quadrant of the city are multiple-family units. Eighty-five percent (85%) of rural residential units are located in the northwest quadrant of the city.

Commercial

This land use category is further divided into the following designations:

- o Convenience Center
- o Neighborhood Center
- o Community Centers
- o Shopping/Office Center
- o Central Business District
- o Regional Center
- o Highway Commercial
- o Service
- o Professional/Administrative Offices

The major areas of commercial concentration, encompassing nearly two-thirds of the existing retail space, are:

- o Mooney Boulevard, between Highway 198 and Caldwell Avenue
- o Central Business District
- o Western Highway 198 corridor, between County Center Drive and Akers Road.

Other areas offering lesser retail concentrations are located at the intersections of Demaree Road and Walnut Avenue, Giddings Avenue and Walnut Avenue, and Houston Avenue east of Ben Maddox Way.

Community Facilities

This land use category consists of public/institutional facilities including schools and hospitals.

Industry

This land use category is further divided into the following designations:

- o Light Industry
- o Heavy Industry

The major industrial area is located in the northwest area of the city, north of State Highway 198 and west of Shirk Road.

Open Space

This land use category is further divided into the following designations:

- o Agriculture
- o Conservation
- o Parks

Special Planning Areas

- o Airport Protection Area
- o Wastewater Treatment Plant Protection Area

1.4.3 Staged Growth

The 1991 General Plan includes growth data for the various land uses between the years 1990 and 2020. The following table, taken from the General Plan, lists the land use designations with their corresponding projected growth.

General Plan Designations	Cumulative Gross Acreage Per Phase 1991[1]	2000	2010	2020
Residential				
Rural	461	1,708	2,205	2,205
Low Density	6,797	8,645	11,045	13,716
Medium Density	368	576	668	983
High Density	181	282	365	522
Total	7807	11,211	14,283	17,426
Commercial	1,799	2,271	2,967	3,317
Industry				
Light Industry	678	763	763	763
Heavy Industry	1,488	1,488	2,111	2,111
Total	2,166	2,251	2,874	2,874
Total[2]	18,870	24,200	28,734	34,999

[1]1988 Urban Improvement Boundary (UIB).
[2]Total includes Open Space and Urban Reserve.

The projected growth areas are shown on Figure 1-2. The expansion areas correspond with the UDBs discussed in Section 1.3 and form the basis of staged expansion of the sewer system.

1.5 POPULATION

The California Department of Finance maintains yearly population estimates for all the state's counties and cities. Between the years 1980 and 1989, the city's population grew at an average annual growth rate of approximately 4.2%.

Year	Rate	Year	Rate
1975	8.40%	1983	3.46%
1976	7.09%	1984	3.84%
1977	6.36%	1985	3.93%
1978	6.62%	1986	3.39%
1979	8.10%	1987	2.31%
1980	12.00%	1988	4.07%
1981	5.87%	1989	5.43%
1982	0.75%	1990	9.07%

The City's Community Development Department has estimated the existing population, and projected future population as shown below.

	Year 1992	Year 2000	Year 2010	Year 2020
Population:	81,635	98,700	129,000	165,000
Growth Rate:	--	2.40%	2.71%	2.49%

1.6 SCHOOLS AND HOSPITALS

Schools and hospitals, depending on their size, can generate substantial wastewater flows. A database of current major school enrollment and hospital occupancy in the Visalia area was compiled for this study.

Table 1-1 lists Visalia schools with corresponding 1991 enrollment and projected rate of growth, and Visalia hospitals with corresponding 1991 bed capacities and projected future expansions.

TABLE 1-1

SCHOOL ENROLLMENT AND HOSPITAL OCCUPANCY

	Enrollment/Occupancy	Projected Increase
VISALIA SCHOOLS		
College of the Sequoias	8,694 students	4.6 % per year
Visalia Unified School District		
Elementary Schools		
Conyer	572 students	5.6% per year
Crestwood	873 students	5.6% per year
Crowley	672 students	5.6% per year
Elbow	122 students	5.6% per year
Elbow Creek	467 students	5.6% per year
East Union	109 students	5.6% per year
Fairview	834 students	5.6% per year
Golden Oak	454 students	5.6% per year
Goshen	624 students	5.6% per year
Highland	586 students	5.6% per year
Houston	864 students	5.6% per year
Ivanhoe	481 students	5.6% per year
Linwood	435 students	5.6% per year
Mineral King	766 students	5.6% per year
Mountain View	788 students	5.6% per year
Packwood	94 students	5.6% per year
Pinkham	599 students	5.6% per year
Royal Oaks	637 students	5.6% per year
Union	435 students	5.6% per year
Viva Blunt	766 students	5.6% per year
Washington	432 students	5.6% per year
Willow Glenn	721 students	5.6% per year
Middle Schools		
Divisadero	968 students	5.6% per year
Green Acres	1,014 students	5.6% per year
Valley Oak	1,089 students	5.6% per year
High Schools		
Golden West	1,596 students	5.6% per year
Mount Whitney	1,541 students	5.6% per year
Redwood	1,590 students	5.6% per year
Sequoia	379 students	5.6% per year

TABLE 1-1 (continued)

	Enrollment/Occupancy	Projected Increase
VISALIA HOSPITALS		
Visalia Convalescent Hospital	176 beds	not available
Visalia Community Hospital	52 beds	not available
Kaweah Delta District	280 beds	60 new beds in 1992

Section 2

DESIGN STANDARDS/ANALYSIS CRITERIA

2.1 GENERAL

In order to determine the adequacy of the existing system and to identify the existence of deficiencies, a system of standards and criteria must be established. The City design standards were used when available, and additional analysis criteria were developed by Boyle based upon criteria previously used for cities with climatic characteristics and population size similar to Visalia. These design standards and analysis criteria are described in this section.

2.2 CHARACTERISTICS OF WASTEWATER FLOWS

Since the City's wastewater collection system combines domestic and industrial flows, the quantity characteristics (i.e., variations in flows) of the system is a function of both types of flows.

Variations in domestic wastewater flow rates occur on an hourly, daily, and monthly basis. Hourly changes in flow over a 24-hour period are generally predictable in that they follow the daily patterns of activity, with minimum flows occurring in the early morning hours (3 to 4 a.m.) and peak flows occurring in the late morning and early evening hours. This phenomenon is known as the diurnal cycle.

Variations in industrial wastewater flow rates are more difficult to predict because the flow is generated by a myriad of industrial processes utilizing water for a variety of purposes. However, most major industrial water users are required to meter their discharged wastewater and regularly report the metered data for billing purposes. This data was used to identify sources and flow characteristics of significant industrial wastewater.

2.3 FLOW METERING PROGRAM

To establish flow characteristics of the City's sewer system, direct field measurements were performed at selected locations throughout the sewer system. These locations were selected to provide representative flow data of the system's service areas, to determine the relationship between average day flows and maximum hour flows, to aid in determining the wastewater-generation factors (flow coefficients) for the various land use categories, and to monitor existing flow conditions in major trunk sewers.

2.3.1 Flow Monitoring

The flow metering program was conducted by Boyle staff, in cooperation with the City of Visalia sewer maintenance crews, between August 13 and September 10, 1991. It consisted of monitoring sanitary sewer flows at the 14 locations listed in Table 2-1. Areas generating sewer flows tributary to these locations are shown in Appendix A.

Two flow meters were utilized in this program. Each meter was connected to a sensor that was mounted inside the upstream pipe. The sensor was set up to record data at 10- or 15-minute intervals for a 2- to 5-day period, and it measured and recorded both velocity and depth of flow within the pipe. The recorded data was then transferred to a computer for analysis.

Table 2-1 lists the flow metered locations, along with the corresponding diameter of the metered pipe. Appendix B contains flow metering tables listing the recorded velocities, depths of flow, and flow rates (in gpm) for each flow metered location. The recorded data was then used to generate computer graphical plots depicting the diurnal variation of the wastewater flows (gpm) versus time (hours), as shown in Appendix C. These graphs also show graphical plots of the variations of velocity (fps) versus time (hours).

2.3.2 Sewer Maintenance

During installation of the flow meter sensors, sand and other materials were sometimes found settled at the bottom of the sewer pipes. An attempt was made each time to remove the settled material in order to install the meter sensor. At times it was discovered that the meter sensor read erroneous data when the upstream section of the pipe was partially plugged.

Due largely to manpower constraints, the City does not have a preventive maintenance program to clean sanitary sewer pipes on a regular basis. Pipes are cleaned on an as-needed basis when problems are indicated. The City does, however, keep a list of locations that receive regular cleaning due to recurring problems.

Analysis of the sewer system indicates that many trunk sewers will reach their design capacity by the year 2000. It is thus desirable to maintain the carrying capacity of those pipes as high as possible to provide the designed flow.

This study recommends that the City develop a sanitary sewer maintenance program that includes cleaning pipes on a regular basis. A typical program would divide the sanitary sewer system into service areas and classify pipes into categories for frequency of cleaning. Classification of pipes will depend on existing slopes, age of pipes, odor complaints, and occurrence of other problems such as surcharging, overflowing, etc. A schedule would then be assigned for each category of pipe, whereby pipes would be cleaned at appropriate frequencies.

2.4 FLOW PEAKING EQUATION

Since the sewer flow rate fluctuates during the day, sewer pipe sizes are not designed for the average flow; instead they are designed for peak flows. To properly estimate the sewer capacity required to carry flow from various tributary areas, it is necessary to establish the relationship between the average daily flow generated and the maximum or peak flow experienced. The peak flow is then used to determine the necessary hydraulic capacity and, therefore, the size of the sewer.

TABLE 2-1

FLOW METERED LOCATIONS

Flowmetered Location Number	Date Flow Metered	Pipe Size	City Atlas Map	Manhole Location
--[1]	8/13/91	16"	70 A	James Avenue, 600 ' e/o Mooney Boulevard
1	8/13/91	21"	62 D	Walnut Avenue, 680' e/o Pinkham Road
2[2]	8/15/91	21"	14 A	Burke Street, 700' n/o Center Street
3[3]	8/20/91	15"	117 D	Akers Road, 150' n/o Hillsdale Drive
4	8/20/91	36"	114 A	Akers Road, 600' s/o Wagner Avenue
5	8/22/91	16"	70 A	Alley 300' e/o Mooney Blvd, 300' s/o James Avenue
6	8/26/91	24"	41 C	Caldwell Avenue, at Dollner Street
7	8/26/91	33"	77 D	Alley 300' n/o Tulare Avenue, 480' e/o Linwood Avenue
8[2]	8/29/91	18"	25 A	Houston Avenue, 1700' w/o Mooney Boulevard
9	9/03/91	15"	25 A	Houston Avenue, 1600' w/o Mooney Boulevard
10	9/03/91	21"	117 D	Mineral King Avenue, 980' e/o Akers Road
11	9/05/91	21"	432 B	Road 84, first MH n/o Crowley Avenue
12	9/05/91	36"	615 B	Road 76, first MH n/o Goshen
13	9/10/91	33"	44 A	Walnut Avenue, at Colonial Drive
14[2]	9/10/91	30"	46 A	State Hwy 198, 1150' e/o Demaree Road

[1]Erroneous data. Upstream pipe was plugged by a contactor and flow diverted. Not shown on Atlas maps.
[2]Problem areas where minor debris was found. Flowmetered data is most likely reliable.
[3]Debris was found settled at the bottom of the sewer pipe upstream from the flowmeter. Data is questionable.

The relationship between peak and average flow has been found to be reasonably predictable for the major land use classifications including the various residential and commercial designations.

Flow metering data, collected at the 14 locations (Table 2-1), has been analyzed to determine the relationship between average flow and peak flow. The diurnal curves obtained from the flow metering data (Appendix C) were analyzed to determine peak and average flow rates at each location. In order to derive the most representative peak and average flow rates, the data was filtered to remove inconsistencies such as abnormal peak or low readings obtained as a result of erroneous meter measurement. Weekend flows were excluded from the data when they proved to be significantly lower than weekday flows.

The highest peak from each diurnal curve has been plotted as a function of the average flow in Figure 2-1 using a logarithmic scale. A straight-line approximation of all points was then plotted over the average flow range included. The straight line on a log-log scale follows a power curve relationship which can be represented in an equation of the following form:

$$Y = a * X^{b}$$

The City's sanitary sewer flow peaking equation was derived from Figure 2-1 as follows:

$Q_{peak} = 1.90 * Q_{avg}^{0.90}$ (Q_{peak} and Q_{avg} are in million gallons per day, MGD)

or

$Q_{peak} = 1.98 * Q_{avg}^{0.90}$ (Q_{peak} and Q_{avg} are in cubic feet per second, cfs)

where:

Q_{peak} = Maximum flow rate during a 24-hour period.
Q_{avg} = Average flow rate during that same 24-hour period.

The peaking equation can also be rearranged to derive the peaking factor. This factor is also defined as the multiplier applied to the average flow to yield the largest amount of flow.

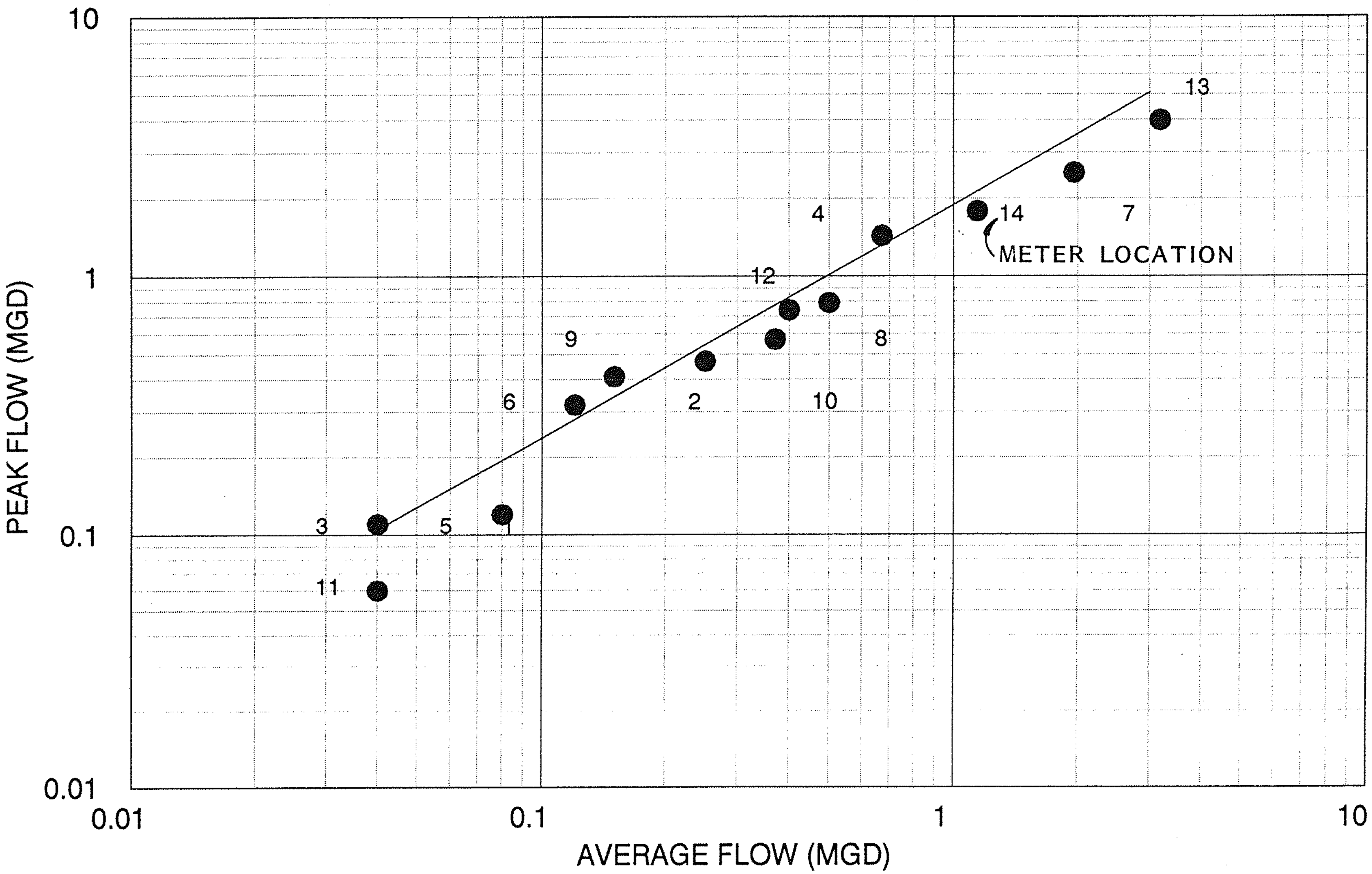
Peaking Factor = $Q_{peak} \div Q_{avg}$

The derived peaking equation does not yield a single peaking factor, instead, the peaking factor is a function of average flow, with higher average flows resulting in lower peaking factor values.

Peaking Factor = $1.90 * (Q_{avg})^{-0.10}$ (Q_{avg} in MGD)

The derived equation is compared to peaking equations used by other cities in the San Joaquin Valley and in southern California (Figure 2-2) and to peaking ratios experienced at the Visalia wastewater treatment plant (Figure 2-3).

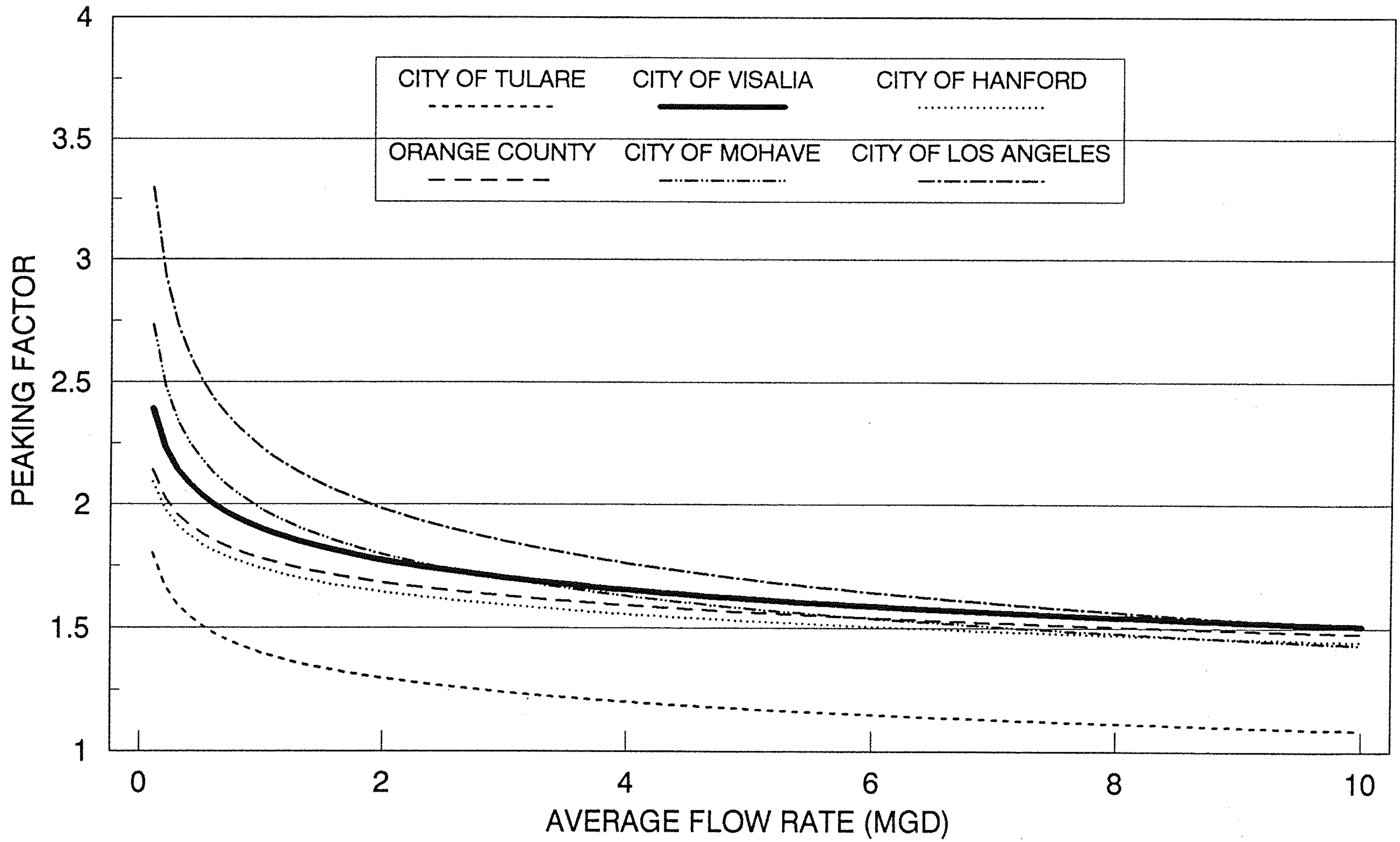
FLOW PEAKING EQUATION



CITY OF VISALIA - SANITARY SEWER SYSTEM MASTER PLAN
BOYLE ENGINEERING CORPORATION

FIGURE 2-1

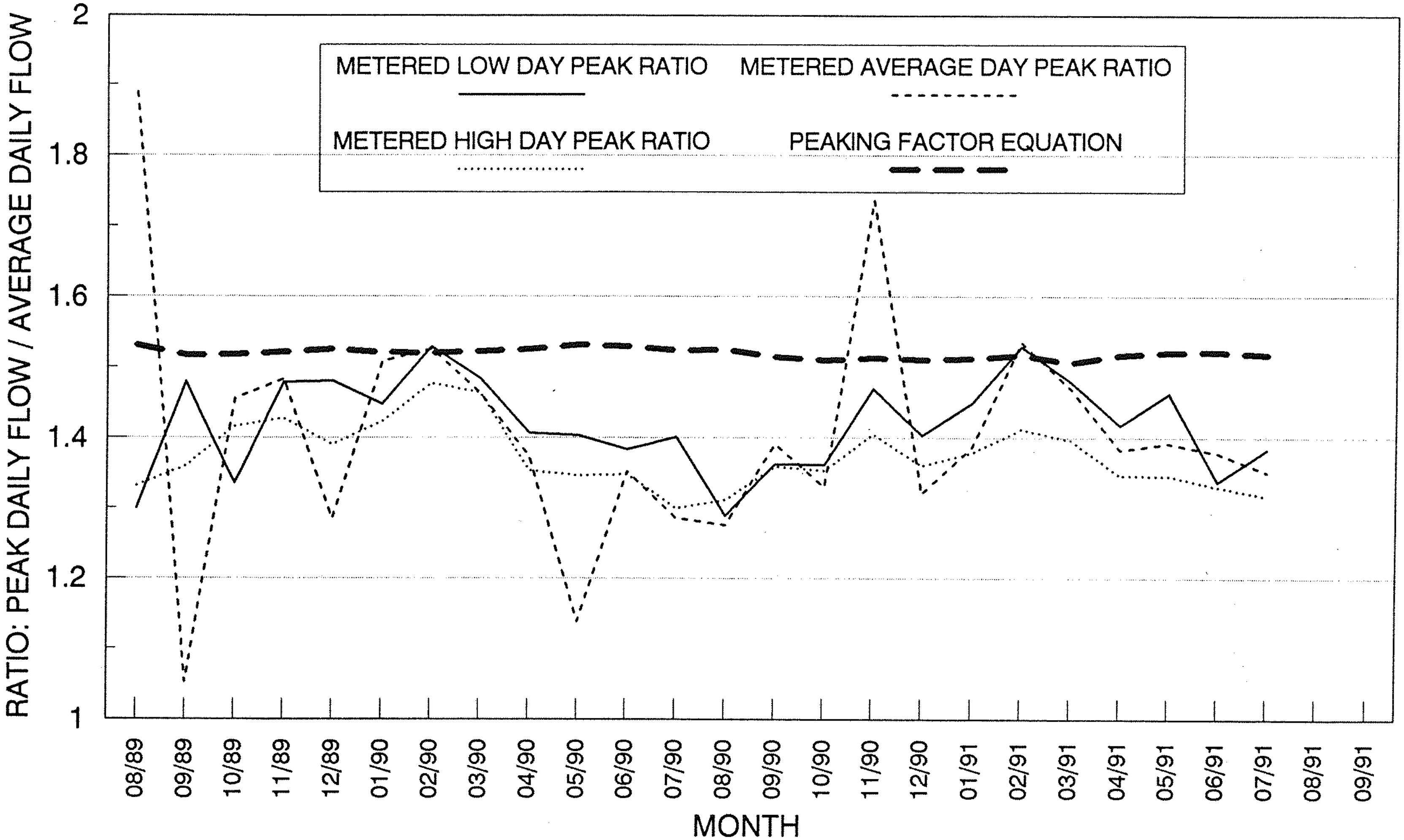
PEAKING FACTOR COMPARISON



CITY OF VISALIA - SANITARY SEWER SYSTEM MASTER PLAN
BOYLE ENGINEERING CORPORATION

FIGURE 2-2

WASTEWATER TREATMENT PLANT
PEAK-TO-AVERAGE FLOW RATIO VARIATION



CITY OF VISALIA - SEWER SYSTEM MASTER PLAN
BOYLE ENGINEERING CORPORATION

FIGURE 2-3

2.5 WASTEWATER TREATMENT PLANT INFLOWS

City staff compile monthly discharge reports that list daily meter readings at the wastewater treatment plant (WWTP). Appendix D tabulates the minimum, maximum, average, and standard deviation values for the daily influent flow, the influent peak flow, the influent peak time, the influent low flow, the influent flow time, the filter flow, the bypass flow, and the effluent flow at the WWTP.

According to the WWTP monthly discharge reports, and as plotted on Figure 2-4, the month of March 1991 shows the highest maximum meter reading of 13.61 MGD. Differences between average day and maximum day for each month are attributable to variations in industrial flows during the particular month.

2.6 FLOW COEFFICIENTS

To determine the sanitary sewer flows from existing and future land uses in the city, a relationship was established between land use and wastewater flow generation. This relationship is expressed as a flow coefficient for the various land use designations.

The City's 1991 land use map was computer-digitized and used in generating summaries for the areas which are tributary to the 14 metered locations. The City's 1991 land use map consists of 20 land use designations.

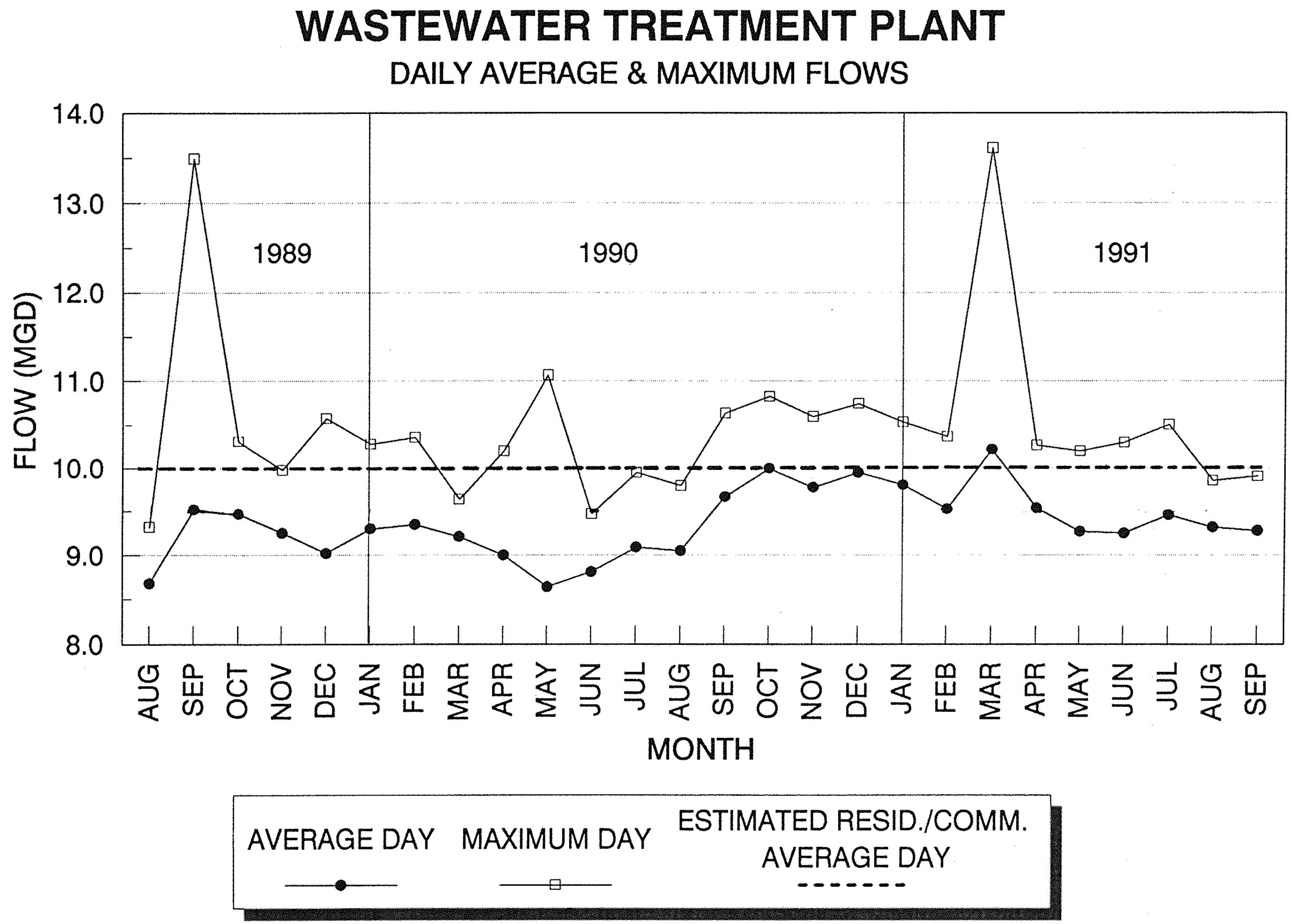
Wastewater flows for significant public and institutional (PI) facilities, namely Visalia schools and hospitals, were treated as point source flows. These flows were primarily based on current student enrollment for schools and on current bed capacity for hospitals, as follows:

Elementary Schools	15 gpd per student
Middle Schools	20 gpd per student
High Schools	20 gpd per student
Colleges	25 gpd per student
Hospitals	300 gpd per bed

Point source flows generated by schools are based on the maximum student enrollment and point source flows for hospitals are based on the maximum bed capacity. These flows are considered maximum day flows and were peaked using the developed peaking equation.

Most rural density residential (RA) developments are currently on septic systems; however, City staff have indicated that these developments will eventually be connected to the City's sewer system. For the purpose of planning the City's expansion improvements, this study has considered all these developments connected to the City's sewer system by the year 2000.

Residential, commercial, and industrial flow coefficients were calibrated to simulate the maximum flow condition recorded at the wastewater treatment plant, as obtained from the metered flow records between August 1989 and September 1991 (Appendix D) and as illustrated in Figure 2-4.



CITY OF VISALIA - SANITARY SEWER SYSTEM MASTER PLAN
BOYLE ENGINEERING CORPORATION

FIGURE 2-4

The maximum flow value of 13.61 MGD at the wastewater treatment plant, which was recorded in March 1991, was the primary basis for calibrating all coefficients. Table 2-2 lists individual residential land use designations with their corresponding calculated flow coefficients. Average residential/commercial flows are generally known to be constant from month to month, and they were estimated at 10.07 MGD (8.08 MGD residential flows and 1.99 MGD commercial flows). Figure 2-4 also shows a plot of the estimated 10.07 MGD residential/commercial maximum flows. The City's seasonal industries cause the fluctuations in the sewer flows and were estimated at 3.54 MGD during the maximum flow value of 13.61 MGD.

The City of Visalia typically utilizes a wastewater generation factor of 100 to 125 gallons per day per capita (gpdc), and the 1987 Wastewater Treatment Plant Master Plan evaluated future needs using a factor of 120 gpdc for residential developments.

The analysis first assumed flow coefficients that were calculated based on a wastewater generation factor of 120 gpdc for residential areas. These coefficients (listed below) were then adjusted, as necessary, to reflect the flows obtained during the flow metering program. The resulting coefficients are consistent with ones that were derived by Boyle for other San Joaquin Valley cities with similar climate and size as Visalia and are equivalent to a wastewater generation factor of 90 gpdc for residential areas.

Land Use Designation	Visalia Flow Coefficient (MGD/acre)	Typical Flow Coefficient (MGD/acre)
Rural Residential	0.0005	0.0004-0.0008
Low-Density Residential	0.0010	0.0008-0.0011
Medium-Density Residential	0.0018	0.0011-0.0018
High-Density Residential	0.0025	0.0018-0.0025
All Commercial	0.0010	0.0010-0.0014
Light Industry	0.0011	0.0010-0.0014
Heavy Industry	0.0019	0.0014-0.0025

Note: These coefficients were applied to generate average sanitary sewer flows.

The remaining land use designations consisting of Agricultural (OSA), Parks (OSP), and Urban Reserve (UR) do not generate significant wastewater flows, and they were assigned a wastewater flow coefficient of zero.

In the absence of land use designations on the 1992 General Plan Map, sewer flow rates were estimated by applying a wastewater generation factor that assumes development of new areas will be divided into 70 percent residential, 20 percent commercial, and 10 percent open space. The assumed coefficient was calculated at 0.0010 MGD/acre and, like other coefficients, is applied to determine average flows.

Major industrial dischargers were identified and their flows treated as point source loads. These discharges are listed as follows:

TABLE 2-2

FLOW COEFFICIENTS ANALYSIS

Land Use Designation	1991 General Plan Areas[1,2] (acres)	Model-Generated Areas[3] (acres)	Flow Coefficients (MGD/acre)	Calculated Flow (MGD)
Residential + Commercial				
Low Density	6,797	6,243	0.0010	6.24
Medium Density	368	415	0.0018	.75
High Density	181	181	0.0025	.45
Commercial	1,799	1,994	0.0010	1.99
Point Loads (schools & hospitals)				0.63
Total Residential + Commercial (including Point Loads)				10.07
Industrial				
Light Industry	678	369	0.0011	0.41
Heavy Industry	1,488	892	0.0019	1.69
Point Loads				1.44
Total Industrial (including Point Loads)				3.54
Total Residential + Commercial + Industrial				**13.61**[4]

[1]Within the 1988 Urban Improvement Boundary.
[2]Column presented for information only.
[3]Model-generated areas were calculated based on the 1991 General Plan Map. These areas exclude areas treated as point source loads.
[4]Metered maximum flow rate at treatment plant = 13.61 MGD.

Major Industrial Discharge	Service Area	Point Source Flow (MGD)	Peaked Point Source Flow (MGD)
Eagle Snacks, Inc.	8	0.494	1.00
Early California Foods	1	1.850	3.31
Early California Foods	3	0.330	0.70
Josten's Printing and Publishing	7	0.034	0.09
Kawneer/Amax Corp.	7	0.072	0.18
Kraft, Inc.	4 and 5	0.586	1.17
Mission Uniform & Linen Service	4	0.032	0.09
Real Fresh, Inc.	3	0.119	0.28

2.7 DESIGN CAPACITIES

Sewer capacities are dependent on many variable factors. These include roughness of the pipe, the chosen maximum allowable depth of flow, and limiting velocity and slope. The Boyle sewer analysis computer program (BSWAN) utilizes the continuity equation and the Manning equation in determining flow conditions:

- o Continuity Equation: $Q = V A$

  where: Q = peak flow, cfs
  V = velocity, fps
  A = flow cross-sectional area, ft^2

- o Manning Equation: $V = \frac{1.486}{n} * R^{2/3} * S^{1/2}$

  where: V = velocity, fps
  n = coefficient of pipe roughness
  R = hydraulic radius, ft
  S = slope of pipe, feet per foot

The roughness coefficient n, is a friction coefficient and varies with respect to pipe material, size of pipe, depth of flow, smoothness of joints, root intrusion, and other factors. For sewer pipes, "n" normally ranges between 0.011 and 0.017. A value of 0.013 was used for this study.

When planning a future sewer system, it is common practice to adopt variable flow depth criteria for various pipe sizes. In general, smaller pipes are usually designed to flow at less depth since they are statistically more likely to experience peaks greater than planned, and as a consequence, require a greater safety factor. The criteria used in this study to design proposed future lines are as follows:

Pipe Diameter	Maximum Depth to Pipe Diameter Ratio During Peak Flows
10" and smaller	1/2
12" to 16"	2/3
Larger than 16"	3/4

The variable flow depth criteria shown is sometimes used in analyzing existing systems. In some cases, however, this can lead to premature or unnecessary replacement of existing pipelines. In this study, all existing pipelines were allowed to flow at a maximum (during peak flow periods) d/D ratio of 1.0.

2.8 DESIGN VELOCITIES

Standard practice in the design of gravity sewers is to specify that a minimum velocity of 2 feet per second or greater be maintained when the pipeline is half full. At this velocity, the sewer flow will typically provide self cleaning for the pipe. Due to hydraulics of a circular conduit, this velocity will also be the same when it is nearly full.

While the City prefers to design slopes for maintaining self-cleaning velocities of 2 fps, the flat topography in the Visalia area makes it difficult to consistently achieve these slopes without the use of lift stations, which require frequent maintenance. Therefore, the City will continue its current practice of accepting flatter slopes when the preferred slopes are not practical. The following listed slopes were provided by the City for the purpose of planning future improvements.

Pipe Size (inches)	Master Plan Slopes	Velocity[1]
8"	0.00300	1.9
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18"	0.00090	1.8
21"	0.00080	1.9
24"	0.00070	1.9
27"	0.00060	1.9
30"	0.00050	1.9
36" & larger	0.00050	2.1+

[1]Pipe half full, Manning's n = 0.013.

Section 3

EXISTING COLLECTION SYSTEM ANALYSIS

3.1 ANALYSIS OVERVIEW

In computer modeling, large and complex sewer systems are usually simplified to model only main trunks and subtrunks. This process is called "skeletonizing" the system. The Visalia sewer system was skeletonized to include all pipes that are 10 inches in diameter or larger, as well as critical 8-inch pipes. In general, an 8-inch pipe was considered to be critical if it had a tributary drainage area of 100 acres or more.

A computer database of the city's collection system was compiled using SEWPLAN--a DBase IV program compiled by Boyle that provides an interface between a graphical mapping package (AutoCAD), a relational database (DBase IV), and a sewer analysis program (BSWAN). SEWPLAN is a user-friendly computer program that can be used by City staff to update the existing sewer system as new development occurs.

The compiled database includes information on most sewer pipe sizes, lengths, slopes, and invert elevations at manholes. Manholes in any one service area were assigned unique numbers for ease of identification. At each manhole, BSWAN accumulates the sewer flow by combining the acreage, land use, and land use flow coefficients for all upstream manholes, thus computing the average daily flow in the trunk. The empirical flow peaking equation is then used to estimate peak flow. This peak flow is the expected maximum in the trunk during any given day.

BSWAN then calculates the design capacity of each reach of the modeled trunk system based upon pipe diameter and slope. The design capacity is the greatest flow that the sewer can carry when flowing at the maximum depth selected under the analysis criteria and with the slope specified in the geometry input data. If the peak flow rate is greater than the design capacity, BSWAN flags it as deficient. For any sewer that does not have sufficient capacity, BSWAN indicates the necessary pipe size for a parallel relief sewer and also for a replacement sewer at the same slope as the existing sewer.

Most of the sewer system data entered in the database were extracted from the city's sewer atlas maps. These maps show streets and the approximate location of the sewer pipes and manholes. They also provide the pipe size, manhole rim elevation, and invert elevations. The atlas maps were found to be missing some sheets and lacking many manhole invert elevations which were crucial for analyzing the sewer system.

To model the city's main trunk and subtrunk system, pipe slopes (or invert elevations at manholes) need to be known. Since the data on the atlas maps was not always complete, the City searched their records and provided some of the missing data in the form of pipe slopes (as opposed to invert elevations), and the City conducted a topographic survey and provided data for the remaining sewer mains (Appendix E). Invert elevations and pipe lengths taken from the survey data were utilized to calculate pipe slopes, and BSWAN analyzed the sewer system based on those slopes. A separate volume tabulates the existing sewer system database by service area. Appendix F lists typical computer printouts of BSWAN's output files. Those particular outputs provide analysis for the city's current service area boundary with in-fill development. It is assumed that lots smaller than 1 acre and those currently serviced by septic tank systems will eventually be connected to the sewer system and are therefore incorporated in the "existing system" model.

3.2 EXISTING SERVICE AREAS

For computer modeling and management purposes, it is general practice to subdivide a large sewer system into smaller, more manageable subsystems. Computer modeling all the city's sewer collection pipes required the subdivision of the existing system into eight subsystems, also known as *service areas.* Each service area is a large drainage basin further subdivided into *tributary areas*; a tributary area is defined as a relatively small area in which sewer flows are tributary to a particular sewer manhole. The city's eight service areas are shown on Figure 3-1. Each service area is serviced by a main trunk line as described below.

3.2.1 Existing Service Area 1 - Caldwell-Akers Trunk

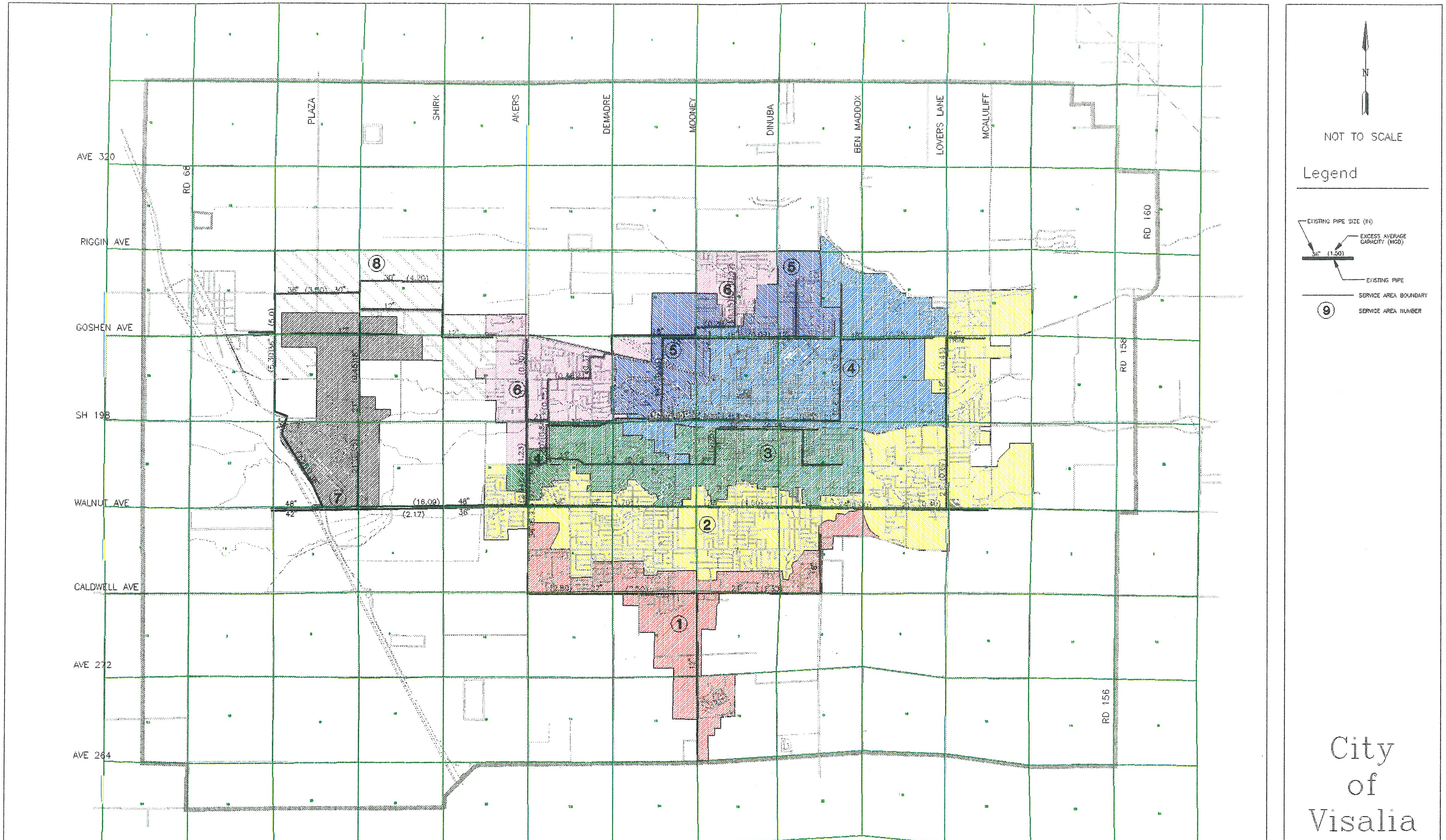
This area is serviced by the Caldwell-Akers Trunk and its subtrunks. The trunk route begins with a 36-inch pipe at the intersection of Akers Road and Walnut Avenue; it continues southward on Akers Road to Caldwell Avenue, then eastward on Caldwell Avenue (27-inch then 24-inch pipe) to Santa Fe Avenue, then northward on Santa Fe Avenue with an 18-inch pipe.

Sewer flows from this trunk system are tributary to Service Area 2 and unload into the 48-inch Walnut Outfall at the intersection of Akers Road and Walnut Avenue.

3.2.2 Existing Service Area 2 - Walnut-Lovers Lane Trunk and Walnut Outfall

This area is serviced by the Walnut-Lovers Lane Trunk and by the Walnut Trunk, and by their subtrunks. The Walnut-Lovers Lane Trunk route begins at the treatment plant with a 42-inch pipe that changes to a 36-inch pipe east of State Highway 99; it continues on Walnut Avenue eastward to Lovers Lane, varying in pipe sizes from 36 inches to 21 inches; it turns northward on Lovers Lane to Houston Avenue and varies in pipe size from 21 inches to 15 inches. The Walnut Outfall is a 48-inch outfall pipe that begins at the treatment plant and ends at the intersection with Akers Road.

All existing service areas are tributary to Service Area 2 and unload their flows into either the Walnut-Lovers Lane Trunk or Walnut Avenue Outfall. Service Areas 1 and 6 unload into the Walnut Outfall. Service Areas 4 (including Service Areas 3 and 5), 7, and 8 unload into the Walnut-Lovers Lane Trunk.

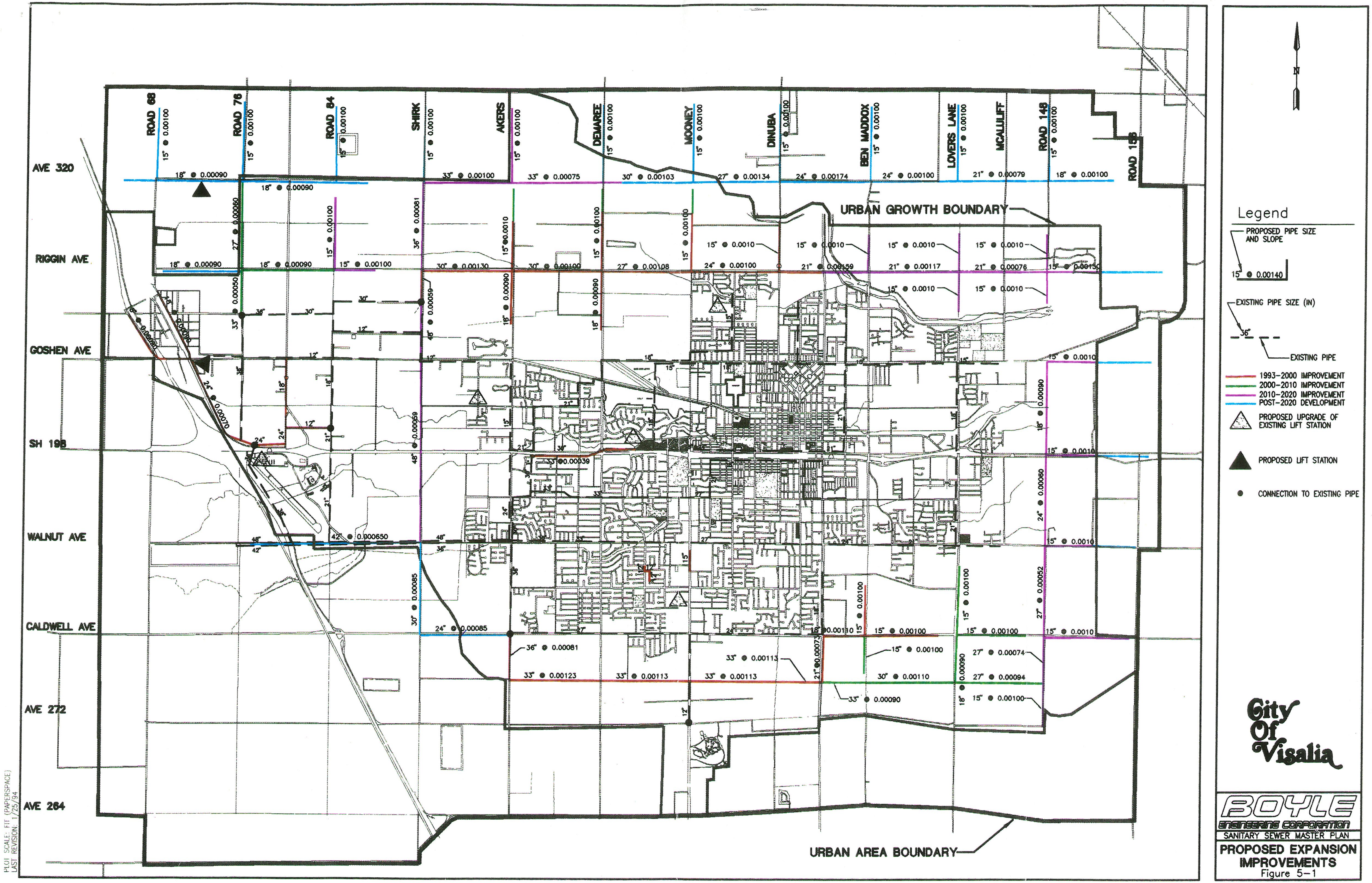


City of Visalia

BOYLE ENGINEERING CORPORATION

EXISTING SEWER SERVICE AREAS

Figure 3–1



City Of Visalia

BOYLE ENGINEERING CORPORATION

SANITARY SEWER MASTER PLAN

PROPOSED EXPANSION IMPROVEMENTS

Figure 5-1

3.2.3 Existing Service Area 3 - Tulare Trunk

This area is serviced by the Tulare Trunk and its subtrunks. The trunk route begins with a 33-inch pipe on Laurel Avenue and west of the intersection with Noyes Road; it continues eastward and jogs to the intersection of Tulare Avenue and Linwood Avenue; it then continues on Tulare Avenue eastward to Divisadero Street changing in pipe size from 33 inches to 27 inches; it then continues on Divisadero Street northward with a 21-inch pipe to Noble Avenue; it then turns on Noble Avenue eastward with an 18-inch pipe.

Sewer flows from this trunk system are tributary to Service Area 4 and unload into the Akers-Mineral King Trunk at Laurel Avenue west of the intersection with Noyes Road.

3.2.4 Existing Service Area 4 - Akers-Mineral King Trunk

This area is serviced by the Akers-Mineral King Trunk and its subtrunks. The trunk route begins with a 30-inch pipe at the intersection of Akers Road and Walnut Avenue; it continues northward on Akers Road to Tulare Avenue where it turns eastward and continues to an alley located west of Noyes Road; it then turns northward to State Highway 198, then eastward along the south side of State Highway 198; it then crosses under the highway east of Demaree Road and continues to Mineral King Avenue; it then turns eastward on Mineral King Avenue and continues to Burke Street varying in pipe size from 30 inches to 21 inches, then northward on Burke Street and continues to Houston Avenue varying in pipe size from 21 inches to 18 inches; finally it turns eastward with a 15-inch pipe on Houston Avenue and continues to Lovers Lane Avenue.

Service Areas 3 and 5 are both tributary to this service area. Sewer flows from this service area, along with flows from Service Areas 3 and 5, are tributary to Service Area 2, and unload into the 36-inch Walnut-Lovers Lane Trunk at the intersection of Akers Road and Walnut Avenue.

3.2.5 Existing Service Area 5 - Ranch-Houston Trunk

This service area is serviced by the Ranch-Houston Trunk and its subtrunks. The trunk route begins with an 18-inch pipe at the intersection of Ranch Road and Mineral King Avenue and continues northward on Ranch Road to Houston Avenue, then eastward on Houston Avenue and continues to Burke Street varying in pipe size from 18 to 12 inches.

Sewer flows from this trunk system are tributary to Service Area 4 and unload into the Akers-Mineral King Trunk at the intersection of Ranch Road and Mineral King Avenue.

3.2.6 Existing Service Area 6 - Akers-Houston Trunk

This area is serviced by the Akers-Houston Trunk and its subtrunks. The trunk route begins with a 24-inch pipe at the intersection of Akers Road and Walnut Avenue; it continues northward on Akers Road to Mineral King Avenue, then eastward to Crenshaw Street, then northward to Hurley Avenue, then eastward to Chinowth Street, then northward to Douglas Avenue, then eastward to Demaree Road, then northward to Houston Avenue, then eastward to Mooney Boulevard, then northward to Elowin Avenue, then eastward to Giddings Avenue, then northward to Robin Drive, varying in pipe size from 24 to 12 inches.

Sewer flows from this trunk system are tributary to Service Area 2 and unload into the 48-inch Walnut Outfall at the intersection of Akers Road and Walnut Avenue.

A 40-acre residential development (Oak West) located south of Hurley at Tommy Road is currently served by the Akers-Houston Trunk. It is proposed to reroute the flow from this development to the future Shirk Road Trunk (future Service Area 10).

3.2.7 Existing Service Area 7 - Road 84 Trunk

This area is serviced by the Road 84 Trunk and its subtrunks. The trunk route begins with a 21-inch pipe at the intersection of Road 84 and Walnut Avenue and continues northward on Road 84 to Goshen Avenue.

Sewer flows from this trunk system are tributary to Service Area 2 and unload into the 36-inch Walnut-Lovers Lane Trunk at the intersection of Road 84 and Walnut Avenue.

3.2.8 Existing Service Area 8 - Road 76-Sunnyview Trunk

This area is serviced by the Road 76-Sunnyview Trunk and its subtrunks. The trunk route begins with a 36-inch pipe at the intersection of State Highway 99 and Walnut Avenue; it continues northward along State Highway 99 to Road 76; it then continues northward on Road 76 to Field Drive; it then continues eastward on Field Drive to Road 84 and changes to a 30-inch pipe halfway along this stretch; it then continues northward along Road 84 to Sunnyview Avenue; it then continues eastward on Sunnyview Avenue to Shirk Road.

Sewer flows from this trunk system are tributary to Service Area 2 and unload into the 36-inch Walnut-Lovers Lane Trunk, just east of State Highway 99.

3.3 ANALYSIS PROCESS

3.3.1 Model Calibration

Each tributary area generally encompasses a variety of land use types. Using the computer model, each service area was broken into individual manhole tributary areas by land use. Sewer flow generated from each tributary area was calculated by multiplying the area of each land use type by its corresponding land use coefficient previously derived. The flows generated from the calculated coefficients for all tributary areas were compared to the metered peak flows at the wastewater treatment plant.

The coefficients were then adjusted to match the metered peak flows. When the computer model simulated the peak sewer flow of 13.61 MGD (March 1991), the computer model was considered calibrated.

3.3.2 Staged Growth Analysis

Need for and timing of expansion of the existing sewer system was determined based upon an analysis of the existing sewer system capacity, existing flows, and estimates of future flow generated from planned growth as presented in the staged growth plan shown in Figure 2-1. This figure shows four growth stages, including growth to the years 2000, 2010, 2020, and post-2020, corresponding to the three Urban Development Boundaries and the Urban Area Boundary as discussed in Section 1. The analysis of the existing and projected future flow for each growth stage is discussed below.

1992 Analysis

The main purpose of this analysis was to calibrate the wastewater flow coefficients by comparing calculated flows to metered flows.

2000 Analysis

This analysis stage evaluated the impact of in-fill development anticipated to occur during the 1992-2000 period as well as expansion of existing service areas and addition of new service areas. In-fill development is defined as development within currently vacant lands located within the existing sewer service area boundary, as shown on Figure 3-1. In addition to in-fill development, residential lots currently on septic systems were assumed to be connected to the sewer system within this time frame. The 2000 Urban Development Boundary is anticipated to accommodate a projected population of 98,700.

BSWAN computer output files showing estimated flow in the existing sewer system (Appendix F) reflect only existing service areas plus in-fill development and septic systems and therefore indicate the available excess capacity in the existing sewer system that is available to accommodate additional wastewater flows from expansion areas. Expansion areas are defined as areas identified for growth which are located outside the existing sewer service areas. Expansion areas are not included in the BSWAN model.

2010 Analysis

This staged growth period consists of a 10-year expansion between the 2000 Urban Development Boundary and the 2010 Urban Development Boundary. The 2010 Urban Development Boundary is anticipated to accommodate a projected population of 129,000. Sewer flows anticipated to be generated by this growth stage were calculated by applying the previously derived wastewater generation coefficients to the different land use types.

2020 Analysis

This staged growth period consists of a 10-year expansion between the 2010 Urban Development Boundary and the 2020 Urban Development Boundary. The 2020 Urban Development Boundary is anticipated to accommodate a projected population of

165,000. Sewer flows anticipated to be generated by this growth stage were calculated by applying the previously derived wastewater generation coefficients to the different land use types.

Post-2020 Analysis

As discussed in Section 1.1, the City's recently adopted Land Use Element includes a policy that states a 50-year sewer master plan that stresses oversizing to meet long-range demand should be prepared. Therefore, for the purpose of preparing this Master Plan, it was assumed that much of the area between the 2020 Urban Development Boundary and the Urban Area Boundary will develop between 2020 and 2040. It also was assumed that this area will be served by major trunk lines that will also serve downstream pre-2020 development. Therefore, it is prudent to upsize these lines beyond the capacity needed to serve pre-2020 development in order to economically serve post-2020 areas in the future. It should be noted that the sewer trunks that will need the upsizing are already large size pipes, and the cost of upsizing them by a few inches will not have a significant impact on the total cost of the sewer. Thus, the intent here is not to provide a detailed sewer master plan for the areas that are outside the 2020 Urban Development Boundary, but rather to upsize (at a fraction of the total cost) the downstream sewer pipes that may eventually carry the wastewater flows from areas within the Urban Area Boundary.

It was assumed that the area between the 2020 UDB and UAB south of Avenue 272 will not be developed with urban uses prior to the year 2040. Therefore, this Master Plan does not identify any improvements to serve that area. This is also true of the area west of Freeway 99.

3.3.3 Flow Diversions

The modeled trunk system has some flow diversions that were constructed over the years to route sewer flow away from identified deficient trunks. The following two existing major diversions have been identified and modeled with the city's sewer system.

Ranch Road/Houston Avenue Diversion

This diversion is located at the intersection of Houston Avenue and the projection of Ranch Road. At the diversion, backup flow from the 18-inch Ranch-Houston Trunk (Service Area 5) spills over into the 18-inch Akers-Houston Trunk (Service Area 6).

Mineral King Diversion

The Akers-Mineral King Trunk (Service Area 4) has a parallel trunk system on Mineral King Avenue. Flow at the intersection of Mineral King Avenue and West Street could be diverted into either the 24-inch pipe or the parallel 18-inch pipe.

These diversions are further discussed in Section 4.

3.4 EXISTING PUMP STATIONS

Pump stations (also known as lift stations) raise wastewater flows to a higher elevation in order to continue gravity flow at reasonable pipe slopes and depths. Pump capacities at these stations should be sufficient to provide for the peak flow rates experienced in the sewer system. Pump stations with capacities less than anticipated peak flow rates are considered deficient.

The City currently operates and maintains 15 pump stations which are listed in Table 3-1 and as shown on Plate 1. This table also lists each pump station's capacity, horsepower, voltage, and date placed in service. The computer model simulated sewer flows from areas tributary to each pump station. Analysis results indicate no significant current deficiencies. However, anticipated growth within the 2000 Urban Development Boundary will create some deficiencies. Table 3-2 lists the estimated deficiency in gallons per minute (gpm), which is also the amount of the proposed upgrade in capacity for that pump station.

TABLE 3-1

EXISTING PUMP STATIONS

Lift Station Number	Location	Existing Capacity (gpm)	Horsepower	Voltage	In Service Since
1	Goshen - 1/2 mile west of Road 80	580	7.5	240	Oct. 1971
2	Plaza Park at Road 84	1,200	20	480	Nov. 1969
3	Midvalley - 1/2 mile west of Mooney	175	3	240	Nov. 1972
4	Borderlinks and Ranch Road	180	1	240	Oct. 1966
5	Ferguson and Mooney	150	2	240	Apr. 1980
6	North Giddings at Sunnyview	580	7.5	240	May 1981
7	Millcreek And Main	175	3	240	Jun. 1970
8	Mooney and 272	190	3	240	Nov. 1972
9	Sunnyside and Mooney	580	7.5	240	May 1968
10	Evergreen and Linda Vista	480	3	240	Jan. 1967
11	Mary and County Center	180	1	240	Aug. 1970
12	Demaree and s/o Colonial	480	3	240	Feb. 1971
13	Airport on Plaza Drive	1,800	14	480	Aug. 1987
14	Hurley and Tommy (temporary)	55	1.5	240	Sep. 1987
15	Goshen and Camp (temporary)	500	5	240	May 1991

TABLE 3-2

EXISTING PUMP STATION ANALYSIS

Lift Station Number	Service Area	Location	Existing Capacity (gpm)	Projected Flows[1] Average Flow (gpm)	Projected Flows[1] Peak Flow (gpm)	Pump Deficiency (gpm)[2]
1	7	Goshen - 1/2 mile west of Road 80	580	260	575	--
2	7	Plaza Park at Road 84	1,200	660	1,260	60
3	1	Midvalley - 1/2 mile west of Mooney	175	70	160	--
4	5	Borderlinks and Ranch Road	180	70	170	--
5	5	Ferguson and Mooney	150	30	70	--
7	6	North Giddings at Sunnyview	580	390	790	210
3	5	Mill Creek and Main	175	100	240	65
8	1	Mooney and Avenue 272	190	85	215	25
9	2	Sunnyside and Mooney	580	360	765	185
10	2	Evergreen and Linda Vista	480	200	445	--
11	2	Mary and County Center	180	25	58	--
12	2	Demaree and s/o Colonial	480	230	480	--
13	8	Airport on Plaza Drive	1,800	3,611[4]	5,820[4]	4,020
14	6	Hurley and Tommy (temporary)	55	55	156	90
15	8	Goshen and Camp (temporary)	500	--	--	--

[1]Projected flows are based on the BSWAN analysis for year 2000, which includes in-fills and connection of lots with septic tanks within the existing service area boundary as shown in Figure 3-1.

[2]Pump deficiency was based on providing sufficient capacity during peak wastewater flows.

[3]This deficiency will be eliminated with the construction of the proposed Avenue 276-Road 148 trunk that will be serving Area 9.

[4]These flows include the Goshen area.

Section 4

EXISTING SYSTEM DEFICIENCIES

4.1 GENERAL

Based on the analysis for the staged growth scenarios discussed in Section 3, existing and future expansion deficiencies in the sewer system were determined. In general, Visalia's existing sewer system seems to have been well planned, as indicated by the fact that the sewer system has relatively few deficiencies. This section of the report addresses deficiencies identified in the existing sewer system for the existing flows plus future flows from in-fill development within the existing sewer service area. As discussed in Section 3, for the purposes of this Master Plan, in-fill development is assumed to occur prior to 2000.

In general, existing pipelines are considered to be deficient when the existing flows plus projected in-fill flow generate depth of flow to pipe diameter ratios (d/D) exceeding 1.00 (surcharged condition). Identified pipeline deficiencies are discussed below. Deficiencies are underlined in the discussion. Improvements proposed to correct deficiencies in the existing system, as well as those required for service area expansion and new service areas, are shown on Plate 2. Since in-fill development is assumed to occur during the 1992-2000 growth stage, all deficiencies discussed herein are shown during this growth stage on Plate 2.

4.2 SERVICE AREA 1 - AKERS-CALDWELL TRUNK

Analysis showed that after in-fill development occurs within the current service area boundary, this trunk will still have excess average capacities as follows:

- 0.41 MGD on Caldwell Avenue (Santa Fe Avenue to County Center Drive)
- 0.34 MGD on Caldwell Avenue (County Center Drive to Linwood Street)
- 1.43 MGD on Caldwell Avenue (Linwood Street to Akers Road)
- 7.75 MGD on Akers Road

No deficiencies are identified for this trunk.

4.3 SERVICE AREA 2 - WALNUT-LOVERS LANE TRUNK AND WALNUT OUTFALL

Mooney Boulevard (Harter Avenue to Ashland Avenue). 1,680 feet of existing 12-inch pipe on Mooney Boulevard, north of the intersection with Ashland Avenue will be deficient after in-fill development has occurred within the current service area boundary. When this pipe becomes deficient, it should be replaced with 1,680 feet of 15-inch pipe.

County Center Drive (Beech Avenue to Ashland Avenue). 265 feet of existing 8-inch pipe on County Center Drive, north of the intersection with Ashland Avenue will be deficient after in-fill development has occurred within the current service area boundary. When this pipe becomes deficient, it should be replaced with 265 feet of 12-inch pipe.

Ashland Avenue (County Center Drive to Linda Vista Street). 285 feet of existing 8-inch pipe on Ashland Avenue will be deficient after in-fill development has occurred within the current service area boundary. When this pipe becomes deficient, it should be replaced with 285 feet of 12-inch pipe.

Linda Vista Street (Ashland Avenue to Pump Station). 535 feet of existing 8-inch pipe on Linda Vista Street will be deficient after in-fill development has occurred within the current service area boundary. When this pipe becomes deficient, it should be replaced with 535 feet of 12-inch pipe.

Existing 580-gpm Lift Station (Sunnyside Avenue and Mooney Boulevard). This lift station will become deficient after in-fill development has occurred within the current service area boundary and will require an additional capacity of 185 gpm to accommodate future peak flows (see Table 3-2, Lift Station No. 9 for existing station data).

After in-fill development has occurred within the existing service area boundary, the Walnut sewer trunk will have a "bottleneck" between Lovers Lane and Pinkham Street. This bottleneck will have an excess average capacity of approximately 0.29 MGD. There is approximately 0.70 MGD of excess capacity in the Walnut line downstream of the bottleneck. Additional excess capacity would be available if limited downstream bottlenecks were upgraded. The Walnut Outfall will have an excess average capacity of 16.0 MGD.

The excess capacities identified on this trunk will be utilized for both expansion of existing service areas and routing of new service areas to the treatment plant as discussed in Section 5.

4.4 SERVICE AREA 3 - TULARE TRUNK

This trunk system does not have deficiencies requiring improvements, and it will accommodate anticipated in-fill development in Service Area 3. Analysis of this area after in-fill development has occurred shows that this trunk system will be flowing at full capacity in its upper reaches on Noble Avenue. Since this service area is bounded by other existing service areas, no new flows are planned other than those occurring from in-fill development.

4.5 SERVICE AREA 4 - AKERS-MINERAL KING TRUNK

Mineral King Avenue. 7,300 feet of the existing 30-inch pipe on Mineral King Avenue and along the north side of State Highway 198, between Ranch Road and Crenshaw Street, is currently flowing at capacity. This trunk will be deficient after in-fill development has occurred within the current Service Area 4 boundary and will be replaced with a 33-inch pipe. City staff have indicated that Caltrans has plans to lower the level of existing State Highway 198 in that area, and that replacement of the trunk may be coordinated with the planned reconstruction of the highway.

Additionally, 2,100 feet of the 30-inch pipe on Mineral King Avenue east Ranch Road will be flowing at, or slightly higher than full capacity after in-fill development has occurred within the current service area boundary. Although no replacement has been identified as part of the master plan, it is recommended that this portion of the trunk be closely monitored on an ongoing basis.

Currently, 3,200 feet of existing 12-inch pipe on Goshen Avenue (between Ranch Road and Leslie Road) is flowing near capacity. This line is used exclusively by one of the city's major industrial wastewater dischargers--Kraft, Inc. Kraft routes 80 percent of its plant's wastewater flows into the existing 12-inch pipe. The remaining 20 percent of Kraft's flows are discharged into Service Area 5. Although no replacement has been identified as part of the master plan, it is recommended that the 12-inch pipe be monitored on an ongoing basis.

4.6 SERVICE AREA 5 - RANCH-HOUSTON TRUNK

Existing 175-gpm Lift Station No. 7 (Mill Creek Drive and Main Street). This lift station is deficient during peak flows and will require an additional capacity of 65 gpm to accommodate the peak flows (see Table 3-2 for existing station information).

This trunk system has a diversion point, located at Ranch Road and Houston Avenue, which relieves backup flow from this trunk and spills it over into the Akers-Houston Trunk (Service Area 6). Without that diversion, the entire segment of this trunk's 18-inch pipe on Ranch Road would be deficient. Therefore, the BSWAN analysis for in-fill development of existing service area boundary was adjusted to model a diversion of 0.75 MGD of average flow from this trunk to relieve deficiencies downstream. No additional expansion flows will be routed through this trunk, and no other sewer deficiencies were found in the modeled system.

4.7 SERVICE AREA 6 - AKERS-HOUSTON TRUNK

Existing 580-gpm Lift Station No. 6 (Giddings Street and Sunnyview Avenue). The BSWAN analysis for in-fill development of existing service area boundary indicates that this lift station will become deficient and will require an additional capacity of 210 gpm to accommodate future peak flows (see Table 3-2 for existing station information).

Existing 55-gpm Lift Station No. 14 (Hurley Avenue and Tommy Street). The BSWAN analysis for in-fill development of the existing service area boundary) indicates that this lift station will become deficient by the year 2000 and will require an additional capacity of 90 gpm to accommodate future peak flows (see Table 3-2 for existing station information). Since this is a temporary lift station, future plans would reroute flows westward to the future trunk on Shirk Road (see Section 5).

The analysis showed that there will be excess capacity available throughout the modeled Akers-Houston Trunk. However, the diversion of up to 0.75 MGD average flow from Service Area 5 and into this trunk on Houston Avenue, as discussed in Section 4.6, reduces the available excess capacity in the trunk downstream from the diversion point. The remaining excess average capacity in this trunk after in-fill development has occurred is as follows:

- 0.40 MGD on Houston Avenue
- 0.45 MGD on Demaree Road
- 0.50 MGD on Crenshaw Avenue
- 1.23 MGD on Akers Road (north of Tulare Avenue)
- 2.94 MGD on Akers Road (Tulare Avenue to Walnut Avenue)

This excess capacity will allow some expansion improvements on the north side of the city to be connected to this trunk system (see Section 5).

4.8 SERVICE AREA 7 - ROAD 84 TRUNK

The analysis shows that the modeled sewer pipelines in this trunk system will accommodate future in-fill development from within this service area. However, the existing lift station (Lift Station No. 2) at Highway 198 and Road 84 may become slightly deficient (by 60 gpm) during peak hour conditions. Depending on the actual intensity of growth, this lift station may or may not need upgrading. It is recommended that this lift station be monitored on an ongoing basis to determine the need for upgrading.

4.9 SERVICE AREA 8 - ROAD 76-SUNNYVIEW TRUNK

The analysis showed that the modeled sewer pipelines in this trunk system will accommodate future in-fill development from within the existing service area and some expansion areas. However, the existing 1,800-gpm (2.59 MGD) lift station located northeast of the airport will become deficient and will require upgrading.

Existing 1,800-gpm Lift Station No. 13 (Airport on Plaza Drive). This lift station will become deficient after in-fill development has occurred. The station will require an upgrading in capacity of 4,020 gpm (5.79 MGD) to accommodate future peak flows from the Goshen area and from future Service Area 12 as discussed in Section 5.

Section 5

EXPANSION IMPROVEMENTS

5.1 GENERAL

Deficiencies in the existing sewer system were discussed in Section 4. Proposed expansion improvements are explained in this section. They are shown on Figure 5-1, Plate 2, and Plate 3 and are tabulated with costs in Section 6. It should be noted that all proposed improvements were designed for general master planning purposes. This study assumes that a thorough design process to identify individual project constraints will be performed prior to the construction of any improvements. Thus final improvements (pipe sizes and slopes) may differ.

Wastewater flows from expansion improvements were determined by applying either the wastewater coefficients corresponding to the planned land use designations taken from the Land Use Element of the City's General Plan or, where not given in the General Plan, by applying a generic wastewater flow coefficient of 0.0010 MGD/acre derived based on a combined residential/commercial/industrial/open land use. The calculated new flows are graphically summarized on Plate 3 along the proposed trunk systems and shown at the location where they are most likely to be tributary. Additionally, Plate 3 shows general sewer tributary area boundaries for the expansion areas.

5.2 SERVICE AREA 1 - AKERS-CALDWELL TRUNK

Prior to this master plan study, the City had intended to construct a new line on Whitendale Avenue (from Akers to Santa Fe--approximately 3.5 miles) that would primarily serve the Early California Food Plant on Santa Fe. By diverting the plant's discharges into the new line, it was believed that an equal amount of capacity would be made available in the existing Caldwell Trunk (Service Area 1) to serve expansion improvements east of Lovers Lane and north of Walnut. However, it now appears that this scenario will not create enough capacity in the Caldwell Trunk to serve all the area designated for development east of Road 148.

The Avenue 276-Road 148 Trunk (future Service Area 9) is now proposed to serve all these easterly areas, as well as lands south of Caldwell Avenue. The existing Walnut Trunk (Service Area 2) appears to have sufficient excess capacity to serve the land north of Walnut Avenue between Lovers Lane and McAuliff Road.

Instead of constructing the relief sewer on Whitendale Avenue as had been previously planned by the City, monies earmarked for the Whitendale Avenue trunk would instead be utilized to construct a portion of the Avenue 276-Road 148 Trunk. This would provide a more economical and beneficial project since the Whitendale alignment is largely developed, and sewer construction would cause disruptions and additional expense for protection/replacement of existing improvements. Also, construction of the larger trunk sewer on Avenue 276 would better provide for the long-term needs of the City to serve areas south of Caldwell Avenue and east of Lovers Lane.

The BSWAN analysis indicates additional excess capacity on the Akers-Caldwell Trunk that can be used to expand Service Area 1. Excess capacity on Caldwell Avenue between Akers Avenue and West Avenue of 0.34-1.40 MGD will be used to expand the service area south of Caldwell Avenue between Mooney and West Street to the Avenue 276 alignment (see Plate 3).

It should be noted that it may be possible to extend the Caldwell trunk line east of Santa Fe by diverting some of the discharge from the Early California Foods Plant on Santa Fe from the Caldwell line to the Walnut line. As discussed in Section 5.3, the Walnut line has available excess capacity downstream of a bottleneck between Pinkham and Lovers Lane. A diversion of flows from the Early California Foods (from the Caldwell line) would allow the Caldwell line to be extended east of Santa Fe and serve the area north of Caldwell between Santa Fe and Lovers Lane that is designated for development prior to the year 2000. Such an extension may make it possible to delay the installation of the planned Avenue 276 trunk line until after the year 2000.

5.3 SERVICE AREA 2 - WALNUT-LOVERS LANE TRUNK AND WALNUT OUTFALL

The BSWAN analysis indicates that the Walnut-Lovers Lane Trunk will have a bottleneck on Walnut between Lovers Lane and Pinkham Street. This bottleneck will have an excess capacity of 0.29 MGD that can be used to serve expansion areas between Walnut and Houston west of Road 148. There is approximately 0.70 MGD of excess capacity in the Walnut line downstream of the bottleneck.

1992-2000

The excess capacity will be used to expand Service Area 2 eastward to Road 148. Major streets generally bounding the expansion area are Road 148 to the east, College Avenue to the south, McAuliff Road to the west, and Houston Avenue to the north. This area will utilize and slightly exceed the remaining excess capacity at the bottleneck discussed above.

Additional land (possibly south of Walnut Avenue and east of Lovers Lane) could be served if the half mile bottleneck in the Walnut Trunk were replaced with a larger trunk line or paralleled with a relief line. The upsizing of that portion of the trunk would make this section of the trunk more consistent with downstream sections and not "waste" unused excess capacity in the downstream sections. While this action could be used to delay the construction of the Avenue 276 Trunk, this master plan study recommends the Avenue 276 option because it would best serve the long-term needs of the city by investing capital into the construction of the proposed Avenue 276 Trunk rather than upsizing an existing trunk line.

As noted in Section 5.2, the Caldwell Avenue line could be extended east of Santa Fe to serve an area designated for development prior to the year 2000 if some of the flow from the Early California Foods Plant on Santa Fe were diverted to the Walnut line. The combination of diverted Early California flows from areas that could be served if the Walnut line bottleneck is eliminated should not exceed the available excess capacity in the Walnut line downstream of Santa Fe.

5.4 SERVICE AREA 3 - TULARE TRUNK

The BSWAN analysis indicates no deficiencies in this trunk and no remaining capacity. Since it is completely bounded by other service areas and cannot effectively expand its service boundaries, there are no new sewer pipes proposed in this service area.

5.5 SERVICE AREA 4 - AKERS-MINERAL KING TRUNK

Since this area is bounded by other service areas, has no remaining capacity in the trunk line, and cannot effectively expand its service boundaries, no expansion improvements are proposed.

5.6 SERVICE AREA 5 - RANCH-HOUSTON TRUNK

The BSWAN analysis indicates this trunk has no remaining excess capacity. Therefore, no expansion improvements are proposed.

5.7 SERVICE AREA 6 - AKERS-HOUSTON TRUNK

The BSWAN analysis indicates that the Akers-Houston Trunk will have an approximate excess capacity (after diversion of 0.75 MGD from Service Area 5, as discussed in a Section 4.6) of 0.37 MGD for additional expansion improvements from the north side of the city.

This excess capacity will be utilized to serve developments occurring prior to construction of the proposed Shirk-Riggin Trunk (proposed Service Area 10) serving the north expansion of the city.

The expansion area that could partly benefit from this excess capacity is anticipated to develop between the 1992-2000 growth period and is bounded by Akers Road to the west, Goshen Avenue to the south, Demaree Road to the east, and a line 1/4 mile south of Ferguson Avenue to the north.

There are no proposed new sewer pipes in this service area.

5.8 SERVICE AREA 7 - ROAD 84 TRUNK

The BSWAN analysis indicates that the trunk serving this area would be flowing near full capacity following in-fill of the existing service area. Expansion will require diversion of

0.60 MGD of flow from the Road 84 Trunk to a new subtrunk to Service Area 8 at Crowley Avenue as discussed below. No expansion improvements are proposed for Service Area 7.

5.9 SERVICE AREA 8 - ROAD 76-SUNNYVIEW TRUNK

The BSWAN analysis indicates that the Road 76-Sunnyview Trunk will have excess capacity that can be used to connect new areas and to temporarily route flows from other service areas. The following plan describes the proposed staged use of this excess capacity.

1992-2000

In-fill development and rerouting of flows from Service Area 7 will require a subtrunk that connects to Service Area 8 at the existing lift station on Camp Drive (Lift Station No. 13), north of the airport. The subtrunk will begin at the lift station with a 24-inch pipe and continue eastward on Camp Drive to the intersection with Neeley Street. The proposed trunk then turns north on Neeley Street with a 24-inch pipe to Crowley Avenue and continues north of Crowley Avenue with an 18-inch pipe to Plaza Drive, then continues north on Plaza Drive to the intersection with Goshen Avenue, where it will intercept sewer flows from the existing 12-inch pipe on Goshen Avenue (approximately 0.20 MGD). An additional 12-inch pipe will also be required on Crowley Avenue to intercept flows to be diverted from the Road 84 Trunk in Service Area 7. Specific improvements are described below.

> <u>Camp Drive (Airport Lift Station to Neeley Street)</u>. 2,000 feet of 24-inch pipe sloping down in a westerly direction at a slope of 0.00070 ft/ft and connecting to the existing airport lift station.
>
> <u>Neeley Street (Camp Drive to Crowley Avenue)</u>. 1,250 feet of 24-inch pipe sloping down in a southerly direction at a slope of 0.00080 ft/ft and connecting to the proposed 24-inch pipe at the intersection with Camp Drive.
>
> <u>Neeley Street (Crowley Avenue to Plaza Drive North)</u>. 1,100 feet of 18-inch pipe sloping down in a southerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 12-inch and 24-inch pipes at the intersection with Crowley Avenue.
>
> <u>Plaza Drive North (Neeley Street to Goshen Avenue)</u>. 3,100 feet of 18-inch pipe sloping down in a southerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Neeley Street.
>
> <u>Crowley Avenue (Neeley Street to Road 84)</u>. 1,350 feet of 12-inch pipe sloping down in a westerly direction at a slope of 0.00150 ft/ft and connecting to the proposed 24-inch pipes at the intersection with Neeley Street.

During this growth period, the upper reach of the proposed Shirk-Riggin Trunk (Service Area 10) will be constructed to serve the north expansion area of the city and will be temporarily connected to the existing 30-inch Road 76-Sunnyview Trunk at the intersection of Shirk Road and Sunnyview Avenue. This connection will provide routing of flow of 3.19 MGD from the proposed Service Area 10.

During the same growth period, it is anticipated that the Goshen area may be annexed to the city. That area will then be connected to the city's sewer system and be considered a part of Service Area 8. The following expansion improvements will be required to connect the Goshen area:

Camp Drive (Road 76 to Goshen Avenue). 6,000 feet of 24-inch pipe sloping down in a southeasterly direction at a slope of 0.00070 ft/ft and connecting to the existing 42-inch pipe at the intersection with Road 76.

Camp Drive (Goshen Avenue to Avenue 310). 4,500 feet of 18-inch pipe sloping down in a southeasterly direction at a slope of 0.00090 ft/ft to the proposed lift station at the intersection with Goshen Avenue.

Goshen Avenue (Camp Drive to Frontage Road). 1,500 feet of 18-inch pipe sloping down in an easterly direction at a slope of 0.00090 ft/ft to the proposed lift station at the intersection with Camp Drive. This improvement will require two jacked steel casings to cross under both the existing railroad track and under Highway 99.

Frontage Road (Goshen Avenue to Avenue 308). 3,500 feet of 18-inch pipe sloping down in a southeasterly direction at a slope of 0.00090 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Goshen Avenue.

2.05 MGD Lift Station (Goshen Avenue and Camp Drive). This proposed lift station is required to pump flows from the proposed 18-inch line north of Goshen Avenue (Camp Drive and Frontage Road) to the proposed 24-inch pipe on Camp Drive south of Goshen Avenue. Preliminary design indicates an approximate lift of 12.0 feet.

5.80 MGD Lift Station Upgrade (at Airport). This existing lift station consists of one pump with a design capacity of 1,800 gpm (2.6 MGD). The lift station was originally designed to accommodate a total of three pumps. During this phase, a total capacity of 8.4 MGD is required to accommodate the annexation of the Goshen area and other expansion areas. This lift station will require another upgrade during the 2000-2010 growth stage as discussed below.

2000-2010

During this growth period it will be necessary to upgrade the airport lift station as described below.

5.40 MGD Lift Station Upgrade (at Airport). Additional expansion of this lift station will be required to accommodate growth in the northwest part of the city. During this phase, a total capacity of 9.30 is required.

Service Area 12, served by the proposed Road 76-Avenue 320 Trunk, is entirely tributary to the Road 76-Sunnyview Trunk (Service Area 8). Growth in Service Area 12 during this growth period will generate approximately 0.67 MGD of average sewer flows and will require the connection of the proposed Road 76-Avenue 320 Trunk to the existing 36-inch pipe at the intersection of Road 76 and Avenue 308. The Road 76-Avenue 320 Trunk is discussed in Section 5.13 (Service Area 12).

2010-2020

During this growth period, following completion of the lower part of the Shirk-Riggin Trunk, the temporary connection between the upper reaches of the Shirk-Riggin Trunk and the Road 76-Sunnyview Trunk will be disconnected. Minor extensions to the proposed Road 76-Avenue 320 Trunk will be necessary at the intersection of Riggin Avenue and Road 84.

Post-2020

During this growth phase, Service Area 12 may further expand, generating an approximate average flow of 3.67 MGD, which will be routed through this area's trunk system at the connection point discussed above.

5.10 SERVICE AREA 9 - PROPOSED AVENUE 276-ROAD 148 TRUNK

An attempt was made to route the city's southeast expansion area through the existing Akers-Caldwell Trunk (Service Area 1). However, that trunk could only accommodate expansions that generated approximately 0.50 MGD of average sewer flows. All additional expansions will be routed through the proposed Avenue 276-Road 148 Trunk.

The expansion area that will be serviced by this proposed trunk is bounded by Service Areas 1 and 2 to the north, the city's 2020 Urban Development Boundary to the east and south (along Avenue 272), and the Airport Safety Zone to the west. Expansion in this area will occur in stages and require staged expansion improvements.

1992-2000

During this growth period, the proposed trunk will begin at the intersection of Akers Road and Caldwell Avenue, where it will connect to the existing 36-inch pipe on Akers Road. The existing 36-inch pipe will have an excess average capacity of 7.75 MGD which will be used by the proposed trunk system. When flows from the new trunk exceed 7.75 MGD, the amount exceeding 7.75 MGD will be diverted to a subsequent trunk sewer to be constructed on Caldwell Avenue west of Akers Road (see "Post 2020" growth stage).

The proposed trunk continues south on Akers Road with a 36-inch pipe to the Avenue 276 alignment. It then turns east on the Avenue 276 alignment and continues with a 33-inch pipe to the intersection with Santa Fe Street. It then turns north on Santa Fe Street with a 21-inch pipe.

The construction of this trunk will eliminate the need for two existing lift stations. The first is located on Midvalley (1/2 mile west of Mooney Boulevard), and the second is at the intersection of Mooney Boulevard and Avenue 272. Flows to these lift stations will be rerouted by gravity to the Avenue 276-Road 148 Trunk at Mooney Boulevard. A description of the proposed trunk sewer segments follows.

<u>Akers Road (Caldwell Avenue to Avenue 276).</u> 2,600 feet of 36-inch pipe sloping downward in a northward direction at a slope of 0.00081 ft/ft and connecting to the existing 36-inch pipe at the intersection with Caldwell Avenue.

<u>Avenue 276 (Akers Road to Demaree Street).</u> 5,300 feet of 33-inch pipe sloping downward in a westerly direction at a slope of 0.00123 ft/ft and connecting to the proposed 36-inch pipe at the intersection with Akers Road.

<u>Avenue 276 (Demaree Street to Mooney Boulevard).</u> 5,300 feet of 33-inch pipe sloping downward in a westerly direction at a slope of 0.00113 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Demaree Street. This trunk will also intercept sewer flows from an existing 12-inch pipe on Mooney Boulevard, south of Avenue 276, and will eliminate an existing pump station.

<u>Avenue 276 (Mooney Boulevard to Road 124).</u> 5,300 feet of 33-inch pipe sloping downward in a westerly direction at a slope of 0.00113 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Mooney Boulevard.

<u>Avenue 276 (Road 124 to Santa Fe Street)</u>. 2,700 feet of 33-inch pipe sloping downward in a westerly direction at a slope of 0.00113 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Road 124.

<u>Santa Fe Street (Avenue 276 to Caldwell Avenue)</u>. 2,600 feet of 21-inch pipe sloping down in a southerly direction at 0.00073 ft/ft and connecting to the proposed 33-inch pipe on Avenue 276 at the intersection with Santa Fee Street.

<u>Caldwell Avenue (Santa Fe Street to Ben Maddox Way).</u> 2,600 feet of 18-inch pipe sloping down in a westerly direction at 0.00110 ft/ft and connecting to the proposed 21-inch pipe on Santa Fe Street at the intersection with Caldwell Avenue.

<u>Caldwell Avenue (Ben Maddox Way to Lovers Lane).</u> 4,500 feet of 15-inch pipe sloping down in a westerly direction at 0.00100 ft/ft and connecting to the proposed 18-inch pipe on Caldwell Avenue at the intersection with Ben Maddox Way.

<u>Ben Maddox Way (Caldwell Avenue to K Road).</u> 3,600 feet of 15-inch pipe sloping down in a southerly direction at 0.00100 ft/ft and connecting to the proposed 18-inch pipe on Caldwell Avenue at the intersection with Ben Maddox Way.

2000-2010

During this growth period, additional expansion areas will develop, requiring the extension of the proposed Avenue 276-Road 148 trunk sewer, starting at the intersection of Avenue 276 with Santa Fe Street, and continuing in an easterly direction on Avenue 276 to the intersection with Road 148.

> Ben Maddox Way (Caldwell Avenue to 2,000 feet south). 2,000 feet of 15-inch pipe sloping down in a northerly direction at 0.00100 ft/ft and connecting to the proposed 18-inch pipe on Caldwell Avenue at the intersection with Ben Maddox Way.
>
> Avenue 276 (Santa Fe Street to Ben Maddox Way). 2,700 feet of 33-inch pipe sloping downward in a westerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Santa Fe Street.
>
> Avenue 276 (Ben Maddox Way to Lovers Lane). 5,300 feet of 30-inch pipe sloping downward in a westerly direction at a slope of 0.00110 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Ben Maddox Way.
>
> Avenue 276 (Lovers Lane to Road 148). 5,300 feet of 27-inch pipe sloping downward in a westerly direction at a slope of 0.00084 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Lovers Lane.
>
> Lovers Lane (Avenue 276 to Caldwell Avenue). 2,600 feet of 18-inch pipe sloping downward in a southerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Avenue 276.
>
> Lovers Lane (Caldwell Avenue to Walnut Avenue). 5,000 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Caldwell Avenue.
>
> Caldwell Avenue (Lovers Lane to Road 148). 5,000 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Lovers Lane.

2010-2020

During this growth period, additional expansion areas will develop requiring the extension of the proposed Avenue 276-Road 148 trunk sewer, starting at the intersection of Road 148 and Avenue 276, and continuing in a northerly direction on Road 148 to the intersection with Houston Avenue, with pipes ranging between 27 and 18 inches.

The additional flows generated by this period's expansion area will continue to be routed to the existing 36-inch pipe (Service Area 1) on Akers Road.

Road 148 (Avenue 276 to Caldwell Avenue). 2,600 feet of 27-inch pipe sloping downward in a southerly direction at a slope of 0.00074 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Avenue 276.

Road 148 (Caldwell Avenue to Walnut Avenue). 5,300 feet of 27-inch pipe sloping downward in a southerly direction at a slope of 0.00052 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Caldwell Avenue. This improvement will require a jacked steel casing for crossing under the existing railroad tracks at the intersection with K Road.

Road 148 (Walnut Avenue to Noble Avenue). 5,300 feet of 24-inch pipe sloping downward in a southerly direction at a slope of 0.00060 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Walnut Avenue.

Road 148 (Noble Avenue to Houston Avenue). 5,300 feet of 18-inch pipe sloping downward in a southerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 24-inch pipe at the intersection with Noble Avenue. This pipe will require 350 feet of jacked steel casing for crossing under State Highway 198.

Caldwell Avenue (Road 148 to Road 156). 4,500 feet of 15-inch pipe sloping downward in a westerly direction at slope of 0.00100 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Road 148.

Walnut Avenue (Road 148 to McAuliff Street). 2,600 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.0010 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Road 148.

Noble Avenue (Road 148 to McAuliff Street). 2,600 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 24-inch pipe at the intersection with Road 148.

Houston Avenue (Road 148 to McAuliff Street). 2,600 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Road 148.

Road 148 (Avenue 276 to Avenue 272). 2,600 feet of 15-inch pipe sloping downward in a northerly direction at a slope of 0.00100 and connecting to the proposed 27-inch pipe at the intersection with Avenue 276.

Post-2020

During this growth period, average sewer flows generated from the east and south expansion areas may reach 9.92 MGD, which exceeds the 7.75 MGD of available excess capacity in the existing 36-inch sewer on Akers Road. A new sewer will thus be needed to divert flow from the 36-inch pipe on Akers Road. Instead of paralleling the existing 36-inch pipe on Akers Road, the proposed trunk will divert flow from the intersection of Akers Road and Caldwell Avenue westward on Caldwell Avenue via a new 24-inch pipe to the intersection with Shirk Road. The proposed trunk then turns north on Shirk Road with a 30-inch pipe to Walnut Avenue; it finally turns west on Walnut Avenue with a new 42-inch pipe that parallels the existing double barrel 48-inch and 36-inch pipes, to the treatment plant.

> Walnut Avenue (treatment plant to Shirk Road). 10,800 feet of 42-inch pipe sloping downward in a westerly direction at a slope of 0.00065 ft/ft to the treatment plant. This pipe will require 350 feet of jacked steel casing under State Highway 99. It should be noted that there is an existing dry 36-inch carrier pipe under the highway; however, preliminary design calculations indicate that the invert elevation of the proposed 48-inch pipe needs to be around 269.44 feet whereas the invert of the existing 36-inch pipe at that same location is around 276.70 feet.

> Shirk Road (Walnut Avenue to Caldwell Avenue). 5,300 feet of 30-inch pipe sloping downward in a northerly direction at a slope of 0.00085 ft/ft and connecting to the proposed 48-inch pipe at the intersection with Walnut Avenue.

> Caldwell Avenue (Shirk Road to Akers Road). 5,300 feet of 24-inch pipe sloping downward in a westerly direction at a slope of 0.00085 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Shirk Road.

> Walnut Avenue (McAuliff Street to Road 156). 1,860 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to proposed 15-inch pipe the intersection with McAuliff Street.

> Noble Avenue (McAuliff Street to Road 156). 1,860 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 15-inch pipe at the intersection with McAuliff Street.

> Houston Avenue (McAuliff Street to Road 156). 1,860 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 15-inch pipe at the intersection with McAuliff Street.

It should be noted that, for purposes of preparing this Master Plan, it was assumed that the area between the 2020 UDB and UAB south of Avenue 272 will not be developed with urban uses prior to the year 2040 because the City has expressed an interest in maintaining this area in agriculture as a buffer between Visalia and Tulare. Therefore, the planned Avenue 276 trunk line was not sized to serve the area south of Avenue 272 that is outside the 2020 UDB. In the event this area develops in the future, it is likely that a new trunk line will have to be installed to serve it. However, should the City's policy on development south of Avenue 272 change prior to the installation of the Avenue 276 line, this line could be used to serve future development south of Avenue 272 in accordance with the recommendations of the 2020 Plan. In that event, the alignment and diameter of the line may be subject to change.

5.11 SERVICE AREA 10 - SHIRK-RIGGIN TRUNK

The city's north expansion area was divided into two new Service Areas (10 and 11). Service Area 10 is bounded by Service Area 11 and Avenue 320 to the north, the city's Urban Area Boundary to the east, Service Areas 2, 5, and 6 to the south, and Service Area 8 to the west. Another smaller expansion area was made a part of Service Area 10. It is bounded by Road 88 to the west, Service Areas 7 and 8 to the north, Akers Road to the east, and Walnut Avenue to the south. This area will develop in stages and will require the construction of the Shirk-Riggin Trunk which will connect to the existing 48-inch Walnut Outfall (Service Area 2) at the intersection of Walnut Avenue and Shirk Road and continue northward on Shirk Road with a proposed 48-inch pipe to Riggin Avenue. The trunk will turn eastward on Riggin Avenue and continue with a 30-inch pipe to the intersection with Demaree Road. The trunk then continues eastward on Riggin Avenue to the city's Urban Area Boundary with pipe sizes ranging from 27 to 15 inches.

1992-2000

During this growth period, it is anticipated that a relatively large expansion area will develop in the north part of the city, thus requiring the construction of the upper reach of the Shirk-Riggin Trunk. The flow generated from this service area will be around 2.55 MGD and will be routed through the Road 76-Sunnyview Trunk (Service Area 8), which has the excess capacity unused. The proposed upper reach of the trunk will thus connect to the existing 30-inch pipe on Sunnyview Avenue and continue first northward on Shirk Road to Riggin Avenue and then eastward on Riggin Avenue to Santa Fe Street.

<u>Shirk Road (Sunnyview Avenue to Riggin Avenue)</u>. 1,800 feet of 48-inch pipe sloping downward in a southerly direction at a slope of 0.00059 ft/ft and connecting to the existing 30-inch pipe (Service Area 8) on Sunnyview Avenue at the intersection with Shirk Road.

<u>Riggin Avenue (Shirk Road to Akers Road).</u> 5,300 feet of 30-inch pipe sloping downward in a westerly direction at a slope of 0.00130 ft/ft and connecting to the proposed 48-inch pipe on Shirk Road at the intersection with Riggin Avenue.

<u>Riggin Avenue (Akers Road to Demaree Street).</u> 5,300 feet of 30-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Akers Road.

<u>Riggin Avenue (Demaree Street to Mooney Boulevard).</u> 5,300 feet of 27-inch pipe sloping downward in a westerly direction at a slope of 0.00108 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Demaree Street.

<u>Riggin Avenue (Mooney Boulevard to Dinuba Boulevard).</u> 5,300 feet of 24-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 27-inch at the intersection with Mooney Boulevard.

Riggin Avenue (Dinuba Boulevard to Santa Fe Street). 2,600 feet of 21-inch pipe sloping downward in a westerly direction at a slope of 0.00159 ft/ft and connecting to the proposed 24-inch pipe at the intersection with Dinuba Boulevard.

Akers Road (Riggin Avenue to Avenue 316). 2,600 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Riggin Avenue.

Akers Road (south of Riggin Avenue). 3,300 feet of 18-inch pipe sloping downward in a northerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Riggin Avenue.

Demaree Street (Riggin Avenue to Pratt Road). 3,300 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Riggin Avenue.

Demaree Street (south of Riggin Avenue to Houston Avenue). 3,300 feet of 18-inch pipe sloping downward in a northerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Riggin Avenue.

Mooney Boulevard (Riggin Avenue to Pratt Road). 3,300 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Riggin Avenue.

Dinuba Boulevard (Riggin Avenue to River Way Drive). 2,600 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 24-inch pipe at the intersection with Riggin Avenue.

2000-2010

During this growth period, flows generated from the expansion areas are relatively small and will still be routed through the Road 76-Sunnyview Trunk.

Akers Road (Avenue 316 to Avenue 320). 2,300 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 15-inch pipe at the intersection with Avenue 316.

Demaree Street (Pratt Road to Avenue 320). 1,700 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 15-inch pipe at the intersection with Pratt Road.

Mooney Boulevard (Pratt Road to Avenue 320). 1,700 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 15-inch pipe at the intersection with Pratt Road.

2010-2020

During this growth period, the expansion areas will generate additional flows that will (1) increase the flows from Service Area 10, (2) add flows from Service Area 11, and (3) increase the flows from Service Area 8, thus reducing the excess capacity available at the Sunnyview Avenue connection at Shirk Road. The connection linking the upper reach of the Shirk-Riggin Trunk with the lower reach on Shirk Road will be constructed, and the temporary diversion from the upper reach of the Shirk-Riggin Trunk into the Road 76-Sunnyview Trunk (Service Area 8) will be abandoned. The trunk system will also be extended eastward on Riggin Avenue, between Santa Fe Street and Road 152.

> <u>Riggin Avenue (Santa Fe Street to Lovers Lane).</u> 7,940 feet of 21-inch pipe sloping downward in a westerly direction at a slope of 0.00159 ft/ft and connecting to the proposed 21-inch at the intersection with Santa Fe Street.
>
> <u>Riggin Avenue (Lovers Lane to Road 148).</u> 5,300 feet of 21-inch pipe sloping downward in a westerly direction at a slope of 0.00076 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Lovers Lane.
>
> <u>Riggin Avenue (Road 148 to Road 152).</u> 2,600 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00150 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Road 148.
>
> <u>Ben Maddox Way (Riggin Avenue to River Way Drive).</u> 2,600 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Riggin Avenue.
>
> <u>Lovers Lane (Riggin Avenue to River Way Drive).</u> 2,600 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Riggin Avenue.
>
> <u>Lovers Lane (Riggin Avenue to Ferguson Avenue).</u> 2,600 feet of 15-inch pipe sloping downward in a northerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Riggin Avenue.
>
> <u>Road 148 (Riggin Avenue to River Way Drive).</u> 2,600 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Riggin Avenue.
>
> <u>Road 148 (Riggin Avenue to Ferguson Avenue).</u> 2,600 feet of 15-inch pipe sloping downward in a northerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Riggin Avenue.
>
> <u>Shirk Road (Walnut Avenue to Mill Creek).</u> 6,600 feet of 48-inch pipe sloping downward in a southerly direction at a slope of 0.00059 ft/ft and connecting to the existing 48-inch trunk at the intersection with Walnut Avenue.

Shirk Road (Mill Creek to Sunnyview Avenue). 7,500 feet of 48-inch pipe sloping downward in a southerly direction at a slope of 0.00059 ft/ft and connecting to the proposed 48-inch pipe at the intersection with Mill Creek. This improvement will require a jacked steel casing for crossing under the existing railroad tracks at the intersection with Goshen Avenue.

Post-2020

During this growth period, minor expansion may occur in this service area, resulting in the construction of a sewer extension on Riggin Avenue.

Riggin Avenue (Road 152 to Road 156). 2,600 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00150 ft/ft and connecting to the proposed 15-inch pipe at the intersection with Road 152.

5.12 SERVICE AREA 11 - AVENUE 320 TRUNK

This expansion area is bounded by the city's Urban Area Boundary to the north and east, Service Area 10 to the south, and proposed Service Area 12 to the west. Growth in this service area is anticipated to occur in the 2010-2020 and Post-2020 periods and will require the construction of the Avenue 320 Trunk. This trunk will be connected to the Shirk-Riggin Trunk (Service Area 10) at the intersection of Shirk Road and Riggin Avenue. The trunk continues northward on Shirk Road with a 36-inch pipe to the intersection with Avenue 320. It then turns eastward on Avenue 320 and continues to the city's easterly Urban Area Boundary, varying in size from 33 to 18 inches.

2010-2020

During this growth period, the Shirk Road portion of this trunk and approximately 2 miles of pipe on Avenue 320 will be needed to service expansion improvements.

Shirk Road (Riggin Avenue to Avenue 320). 5,300 feet of 36-inch pipe sloping downward in a southerly direction at a slope of 0.00081 ft/ft and connecting to the proposed 48-inch pipe at the intersection with Riggin Avenue.

Avenue 320 (Shirk Road to Akers Road). 5,300 feet of 33-inch pipe sloping downward in a westerly direction at a slope of 0.000100 ft/ft and connecting to the proposed 36-inch pipe at the intersection with Shirk Road.

Avenue 320 (Akers Road to Demaree Street). 5,300 feet of 33-inch pipe sloping downward in a westerly direction at a slope of 0.00075 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Akers Road.

Akers Road (Avenue 320 to Avenue 328). 5,000 feet of 15-inch pipe sloping downward in a southward direction at a slope of 0.00100 ft/ft and connecting to the proposed 33-inch pipe the intersection with Avenue 320.

Post-2020

During this growth period, area expansions may require the extension of the Avenue 320 Trunk eastward to the city's Urban Area Boundary.

Avenue 320 (Demaree Street to Mooney Boulevard). 5,300 feet of 30-inch pipe sloping downward in a westerly direction at a slope of 0.00103 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Demaree Street.

Avenue 320 (Mooney Boulevard to Dinuba Boulevard). 5,300 feet of 27-inch pipe sloping downward in a westerly direction at a slope of 0.00340 ft/ft and connecting to the proposed 30-inch pipe at the intersection with Mooney Boulevard.

Avenue 320 (Dinuba Boulevard to Ben Maddox). 5,300 feet of 24-inch pipe sloping downward in a westerly direction at a slope of 0.00124 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Dinuba Boulevard. This improvement will require a jacked steel casing for crossing under the existing railroad tracks at Santa Fe Street.

Avenue 320 (Ben Maddox to Lovers Lane). 5,300 feet of 24-inch pipe sloping downward in a westerly direction at a slope of 0.00100 and connecting to the proposed 24-inch pipe at the intersection with Ben Maddox.

Avenue 320 (Lovers Lane to Road 148). 5,300 feet of 21-inch pipe sloping downward in a westerly direction at a slope of 0.00079 ft/ft and connecting to the proposed 24-inch pipe at the intersection with Lovers Lane.

Avenue 320 (Road 148 to Road 152). 2,600 feet of 18-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 21-inch pipe at the intersection with Road 148.

Shirk Road (Avenue 320 to Avenue 328). 4,500 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 36-inch pipe at the intersection with Avenue 320.

Demaree Street, Mooney, Dinuba, Ben Maddox, Lovers Lane, and Road 148 (Avenue 320 to Avenue 328). Five separate lines of 4,500 feet each of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed pipe at the intersection with Avenue 320.

5.13 SERVICE AREA 12 - ROAD 76-AVENUE 320 TRUNK

This expansion area is bounded by Road 88 to the east, Riggin Avenue to the south, and the city's Urban Area Boundary to the west and north. Expansion in this area will occur during two growth periods and will require the construction of the Road 76-Avenue 320 Trunk. The proposed trunk will connect to the existing 36-inch pipe at the intersection of Road 76 and Sunnyview Avenue, and will continue northward on Road 76 to Avenue 320, with pipe sizes of 33 and 27 inches. Branches to the east and west from the Road 76 line at Riggin Avenue and Avenue 320 will be required to serve the extent of Service Area 12.

2000-2010

Road 76 (Avenue 308 to Riggin Avenue). 2,600 feet of 33-inch pipe sloping downward in a southerly direction at a slope of 0.00050 ft/ft and connecting to the existing 36-inch Road 76-Sunnyview Trunk (Service Area 8) at the intersection with Avenue 308.

Road 76 (Riggin Avenue to Avenue 320). 5,300 feet of 27-inch pipe sloping downward in a southerly direction at a slope of 0.00060 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Riggin Avenue.

Riggin Avenue (Road 76 to Road 84). 5,300 feet of 18-inch pipe sloping downward in a westerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 33-inch pipe at the intersection with Road 76.

2010-2020

Road 84 (Riggin Avenue to Avenue 320). 5,000 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Riggin Avenue.

Riggin Avenue (Road 84 to Road 88). 2,000 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Road 84.

Post-2020

Avenue 320 (Road 76 to Road 84). 5,300 feet of 18-inch pipe sloping downward in a westerly direction at a slope of 0.00090 ft/ft and connecting to the proposed 27-inch pipe at the intersection of Road 76.

Avenue 320 (Road 84 to Road 88). 2,000 feet of 15-inch pipe sloping downward in a westerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Road 84.

Road 84 (Avenue 320 to Avenue 328). 4,500 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Avenue 320.

Road 76 (Avenue 320 to Avenue 328). 4,500 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Avenue 320.

Avenue 320 (Road 76 to Road 72). 2,600 feet of 18-inch pipe sloping downward in an easterly direction at slope of 0.00090 ft/ft and connecting to the proposed 27-inch pipe at the intersection with Road 76. This pipe is sloping down against the natural grade level, and will thus require a lift station at the intersection of Avenue 320 and Road 72.

1.85-MGD Lift Station (Avenue 320 and Road 72). This lift station is required to pump sewer flows on Avenue 320, against the natural grade slopes. Preliminary design indicates a lift of approximately 16.0 feet.

Avenue 320 (Road 72 to Road 68). 2,700 feet of 18-inch pipe sloping downward in an easterly direction at a slope of 0.00090 ft/ft to the lift station at the intersection with Road 72.

Road 68 (Avenue 320 to Avenue 328). 4,500 feet of 15-inch pipe sloping downward in a southerly direction at a slope of 0.00100 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Avenue 320.

Avenue 320 (Road 68 to Road 60). 2,000 feet of 15-inch pipe sloping downward in an easterly direction at a slope of 0.0010 ft/ft and connecting to the proposed 18-inch pipe at the intersection with Road 68.

Riggin Avenue (Road 76 to Road 68). 5,300 feet of 18-inch pipe sloping downward in an easterly direction at a slope of 0.00090 ft/ft and connecting to the proposed 33-inch pipe at the intersection of Road 76.

Section 6

CAPITAL IMPROVEMENT PROGRAM

6.1 CAPITAL COSTS

The estimated capital costs of the proposed improvements to the city's sewer system are shown in Table 6-1. In addition to cost estimates, Table 6-1 lists pipeline design information and miscellaneous relevant data as described below.

Service Area	Sewer service area in which the proposed improvement will be located.
I.D.	A number was assigned to each improvement for ease of referral.
Street Name	Name of street in which pipeline will be constructed.
Limits	Street limits (downstream to upstream) of the proposed improvement.

Pipeline Costs

Size	Size of proposed pipe, in inches.
Length	Length of proposed pipe, in feet.
Slope	Approximate slope of proposed pipe.
Average Depth	Average vertical depth of trench excavation, in feet.
Unit Cost	Calculated unit cost of the pipeline based on the proposed pipe's present day cost plus installation cost, in dollars per linear foot ($/LF) of pipe length. This unit cost was based on bid sheets in the Visalia area for a typical sewer at a depth of 10 feet as follows:

12-inch	$50/ft	30-inch	$115/ft
15-inch	$60/ft	33-inch	$128/ft
18-inch	$70/ft	36-inch	$140/ft
21-inch	$80/ft	39-inch	$158/ft
24-inch	$95/ft	42-inch	$175/ft
27-inch	$105/ft	48-inch	$210/ft

These costs were adjusted for shallower and deeper depths.

Total Cost	Total cost of the proposed pipeline (pipeline unit cost multiplied by length of pipe).

Manhole Costs

Quantity	Approximate number of manholes required, based on a maximum manhole spacing of 450 feet.
Unit Cost	Calculated unit cost of the manholes based on the required diameter of the manhole, in dollars per vertical foot ($/VF) of manhole depth.
Total Cost	Total cost of the manholes (manhole unit cost multiplied by the number of manholes, then multiplied by the average depth of the proposed pipeline).
Total Costs	Total costs of the proposed improvements.
Contingencies	To account for project administration, design engineering, inspection, and miscellaneous unforeseen events, a 25-percent contingency will be included.
Capital Costs	Total costs of the proposed improvement plus contingencies.

The capital improvement costs do not include pipeline corridor land purchases and/or easement costs, it was assumed that public right-of-way will be utilized wherever possible. Additionally, all costs in these tables are expressed in 1993 dollars and have been based on recent construction bids from similar projects, estimating guides, cost-capacity curves, and pipe costs from suppliers.

The costs provided in this section should be used for general master planning purposes, and a more in-depth cost estimate should be prepared later for each proposed improvement. The costs presented in this plan are used for calculating preliminary development fees on a dwelling unit basis.

6.2 FEE SCHEDULE

Based on the costs listed in Table 6-1, a planning level fee schedule was developed and is presented in Table 6-2. The fee schedule was based on the number of equivalent dwelling units (EDUs) anticipated to develop in each future service area. For planning purposes, one EDU was calculated to represent 250 gallons per day, which is also equivalent to a typical wastewater flow generated by a single-family residential dwelling unit.

TABLE 6-1
CAPITAL IMPROVEMENT PROGRAM

SERV AREA	ID	STREET NAME	LIMITS	PIPELINE SIZE (IN)	PIPELINE LENGTH (LF)	PIPELINE SLOPE	PIPELINE AVG. DEPTH (VF)	PIPELINE UNIT COST ($/LF)	PIPELINE COST ($)	MANHOLES QTTY	MANHOLES UNIT COST ($/VF)	MANHOLES COST	TOTAL COSTS ($)	CONTIN-GENCIES ($)	CAPITAL COSTS ($)
1993-2000 CAPITAL IMPROVEMENTS															
02*	1	Mooney Blvd.	Harter Ave. to Ashland Ave.	15	1,680	0.00080	9.0	59	99,120	5	150	6,390	105,510	26,378	131,888
02*	2	County Center Dr.	Beech Ave. to Ashland Ave.	12	265	0.00077	5.0	40	10,600	1	150	750	11,350	2,838	14,188
02*	3	Ashland Ave.	County Center Dr. to Linda Vista St.	12	285	0.00077	5.0	40	11,400	0	150	0	11,400	2,850	14,250
02*	4	Linda Vista St.	Ashland Ave. to Pump Sta.	12	535	0.00077	5.5	41	21,935	1	150	825	22,760	5,690	28,450
02*	5	LIFT STATION	Sunnyvidew Ave. and Mooney Blvd.	Exist. Capacity = 580 gpm; Additional Capacity = 185 gpm)									120,000	30,000	150,000
04*	6	Mineral King Ave.	w/o Noyes Rd. to Ranch Rd.	33	7,300	0.00039	6.0	124	905,200	17	280	28,933	934,133	233,533	1,167,667
05*	7	LIFT STATION	Mill Creek Dr. and Main St.	Exist. Capacity = 175 gpm; Additional Capacity = 65 gpm)									70,000	17,500	87,500
06*	8	LIFT STATION	Giddings St. and Sunnyview Ave.	Exist. Capacity = 580 gpm; Additional Capacity = 210 gpm)									170,000	42,500	212,500
08	9	Plaza Drive South	Airport LS to Neely St.	24	2,000	0.00070	15.0	108	216,000	5	190	15,517	231,517	57,879	289,396
08	10	Neely Street	Plaza Drive South to Crowley Ave.	24	1,250	0.00080	15.0	94	117,500	4	190	10,767	128,267	32,067	160,333
08	11	Neely Street	Crowley Ave. to Plaza Dr. North	18	1,100	0.00090	15.0	84	92,400	3	190	9,817	102,217	25,554	127,771
08	12	Plaza Drive North	Neely St. to Goshen Ave.	18	3,100	0.00090	15.0	84	260,400	8	190	22,483	282,883	70,721	353,604
08	13	Crowley Avenue	Neely St. to Road 84	12	1,350	0.00150	12.0	56	75,600	4	150	7,200	82,800	20,700	103,500
08	14	Camp Dr.	Road 76 to Goshen Ave.	24	6,000	0.00070	10.0	93	558,000	14	190	27,233	585,233	146,308	731,542
08	15	Camp Dr.	Goshen Ave. to Betty Dr.	18	4,500	0.00090	16.5	87	391,500	11	190	34,485	425,985	106,496	532,481
08	16	Goshen Avenue	Camp Dr. to Frontage Rd.	18	1,500	0.00090	18.0	91	136,500	4	190	14,820	151,320	37,830	189,150
08	17	Goshen Avenue	Jacked Steel Casing under Railroad	48	100	0.00090	18.0	624	62,400	0	280	0	62,400	15,600	78,000
08	18	Goshen Avenue	Jacked Steel Casing under Hwy 99	48	350	0.00090	18.0	624	218,400	1	280	5,040	223,440	55,860	279,300
08	19	Frontage Rd.	Goshen Ave. to Betty Dr.	18	3,500	0.00090	16.5	87	304,500	9	190	27,518	332,018	83,005	415,023
08	20	LIFT STATION	Goshen Ave. & Camp Dr.	(Capacity = 2.05 mgd, Lift = 12.0 feet)									500,000	125,000	625,000
08*	21	LIFT STATION	Airport on Plaza Drive	(Exist. Capacity = 2.6 mgd; Additional Capacity = 5.8 mgd)									1,000,000	250,000	1,250,000
09	22	Akers St.	Caldwell Ave. to Avenue 276	36	2,600	0.00081	13.0	152	395,200	7	280	24,671	419,871	104,968	524,839
09	23	Avenue 276	Akers St. to Demaree St.	33	5,300	0.00123	18.0	157	832,100	13	280	64,400	896,500	224,125	1,120,625
09	24	Avenue 276	Demaree St. to Mooney Blvd.	33	5,300	0.00113	18.0	157	832,100	13	280	64,400	896,500	224,125	1,120,625
09	25	Avenue 276	Mooney Blvd. to Road 124	33	5,300	0.00113	18.0	157	832,100	13	280	64,400	896,500	224,125	1,120,625
09	26	Avenue 276	Road 124 to Santa Fe St.	33	2,700	0.00113	18.0	157	423,900	7	280	35,280	459,180	114,795	573,975
09	27	Santa Fe St.	Avenue 276 to Caldwell	21	2,700	0.00073	18.0	98	264,600	7	190	23,940	288,540	72,135	360,675
09	28	Caldwell Ave.	Santa Fe St. to Ben Maddox Wy	18	2,600	0.00011	15.0	84	218,400	7	190	19,317	237,717	59,429	297,146
09	29	Caldwell Ave.	Ben Maddox Wy. to Lovers Lane	15	4,500	0.00100	15.0	73	328,500	11	150	24,750	353,250	88,313	441,563
09	30	Ben Maddox Way	Caldwell Ave. to K Rd.	15	3,600	0.00100	15.0	73	262,800	9	150	20,250	283,050	70,763	353,813
10	31	Shirk Road	Sunnyview Ave. to Riggin Ave.	48	1,800	0.00059	17.5	246	442,800	5	280	24,500	467,300	116,825	584,125
10	32	Riggin Avenue	Shirk Rd. to Akers St.	30	5,300	0.00130	18.0	141	747,300	13	190	43,700	791,000	197,750	988,750
10	33	Riggin Ave.	Akers St. to Demaree St.	30	5,300	0.00100	19.0	141	747,300	13	190	46,128	793,428	198,357	991,785
10	34	Riggin Ave.	Demaree St. to Mooney Blvd.	27	5,300	0.00108	19.0	132	699,600	13	190	46,128	745,728	186,432	932,160
10	35	Riggin Ave.	Mooney Blvd. to w/o Dinuba Blvd.	24	2,600	0.00100	19.0	119	309,400	7	190	24,468	333,868	83,467	417,335
10	36	Akers St.	Riggin Ave. to Avenue 316	15	2,600	0.00100	17.0	78	202,800	7	150	17,283	220,083	55,021	275,104
10	37	Demaree St.	Riggin Ave. to Pratt Rd.	15	3,300	0.00100	17.0	78	257,400	8	150	21,250	278,650	69,663	348,313
10	38	Mooney Blvd.	Riggin Ave. to Pratt Rd.	15	3,300	0.00100	17.0	78	257,400	8	150	21,250	278,650	69,663	348,313
10	39	Demaree St.	Riggin Ave. to Houston Ave.	18	3,300	0.00090	15.5	85	280,500	8	190	24,542	305,042	76,260	381,302
10	40	Akers Road	Riggin Ave. to Houston Ave.	18	3,300	0.00090	15.5	85	280,500	8	190	24,542	305,042	76,260	381,302

1993-2000 TOTAL COSTS (By Service Area)

	TOTAL COSTS ($)	CONTIN-GENCIES ($)	CAPITAL COSTS ($)
Service Area 02	271,020	67,755	338,775
Service Area 04	934,133	233,533	1,167,667
Service Area 05	70,000	17,500	87,500
Service Area 06	170,000	42,500	212,500
Service Area 08	4,108,080	1,027,020	5,135,100
Service Area 09	4,731,108	1,182,777	5,913,885
Service Area 10	4,518,790	1,129,698	5,648,488

TABLE 6-1 (continued)

SERV AREA	ID	STREET NAME	LIMITS	PIPELINE SIZE (IN)	PIPELINE LENGTH (LF)	PIPELINE SLOPE	PIPELINE AVG. DEPTH (VF)	PIPELINE UNIT COST ($/LF)	PIPELINE COST ($)	MANHOLES QTTY	MANHOLES UNIT COST ($/VF)	MANHOLES COST	TOTAL COSTS ($)	CONTIN-GENCIES ($)	CAPITAL COSTS ($)
									1993-2000 TOTAL COSTS (All Service Areas)				14,803,131	3,700,783	18,503,914
2000-2010 CAPITAL IMPROVEMENTS															
08**	41	LIFT STATION	Airport on Plaza Drive	Exist. Capacity = 2.6 mgd; Additional Capacity = 5.4 mgd)									800,000	200,000	1,000,000
09	42	Avenue 276	Santa Fe St. to Ben Maddox Way	33	2,700	0.00090	18.0	157	423,900	7	280	35,280	459,180	114,795	573,975
09	43	Avenue 276	Jacked Steel Casing under Railroad	66	100	0.00095	19.0	858	85,800	0	190	0	85,800	21,450	107,250
09	44	Avenue 276	Ben Maddox Way to Lovers Lane	30	5,300	0.00110	19.5	146	773,800	13	190	47,342	821,142	205,285	1,026,427
09	45	Avenue 276	Lovers Lane to Road 148	27	5,300	0.00094	19.5	133	704,900	13	190	47,342	752,242	188,060	940,302
09	46	Ben Maddox Way	Caldwell Ave. to 2,000 ft south.	15	2,000	0.00100	15.0	73	146,000	5	150	12,250	158,250	39,563	197,813
09	47	Lovers Lane	Avenue 272 to Caldwell Ave.	18	2,600	0.00090	17.0	89	231,400	7	190	21,892	253,292	63,323	316,615
09	48	Lovers Lane	Caldwell Ave. to Walnut Ave.	15	5,000	0.00100	14.0	71	355,000	12	150	25,433	380,433	95,108	475,542
09	49	Caldwell Ave.	Lovers Lane to Road 148	15	5,000	0.00100	15.0	73	365,000	12	150	27,250	392,250	98,063	490,313
10	50	Akers St.	Avenue 316 to Avenue 320	15	2,300	0.00100	15.0	73	167,900	6	150	13,750	181,650	45,413	227,063
10	51	Demaree St.	Pratt Rd. to Avenue 320	15	1,700	0.00100	15.0	73	124,100	5	150	10,750	134,850	33,713	168,563
10	52	Mooney Blvd.	Pratt Rd. to Avenue 320	15	1,700	0.00100	15.0	73	124,100	5	150	10,750	134,850	33,713	168,563
12	53	Road 76	Avenue 308 to Riggin Ave.	33	2,600	0.00050	14.5	144	374,400	7	280	27,518	401,918	100,479	502,397
12	54	Road 76	Riggin Ave. to Avenue 320	27	5,300	0.00060	12.0	111	588,300	13	190	29,133	617,433	154,358	771,792
12	55	Riggin Ave.	Road 76 to Road 84	18	5,300	0.00090	13.0	78	413,400	13	190	31,561	444,961	111,240	556,201
									2000-2010 TOTAL COSTS (By Service Area)						
										Service Area 08			800,000	200,000	1,000,000
										Service Area 09			3,302,589	825,647	4,128,236
										Service Area 10			451,350	112,838	564,188
										Service Area 12			1,464,312	366,078	1,830,390
									2000-2010 TOTAL COSTS (All Service Areas)				6,018,251	1,504,563	7,522,814
2010-2020 CAPITAL IMPROVEMENTS															
09	56	Road 148	Avenue 276 to Caldwell Ave.	27	2,700	0.00074	19.5	133	359,100	7	190	25,935	385,035	96,259	481,294
09	57	Road 148	Caldwell Ave. to Walnut Ave.	27	5,300	0.00052	18.5	130	689,000	13	190	44,914	733,914	183,478	917,392
09	58	Road 148	Jacked Steel Casing under Railroad	54	100	0.00007	18.5	702	70,200	0	190	0	70,200	17,550	87,750
09	59	Road 148	Walnut Ave. to Noble Ave.	24	5,300	0.00060	18.0	116	614,800	13	190	43,700	658,500	164,625	823,125
09	60	Road 148	Noble Ave. to Goshen Ave.	18	5,300	0.00090	17.5	90	477,000	13	190	42,486	519,486	129,872	649,358
09	61	Road 148	Jacked Steel Casing under Hwy 198	48	350	0.00090	17.5	624	218,400	0	280	0	218,400	54,600	273,000
09	62	Road 148	Avenue 276 to Avenue 272	15	2,600	0.00010	19.5	84	218,400	7	150	19,825	238,225	59,556	297,781
09	63	Caldwell Ave.	Road 148 to Road 156	15	5,000	0.00100	18.5	82	410,000	12	150	33,608	443,608	110,902	554,510
09	64	Walnut Ave.	Road 148 to Road 152	15	2,600	0.00100	17.0	78	202,800	7	150	17,283	220,083	55,021	275,104
09	65	Noble Ave.	Road 148 to Road 152	15	2,600	0.00100	17.0	78	202,800	7	150	17,283	220,083	55,021	275,104
09	66	Houston Ave.	Road 148 to Road 152	15	2,600	0.00100	14.0	70	182,000	7	150	14,233	196,233	49,058	245,292
10	67	Riggin Ave.	w/0 Dinuba Blvd. to Dinuba Blvd.	24	2,700	0.00100	19.0	119	321,300	7	190	25,270	346,570	86,643	433,213
10	68	Riggin Ave.	Dinuba Blvd. to Ben Maddox	21	5,300	0.00159	19.0	105	556,500	13	190	46,128	602,628	150,657	753,285
10	69	Riggin Ave.	Ben Maddox to Lovers Lane	21	5,300	0.00117	18.5	104	551,200	13	190	44,914	596,114	149,028	745,142
10	70	Riggin Ave.	Lovers Lane to Road 148	21	5,300	0.00076	18.0	91	482,300	13	190	43,700	526,000	131,500	657,500
10	71	Riggin Ave.	Road 148 to Road 152	15	2,600	0.00150	17.0	78	202,800	7	150	17,283	220,083	55,021	275,104
10	72	Dinuba Blvd.	Riggin Ave. to River Way Dr.	15	2,600	0.00100	17.0	78	202,800	7	150	17,283	220,083	55,021	275,104
10	73	Ben Maddox Way	Riggin Ave. to River Way Dr.	15	2,600	0.00100	15.0	73	189,800	7	150	15,250	205,050	51,263	256,313
10	74	Lovers Lane	Riggin Ave. to River Way Dr.	15	2,600	0.00100	15.0	73	189,800	7	150	15,250	205,050	51,263	256,313
10	75	Lovers Lane	Riggin Ave. to Ferguson Ave.	15	2,600	0.00100	15.0	73	189,800	7	150	15,250	205,050	51,263	256,313
10	76	Road 148	Riggin Ave. to River Way Dr.	15	2,600	0.00100	15.0	73	189,800	7	150	15,250	205,050	51,263	256,313

TABLE 6-1 (continued)

SERV AREA	ID	STREET NAME	LIMITS	PIPELINE SIZE (IN)	PIPELINE LENGTH (LF)	PIPELINE SLOPE	PIPELINE AVG. DEPTH (VF)	PIPELINE UNIT COST ($/LF)	PIPELINE COST ($)	MANHOLES QTTY	MANHOLES UNIT COST ($/VF)	MANHOLES COST	TOTAL COSTS ($)	CONTIN-GENCIES ($)	CAPITAL COSTS ($)
10	77	Road 148	Riggin Ave. to Ferguson Ave.	15	2,600	0.00100	15.0	73	189,800	7	150	15,250	205,050	51,263	256,313
10	78	Shirk Rd.	Walnut Ave. to Mill Creek	48	6,600	0.00059	15.0	235	1,551,000	16	280	65,800	1,616,800	404,200	2,021,000
10	79	Shirk Rd.	Mill Creek to Sunnyview Ave.	48	7,500	0.00059	15.0	235	1,762,500	18	280	74,200	1,836,700	459,175	2,295,875
10	80	Shirk Rd.	Jacked Steel Casing under Railroad	72	100	0.00059	15.0	936	93,600	0	190	0	93,600	23,400	117,000
11	81	Shirk Ave.	Riggin Ave. to Avenue 320	36	5,300	0.00081	14.5	158	837,400	13	280	51,878	889,278	222,319	1,111,597
11	82	Avenue 320	Shirk Rd. to Akers St.	33	5,300	0.00100	12.5	137	726,100	13	280	44,722	770,822	192,706	963,528
11	83	Avenue 320	Akers St. to Demaree St.	33	5,300	0.00075	15.0	146	773,800	13	280	53,667	827,467	206,867	1,034,333
11	84	Akers St.	Avenue 320 to Avenue 328	15	5,000	0.00100	12.0	65	325,000	12	150	21,800	346,800	86,700	433,500
12	85	Road 84	Riggin Ave. to Avenue 320	15	5,000	0.00100	10.0	60	300,000	12	150	18,167	318,167	79,542	397,708
12	86	Riggin Ave.	Road 84 to Road 88	15	2,000	0.00100	12.0	65	130,000	5	150	9,800	139,800	34,950	174,750

2010-2020 TOTAL COSTS (By Service Area)

	TOTAL COSTS ($)	CONTIN-GENCIES ($)	CAPITAL COSTS ($)
Service Area 09	3,903,768	975,942	4,879,710
Service Area 10	7,083,828	1,770,957	8,854,785
Service Area 11	2,834,367	708,592	3,542,958
Service Area 12	457,967	114,492	572,458
2010-2020 TOTAL COSTS (All Service Areas)	14,279,930	3,569,983	17,849,913

1993-2020 TOTAL COSTS (By Service Area)

	TOTAL COSTS ($)	CONTIN-GENCIES ($)	CAPITAL COSTS ($)
Service Area 02	271,020	67,755	338,775
Service Area 04	934,133	233,533	1,167,667
Service Area 05	70,000	17,500	87,500
Service Area 06	170,000	42,500	212,500
Service Area 08	4,908,080	1,227,020	6,135,100
Service Area 09	11,937,465	2,984,366	14,921,831
Service Area 10	12,053,968	3,013,492	15,067,460
Service Area 11	2,834,367	708,592	3,542,958
Service Area 12	1,922,279	480,570	2,402,849
1993-2020 TOTAL COSTS (All Service Areas)	35,101,312	8,775,328	43,876,640

TABLE 6-2
FEE SCHEDULE

EXPANSION AREA	COSTS ($)	FLOWS @ 2020 (MGD)	FLOWS @ 2020 (gpd)	EDU's	FEE ($/EDU)
NORTHWEST & GOSHEN EXPANSION AREAS					
Service Area 08	6,135,100	2.02	2,020,000	8,080	**759**
Service Area 12	2,402,849	0.99	990,000	3,960	**607**
Service Areas (08 & 12)	8,537,949	3.01	3,010,000	12,040	**709**
SOUTH & EAST EXPANSION AREAS					
Service Area 09	14,921,831	5.70	5,700,000	22,800	**654**
NORTH & NORTHEAST EXPANSION AREAS					
Service Area 10	15,067,460	6.35	6,350,000	25,400	**593**
Service Area 11	3,542,958	1.27	1,270,000	5,080	**697**
Service Areas (10 & 11)	18,610,419	7.62	7,620,000	30,480	**611**
2020 URBAN GROWTH BOUNDARY					
Service Areas (08, 09, 10, 11, & 12)	42,070,199	16.33	16,330,000	65,320	**644**

NOTES:
1) Fee Schedule was based on 1993 dollars. A "cost-of-living index" should be applied annually.
2) Fee Schedule was based on the Capital Improvement Program presented in this section.
3) Fee Schedule excludes Improvements required beyond year 2020.
4) Fee Schedule excludes any improvements required at the Wastewater Treatment Plant.
5) 1.0 Equivalent Dwelling Unit (EDU) = 1.0 Single-Fmaily Dwelling Unit
6) 1.0 EDU represents 250 gpd.
7) EDU Conversion Factors for Visalia's Land Use Designation.
   - 1-Acre Rural Residential = 2 EDUs
   - 1-Acre Low-Density Residential = 4 EDUs
   - 1-Acre Medium-Density Residential = 7.2 EDUs
   - 1-Acre High-Density Residential = 10 EDUs
   - 1-Acre Commercial = 4.0 EDUs
   - 1-Acre Light Industry = 4.4 EDUs
   - 1-Acre Heavy Industry = 7.5 EDUs

ADDENDUM
to
SECTION 6

This **Addendum to Section 6** has been included with the Sewer System Master Plan because the City of Visalia developed an alternate Capital Improvement Program and scenarios for funding the recommended improvements. The City's CIP and funding approaches supersede the CIP material presented in Section 6.0 of the Master Plan. A discussion of the City's CIP and funding scenarios is presented below.

Capital Improvement Program

The City's CIP was developed (for the improvements recommended in the Master Plan) with the premise that specific improvements would be installed by the City and the remaining improvements would be installed by private developers. This distinction between "City-installed" and "developer-installed" projects was made because developers typically can install sewer lines at a lower cost than the City, and developer projects generally do not include the acquisition of additional right-of-way or cutting and patching of existing pavement (as many City projects do).

The designated "City-installed" projects typically consist of the larger lines, such as the Riggin Avenue trunk line, and pump stations that will be needed to serve future development, and the improvements that are needed to take care of existing deficiencies. The "developer-installed" lines are the smaller lines, generally 24 inches or smaller in diameter, that will serve specific development projects.

The cost of "developer-installed" sewer line projects were based on unit pipe costs that were established by staff (with input from the local development community) and unit manhole costs established by Boyle (that vary with depth and pipe diameter). The unit pipe costs that were used by the City to establish the cost of "developer-installed" projects are as follows:

"Developer-Installed" Unit Sewer Pipe Costs

Diameter (in)	Cost ($/ft)
12	25
15	30
18	35
21	40
24	50
27	55
30	60
33	70
36	80

Note that the "developer-installed" unit costs include (pipe and manhole) material and construction costs. They do not include a cost for roadwork because it is assumed that most of the developer projects will require the construction of new roadways.

Cost estimates for identified "City-installed" projects were determined on a project-by-project basis. The project costs were based on unit costs for pipes and manholes, and a cost for additional right-of-way (when needed). The unit pipe costs included construction and material costs, a cost for cutting and patching of existing roadways, and a cost for traffic control measures. The following unit pipe costs were used to establish the total cost of the "City-installed" projects:

"City-Installed" Unit Sewer Pipe Costs

Diameter (in)	Cost ($/ft)
12	not used
15	not used
18	55
21	60
24	70
27	75
30	80
33	90
36	100
39	120
42	130
48	150

The City's CIP for the Master Plan improvements is presented at the end of this Addendum. The CIP identifies which improvements it was assumed will be installed by the City and which it was assumed will be installed by developers, and the total cost of those improvements. The CIP also provides a schedule (in 10-year increments) for the installation of the improvements that will serve future development.

It should be noted that the master planned improvements were designated as "City-installed" and "developer-installed" projects for the purpose of estimating the total cost of the improvements. However, it is recognized that some of the designated "City-installed" improvements may be installed by developers and some of the "developer-installed" improvements may be installed by the City.

A summary of the Master Plan costs is provided below.

Master Plan Cost Summary

	City Installed	Developer Installed	Total
Exist. Deficiencies:	$746,370	$0	$746,370
Future Development:	$19,310,110	$7,110,521	$26,420,631
Total:	**$20,056,480**	**$7,110,521**	**$27,167,001**

The $26.42 million total cost of improvements for future development includes $4.76 million of improvements in the northwest "industrial park" area and $3.92 million of improvements in areas designated as "urban reserve". The City determined that these costs should be separated from the total improvement cost (for the purpose of establishing impact fees). A separate set of fees was established for the industrial area because it is served largely by a "stand-alone" sewage collection system that carries primarily industrial flows that differ in their nature and timing from typical residential/commercial flows. A CIP for the industrial park area is presented at the end of this Addendum.

The cost of "urban reserve" improvements were excluded from the total cost because the actual size of the improvements cannot be determined until the "reserve" areas are designated for a particular urban use and the costs cannot be allocated until the urban uses are established.

The net cost of the Master Plan improvements (for future development), excluding the cost of improvements for the industrial park area and "urban reserve" areas, is as follows:

Total Cost of Improvements:	$26,420,631
less Cost of Industrial Park Improvements:	$4,760,463
less Cost of Urban Reserve Improvements:	$3,916,856
Net Total Cost:	**$17,743,312**

In addition to the capital costs of the Master Plan improvements, there also will be debt service costs associated with the bonding of two large sewer projects. The Shirk-Riggin line (from Sunnyview to Mooney), which the City intends to install in 1995, currently is bonded for $4.00 million and it is anticipated that a bond will be issued to fund the Akers-Avenue 276 line (to Road 148) by the year 2000. It was assumed that all of the other improvements would be installed on a "pay as you go" basis and not require bonding by the City.

A source of revenue that will reduce the cost of the Master Plan improvements is the "front foot" fee that developers currently are charged by the City. There are approximately 144,300 feet of master planned pipe for non-industrial areas, and it was assumed that "front foot" fees would be collected on 80 percent of this pipe at a unit cost of $20 per foot ($10 per foot per side). This means that the City will collect a total of $2.31 million from "front foot" fees through the year 2020. In addition, the City currently has a sewer impact fee account balance of approximately $1.89 million that will be applied toward the total cost of the non-industrial Master Plan improvements.

Therefore, the remaining "shortfall" in the funding of the non-industrial improvements is $13.54 million ($14.29 million with existing deficiencies). It should be noted that the City expects to continue the current practice of charging developers a "front foot" fee of $10 per foot.

Present Worth Analysis

A present-worth analysis of the non-industrial Master Plan improvements costs was conducted using an interest rate of 6 percent and an annual population growth rate of 2.5 percent through the year 2020. For the purpose of this analysis, it was assumed that the annual cost of non-bonded projects also would increase at a rate of 2.5 percent per year. The present-worth of the non-industrial improvements that will serve future development is approximately $12.85 million ($13.60 million with existing deficiencies).

The revenue from "front foot" fees and the existing impact fee account balance also were considered in the present-worth analysis. Based on an assumed annual revenue increase of 2.5 percent, the $2.31 million in "front foot" fees that will be generated through the year 2020 has a present-worth of $1.10 million. The sewer impact fee account balance of $1.89 million is considered a present-worth value.

The "front foot" fee revenue and existing account balance reduce the net cost of the Master Plan improvements to a present-worth of $9.86 million ($10.61 million with existing deficiencies).

Funding Alternatives

The City considered five alternative combinations of developer impact fees and monthly utility payments to fund the remaining $9.86 million in master plan improvements. These alternatives are as follows:

1) Fund 100% of the remaining improvement costs with developer impact fees. No increase in monthly rates.

2) Fund 75% of the remaining improvement costs ($7.40 million) with developer impact fees and fund 25% of the cost with an increase in monthly rates.

3) Fund approximately 60% of the remaining improvement costs ($5.69 million) with developer impact fees and fund 40% of the cost with an increase in monthly rates.

4) Fund 50% of the remaining improvement costs ($4.93 million) with developer impact fees and fund 50% of the cost with an increase in monthly rates.

5) Fund 100% of the remaining improvement costs with an increase in monthly rates. No impact fees.

It should be noted that the City intends to fund the improvements needed to upgrade the identified existing deficiencies with an increase of 1.3 percent in the monthly utility rates. This increase equates to an additional $0.10 per month for single family residences, which currently are charged $7.50 per month.

The developer impact fees and monthly rate increases for the identified funding alternatives are presented below (for single-family residences).

Funding Alternative Impact Fees and Monthly Rate Increases
(for single-family residences)

	Existing	100% Impact Fees	75% Impact Fees	60% Impact Fees	50% Impact Fees	0% Impact Fees
Impact Fee ($/unit)	$366	$634	$476	$366	$317	$0
Monthly Rate Increase[1] ($/unit/month)	$7.50[2]	$0.10	$0.43	$0.65	$0.75	$1.40

[1] The monthly rate increases include $0.10 to upgrade existing deficiencies.
[2] Existing monthly rate for single-family residential and commercial properties.

A graphical representation of the residential impact fees and monthly rate increases for the identified alternatives is displayed in Figure A-1. The impact fees that would be charged for other land uses are presented for each of the funding alternatives in Table A-1. The non-single-family alternative fees were obtained by applying the ratio of "the alternative single-family fee to the existing single-family fee" to the existing fee for each of the funding alternatives. The spreadsheets that were used to determine the developer impact fees and monthly rate increases for each of the funding alternatives are presented in Appendix G of the Master Plan.

Industrial Area

The total cost of the Master Plan improvements that serve the northwest industrial area is $4.76 million. There are approximately 45,730 feet of master planned pipe for the industrial area, and it was assumed that "front foot" fees would be collected on 80 percent of this pipe at a unit cost of $20 per foot ($10 per foot per side). This means that $0.73 million will be generated by "front foot" fees through the year 2020. Therefore, the net "shortfall" in improvement costs is $4.03 million.

New development will totally fund the installation of the Master Plan improvements with an impact fee of $0.38 per gallon per day (under peak flow conditions). This is a reduction of $0.42 per gallon from the existing fee of $0.80 per gallon per day. The monthly utility rate for industries in the Industrial Park area will not be increased to fund the installation of Master Plan improvements.

Outside of the northwest industrial area, industries will fund Master Plan improvements through impact fees, not an increase in their monthly rates. The impact fee for non-industrial park industries will be $0.99 per (peak) gallon. This fee was obtained by applying the ratio of "the alternative impact fee with 100 percent impact fee funding ($634) to the existing impact fee ($366)" for single-family residential units to the existing non-industrial park industry fee of $0.57 per (peak) gallon.

City Council Action

City staff presented these Master Plan funding alternatives to the City Council at a work session on April 18, 1994, that also was attended by representatives of the development community.

On May 16, 1994, the City Council adopted the Sanitary Sewer Master Plan with Resolution No. 94-65. On May 16, 1994, the City Council also decided to fund 75 percent of the cost of the Master Plan improvements with developer impact fees and fund 25 percent of the cost of the improvements with a city-wide (excluding industrial uses) increase in the monthly utility rates.

The new developer impact fees were adopted with Resolution No. 94-66. These fees, which are presented in Table A-2, are effective as of July 15, 1994. The proposed increase in the monthly utility rates will become effective on July 1, 1995. At that time, it is expected that the utility rate for a single-family residential unit will be increased $0.43 per month.

SEWER MASTER PLAN
CITY-WIDE CAPITAL IMPROVMENT PROGRAM

CITY INSTALLED PROJECTS							DEVELOP. PROJECTS							Pipeline					Manholes									
	Unit Pipe Cost ($/LF)	Unit Manhole Cost ($/MH)	No. Manholes	ROW Area (Acres)	Unit Land Cost ($/ac)	Contingency		Manhole Vert Ft Costs ($/VF)	Contingency	Serv Area	ID	Street Name	Limits	Size (in)	Length (LF)	Ave Depth (VF)	Unit Cost ($/LF)	Cost ($)	Qty	Unit Cost ($/VF)	Unit MH Cost ($/MH)	Cost ($)	Total Pipe/MH Costs ($)	Misc Land Costs ($)	Lift Stations ($)	Contingencies ($)	City Installed ($)	Developer Installed ($)
										EXISTING DEFICIENCIES																		
x	50	2,000	4	0	0	20%				2	1	Mooney Blvd	Hater to Ashland	15	1,680	9	50	84,000	4	222	2,000	8,000	92,000	0		18,400	110,400	0
x	35	2,000	6	0	0	20%				2	2,3&4	Cnty Cntr-Ashland	Beech to Linda Vista lift stat.	12	1,085	9	35	37,975	6	222	2,000	12,000	49,975	0		9,995	59,970	0
x	0	0	0	0	0	25%				2	5	LIFT STATION	Mooney @ Sunnyview	0	0	0	0	0	0	0	0	0	0	0	120,000	30,000	150,000	0
x	15	0	0	0	0	20%				2	6	Mineral King/198	Ranch Rd to Noyes Rd	33	7,000	6	15	105,000	0	0	0	0	105,000	0		21,000	126,000	0
x	0	0	0	0	0	25%				5	7	LIFT STATION	Main @ Mill Creek Dr.	0	0	0	0	0	0	0	0	0	0	0	70,000	17,500	87,500	0
x	0	0	0	0	0	25%				6	8	LIFT STATION	Sunnyside @ Mooney	0	0	0	0	0	0	0	0	0	0	0	170,000	42,500	212,500	0
													Exist. Def. Sub:		9,765					0								
										FUTURE IMPROVEMENTS (1993-2000)										0						EXISTING DEFICIENCIES TOTAL:	746,370	0
							x	190	25%	8	9	Plaza Dr South	Airport LS to Neely	24	2,000	15	46	92,000	5.44	190	2,850	15,517	107,517	0		26,879		134,396
							x	190	25%	8	10	Neely St	Plaza so to Crowley	24	1,250	15	46	57,500	3.78	190	2,850	10,767	68,267	0		17,067		85,333
							x	190	25%	8	11	Neely St	Crowley to Plaza	18	1,100	15	32	35,200	3.44	190	2,850	9,817	45,017	0		11,254		56,271
							x	190	25%	8	12	Plaza Dr	Neely to Goshen	18	3,100	15	32	99,200	7.89	190	2,850	22,483	121,683	0		30,421		152,104
							x	150	25%	8	13	Crowley	Neely to Road 84	12	2,640	12	22	58,080	6.87	150	1,800	12,360	70,440	0		17,610		88,050
x	0	0	0	0	0	15%				8		Camp	RIGHT-OF-WAY	0	0	0	0	0	0	0	0	0	0	0		0	0	0
x	70	0	0	0	0	15%				8	14	Camp	SH 198 to Goshen	24	6,000	10	70	420,000	0	0	0	0	420,000	0		63,000	483,000	0
x	55	0	0	0	0	15%				8	15,16,&19	Camp & Frontage Rd	Goshen to Betty	18	9,300	16.5	55	511,500	0	0	0	0	511,500	0		76,725	588,225	0
x	250	0	0	0	0	15%				8	17	Goshen	BORE @ SH 99	varies	140	16.5	250	35,000	0	0	0	0	35,000	0		5,250	40,250	0
x	0	2,000	30	0	0	15%				8		Camp & Frontage rd	MANHOLES	18-24	0	15	0	0	30	133	2,000	60,000	60,000	0		9,000	69,000	0
																				0						Goshen area Sub:	1,180,475	
																				0								
x						25%				8	20	LIFT STATION	Goshen @ Camp	0	0	0	0	0	0	0	0	0	0	0	500,000	125,000	625,000	0
x						25%				8	21	LIFT STATION	Plaza Dr @ Airport	0	0	0	0	0	0	0	0	0	0	0	1,000,000	250,000	1,250,000	0
x	100	0	0	0	0	15%				9	22	Akers-Ave 276	Akers (Caldwell to Ave 276)	36	2,640	13	100	264,000	0	0	0	0	264,000	0		39,600	303,600	0
x	90	0	0	0	0	15%				9	23&24	Ave 276	Akers to Mooney	33	10,560	18	90	950,400	0	0	0	0	950,400	0		142,560	1,092,960	0
x	90	0	0	0	0	15%				9	25	Ave 276	Mooney to West (Rd 124)	33	5,280	18	90	475,200	0	0	0	0	475,200	0		71,280	546,480	0
x	90	0	0	0	0	15%				9	26	Ave 276	West (Rd 124) to Santa Fe	33	2,640	18	90	237,600	0	0	0	0	237,600	0		35,640	273,240	0
x	60	0	0	0	0	15%				9	27	Santa Fe	Ave 276 to Caldwell	21	2,640	20	60	158,400	0	0	0	0	158,400	0		23,760	182,160	0
x		2,600	42	0	0	15%				9		Ave 276	MANHOLES	varies		18	0	0	42	144	2,600	109,200	109,200	0		16,380	125,580	0
x				27	35,000	15%				9		Ave 276	RIGHT OF WAY				0	0	0	0	0	0	0	945,000		141,750	1,086,750	0
																										Ave 276 Sub:	3,610,770	
							x	190	25%	9	28	Caldwell	Santa Fe to Ben Maddox	18	2,640	15	32	84,480	6.87	190	2,850	19,570	104,050	0		26,013		130,063
							x	150	25%	9	29	Caldwell	Ben Maddox to Lovers Lane	15	4,500	15	27	121,500	11	150	2,250	24,750	146,250	0		36,563		182,813
							x	150	25%	9	30	Ben Maddox	Caldwell to K Rd	15	3,600	15	27	97,200	9	150	2,250	20,250	117,450	0		29,363		146,813
x	150	0	0	0	0	15%				10	31	Shirk	Sunnyview to Riggen	48	1,800	17.5	150	270,000	0	0	0	0	270,000	0		40,500	310,500	0
x	80	0	0	0	0	15%				10	32	Riggin	Shirk to Akers	30	5,280	18	80	422,400	0	0	0	0	422,400	0		63,360	485,760	0
x	80	0	0	0	0	15%				10	33	Riggin	Akers to Demaree	30	5,280	19	80	422,400	0	0	0	0	422,400	0		63,360	485,760	0
x	75	0	0	0	0	15%				10	34	Riggin	Demaree to Mooney	27	5,280	19	75	396,000	0	0	0	0	396,000	0		59,400	455,400	0
x	70	0	0	0	0	15%				10	35	Riggin	Mooney to Dinuba Blvd	24	5,280	19	70	369,600	0	0	0	0	369,600	0		55,440	425,040	0
x	300	0	0	0	0	15%				10		Riggin	Bores	varies	320	18.5	300	96,000	0	0	0	0	96,000	0		14,400	110,400	0
x		2,600	50	0	0	15%				10		Shirk-Riggin	MANHOLES	varies			0	0	50	0	2,600	130,000	130,000	0		19,500	149,500	0
x				22	35,000	15%				10		Shirk-Riggin	RIGHT OF WAY				0	0	0	0	0	0	0	770,000		115,500	885,500	0
																										Shirk-Riggin Sub:	3,307,860	
							x	190	25%	10	67	Riggin	Dinuba Blvd to Santa Fe	21	2,640	19	38	100,320	6.87	190	3,610	24,789	125,109	0		31,277		156,386
							x	150	25%	10	36	Akers	Riggin to Avenue 316	15	2,640	17	27	71,280	6.87	150	2,550	17,510	88,790	0		22,198		110,988
							x	150	25%	10	37	Demaree	Riggin to Pratt	15	3,300	17	27	89,100	8.33	150	2,550	21,250	110,350	0		27,588		137,938
							x	150	25%	10	38	Mooney	Riggin to Pratt	15	3,300	17	27	89,100	8.33	150	2,550	21,250	110,350	0		27,588		137,938
							x	150	25%	10	72	Dinuba	Riggin to River Way	15	2,640	17	27	71,280	6.87	150	2,550	17,510	88,790	0		22,198		110,988
							x	150	25%	10	?	Mooney	Riggin south	18	2,640	17	32	84,480	6.87	150	2,550	17,510	101,990	0		25,498		127,488
							x	150	25%	10	39	Demaree	Riggin south	18	3,300	17	32	105,600	8.33	150	2,550	21,250	126,850	0		31,713		158,563
							x	190	25%	10	40	Akers	Riggin south	18	3,300	15.5	32	105,600	8.33	190	2,945	24,542	130,142	0		32,535		162,677
													1993-2000 Sub:		107,030													
										FUTURE IMPROVEMENTS (2000-2010)																1993-200 Sub:	9,974,105	2,078,805
x						25%				8	41	LIFT STATION	Plaza Dr @ Airport	0	0	0	0	0	0	0	0	0	0	0	800,000	200,000	1,000,000	0
x	90	0	0	0	0	15%				9	42	Ave 276	Santa Fe to Ben Maddox	33	2,640	19	90	237,600	0	0	0	0	237,600	0		35,640	273,240	0
x	400	0	0	0	0	15%				9	43	Ave 276	Hwy/RR bores	varies	320	19	400	128,000	0	0	0	0	128,000	0		19,200	147,200	0
x	80	0	0	0	0	15%				9	44	Ave 276	Ben Maddox to Lovers Lane	30	5,280	19.5	80	422,400	0	0	0	0	422,400	0		63,360	485,760	0
x	75	0	0	0	0	15%				9	45	Ave 276	Lovers Lane to Road 148	27	5,280	19.5	75	396,000	0	0	0	0	396,000	0		59,400	455,400	0
x	0	2,600	27	0	0	15%				9		Ave 276	MANHOLES	varies	0	19.5	0	0	27	133	2,600	70,200	70,200	0		10,530	80,730	0
x				15	35,000	15%				9		Ave 276	RIGHT OF WAY				0	0	0	0	0	0	0	525,000		78,750	603,750	0
																										Ave 276 Sub:	2,046,080	
							x	150	25%	9	46	Ben Maddox	Caldwell south	15	2,000	15	27	54,000	5.44	150	2,250	12,250	66,250	0		16,563		82,813
							x	190	25%	9	47	Lovers Lane	Ave 276 to Caldwell	18	2,640	17	32	84,480	6.87	190	3,230	22,179	106,659	0		26,665		133,324
							x	150	25%	9	48	Lovers Lane	Caldwell to Walnut	15	5,000	14	27	135,000	12.1	150	2,100	25,433	160,433	0		40,108		200,542
							x	150	25%	9	49	Caldwell	Lovers Lane to Rd 148	15	5,000	15	27	135,000	12.1	150	2,250	27,250	162,250	0		40,563		202,813
							x	150	25%	10	50	Akers	Ave 316 north	15	2,300	15	27	62,100	6.11	150	2,250	13,750	75,850	0		18,963		94,813
							x	150	25%	10	51	Demaree	Pratt north	15	1,700	15	27	45,900	4.78	150	2,250	10,750	56,650	0		14,163		70,813
							x	150	25%	10	52	Mooney	Pratt north	15	1,700	15	27	45,900	4.78	150	2,250	10,750	56,650	0		14,163		70,813
							x	280	25%	12	53	Road 76	Ave 308 to Riggin	33	2,640	14.5	68	179,520	6.87	280	4,060	27,879	207,399	0		51,850		259,248
							x	190	25%	12	54	Road 76	Riggen to Ave 320	27	5,280	12	49	258,720	12.7	190	2,280	29,032	287,752	0		71,938		359,690
							x	190	25%	12	55	Riggin	Road 76 to Road 84	18	5,280	13	32	168,960	12.7	190	2,470	31,451	200,411	0		50,103		250,514
													2000-2010 Sub:		47,060													
																										2000-2010 Sub:	3,046,080	1,725,381
																										1993-2010 Sub:	13,020,185	3,804,185

SEWER MASTER PLAN
CITY-WIDE CAPITAL IMPROVMENT PROGRAM

CITY INSTALLED PROJECTS							DEVELOP. PROJECTS							Pipeline					Manholes									
	Unit Pipe Cost ($/LF)	Unit Manhole Cost ($/MH)	No. Manholes	ROW Area (Acres)	Unit Land Cost ($/ac)	Contin-guency		Manhole Vert Ft Costs ($/VF)	Contin-guency	Serv Area	ID	Street Name	Limits	Size (in)	Length (LF)	Ave Depth (VF)	Unit Cost ($/LF	Cost ($)	Qty	Unit Cost ($/VF)	Unit MH Cost ($/MH)	Cost ($)	Total Pipe/MH Costs ($)	Misc Land Costs ($)	Lift Stations ($)	Contin-gencies ($)	City Installed ($)	Developer Installed ($)
										FUTURE IMPROVEMENTS (2010-2020)																		
x	0	0	0	7	10,000	15%				9		Road 148	EASEMENT							0				70,000		10,500	80,500	0
x	75	0	0	0	0	15%				9	56	Road 148	Ave 276 to Caldwell	27	2,640	19.5	75	198,000	0	0	0	0	198,000	0		29,700	227,700	0
x	75	0	0	0	0	15%				9	57	Road 148	Caldwell to Walnut	27	5,280	18.5	75	396,000	0	0	0	0	396,000	0		59,400	455,400	0
x	250	0	0	0	0	15%				9	58	Road 148	Bores @ Walnut & Caldwell	varies	210	18.5	250	52,500	0	0	0	0	52,500	0		7,875	60,375	0
x		2,600	20			15%				9		Road 148	MANHOLES	27		19	0	0	20	137	2,600	52,000	52,000	0		7,800	59,800	0
																										Road 148 (City) Sub:	883,775	
							x	190	25%	9	59	Road 148	Walnut to Noble	24	5,280	18	46	242,880	12.7	190	3,420	43,548	286,428	0		71,607		358,035
							x	190	25%	9	60	Road 148	Noble to Houston	18	5,280	17.5	32	168,960	12.7	190	3,325	42,338	211,298	0		52,825		264,123
							x	0	25%	9	61	Road 148	Bore under S.H. 198	48	350	17.5	624	218,400	0	0	0	0	218,400	0		54,600		273,000
							x	190	25%	9	62	Road 148	Ave 276 to Ave 272	15	2,640	19.5	27	71,280	6.87	150	2,925	17,510	88,790	0		22,198		110,988
							x	150	25%	9	63	Caldwell	Rd 148 to Rd 152	15	2,640	18.5	27	71,280	6.87	150	2,775	19,055	90,335	0		22,584		112,919
							x	150	25%	9	64	Walnut	Rd 148 to Rd 152	15	2,640	17	27	71,280	6.87	150	2,550	17,510	88,790	0		22,198		110,988
							x	150	25%	9	65	Noble	Rd 148 to Rd 152	15	2,640	16.5	27	71,280	6.87	150	2,325	15,965	87,245	0		21,811		109,056
							x	150	25%	9	66	Houston	Rd 148 to Rd 152	15	2,640	14	27	71,280	6.87	150	2,100	14,420	85,700	0		21,425		107,125
							x	190	25%	10	68&69	Riggin	Santa Fe to Lovers Lane	21	7,940	18.5	38	301,720	18.6	190	3,515	65,535	367,255	0		91,814		459,069
							x	190	25%	10	70	Riggin	Lovers Lane to Rd 148	21	5,300	18	38	201,400	12.8	190	3,420	43,700	245,100	0		61,275		306,375
							x	150	25%	10	71	Riggin	Rd 148 to Rd 152	15	2,640	17	27	71,280	6.87	150	2,550	17,510	88,790	0		22,198		110,988
							x	150	25%	10	73	Ben Maddox	Riggin north	15	2,640	15	27	71,280	6.87	150	2,250	15,450	86,730	0		21,683		108,413
							x	150	25%	10	74	Lovers Lane	Riggin north	15	2,640	15	27	71,280	6.87	150	2,250	15,450	86,730	0		21,683		108,413
							x	150	25%	10	75	Lovers Lane	Riggin south	15	2,640	15	27	71,280	6.87	150	2,250	15,450	86,730	0		21,683		108,413
							x	150	25%	10	76	Rd 148	Riggin north	15	2,640	15	27	71,280	6.87	150	2,250	15,450	86,730	0		21,683		108,413
							x	150	25%	10	77	Rd 148	Riggin south	15	2,000	15	27	54,000	5.44	150	2,250	12,250	66,250	0		16,563		82,813
x				17	45,000	15%				10		Shirk	RIGHT OF WAY				0	0	0	0	0	0	0	765,000		114,750	879,750	0
X	150					15%				10	78&79	Shirk	Walnut to Sunnyview	48	14,100	15	150	2,115,000	0	0	0	0	2,115,000	0		317,250	2,432,250	0
x	100					15%				11	81	Shirk	Riggin to Ave 320	36	2,600	15	100	260,000	0	0	0	0	260,000	0		39,000	299,000	0
x	500					15%				10&11	80	Shirk	BORES@198 Goshen&Riggin	varies	500	15	500	250,000	0	0	0	0	250,000	0		37,500	287,500	0
x		2,600	36			15%				10&11		Shirk	MANHOLES	48		15	0	0	36	173	2,600	93,600	93,600	0		14,040	107,640	0
																										Shirk Rd Sub:	4,006,140	
x				7	10,000	15%				11		Ave 320	EASEMENT				0	0	0	0	0	0	0	70,000		10,500	80,500	0
x	90					15%				11	82	Ave 320	Shirk to Akers	33	5,280	12.5	90	475,200	0	0	0	0	475,200	0		71,280	546,480	0
x	90					15%				11	83	Ave 320	Akers to e/o Demaree	33	6,300	15	90	567,000	0	0	0	0	567,000	0		85,050	652,050	0
x	300					15%				11		Ave 320	BORES @ Akers & Demaree	varies	160	15	300	48,000	0	0	0	0	48,000	0		7,200	55,200	0
x		2,600	22			15%				11		Ave 320	MANHOLES	36		15	0	0	22	173	2,600	57,200	57,200	0		8,580	65,780	0
																										Ave 320 Sub:	1,400,010	
							x	150	25%	11	84	Akers	Ave 320 north	15	5,000	12	27	135,000	12.1	150	1,800	21,800	156,800	0		39,200		196,000
							x	150	25%	12	85	Rd 64	Riggin north	15	5,000	10	27	135,000	12.1	150	1,500	18,167	153,167	0		38,292		191,458
							x	150	25%	12	86	Riggin	Rd 64 east	15	2,000	12	27	54,000	5.44	150	1,800	9,800	63,800	0		15,950		79,750
													2010-2020 Sub:		101,620											2010-2020 Sub:	6,289,925	3,306,335
													1993-2020 Sub:		255,710											1993-2020 TOTAL:	19,310,110	7,110,521
																					TOTAL FUTURE IMPROVEMENTS (1993-2020):					26,420,631		
																					EXISTING DEFIC. + FUTURE IMPROVEMENTS:					27,167,001		

SEWER MASTER PLAN

CAPITAL IMPROVEMENT PROGRAM

NORTHWEST INDUSTRIAL PARK AREA

CITY INSTALLED PROJECTS	Unit Pipe Cost ($/LF)	Unit Manhole Cost ($/MH)	No. Manholes	ROW Area (Acres)	Unit Land Cost ($/ac)	Contingency	DEVELOP. PROJECTS	Manhole Vert Ft Costs ($/VF)	Contingency	Serv Area	ID	Street Name	Limits	Pipeline Size (in)	Pipeline Length (LF)	Pipeline Ave Depth (VF)	Pipeline Unit Cost ($/LF	Pipeline Cost ($)	Manholes Qty	Manholes Unit Cost ($/VF)	Manholes Unit MH Cost ($/MH)	Manholes Cost ($)	Misc Land Costs ($)	Lift Stations ($)	Sub-Total ($)	Contingencies ($)	Total City Installed ($)	Total Developer Installed ($)	Percent Industrial Use (%)	Total Industrial City-Installed ($)	Total Industrial Devel.-Installed ($)
										FUTURE IMPROVEMENTS (1993-2000)										0											
							x	190	25%	8	9	Frontage Rd	Neely to Airport LS	24	2,000	15	46	92,000	5.44	190	2,850	15,517	0		107,517	26,879	0	134,396	100.00%	0	134,396
							x	190	25%	8	10	Neely St	Crowley to Frontage Rd	24	1,250	15	46	57,500	3.78	190	2,850	10,767	0		68,267	17,067	0	85,333	100.00%	0	85,333
							x	190	25%	8	11	Neely St	Plaza to Crowley	18	1,100	15	32	35,200	3.44	190	2,850	9,817	0		45,017	11,254	0	56,271	100.00%	0	56,271
							x	190	25%	8	12	Plaza Dr	Neely to Goshen	18	3,100	15	32	99,200	7.89	190	2,850	22,483	0		121,683	30,421	0	152,104	100.00%	0	152,104
							x	150	25%	8	13	Crowley	Neely to Road 84	12	2,640	12	22	58,080	6.87	150	1,800	12,360	0		70,440	17,610	0	88,050	100.00%	0	88,050
																										Sub	0	516,154		0	516,154
x	0	0	0	0	0	15%				8		Camp	RIGHT-OF-WAY	0	0	0	0	0	0	0	0	0	0		0	0	0	0	57.50%	0	0
x	70	0	0	0	0	15%				8	14	Camp	SH 198 to Goshen	24	6,000	10	70	420,000	0	0	0	0	0		420,000	63,000	483,000	0	57.50%	277,725	0
x	55	0	0	0	0	15%				8	15,16,&19	Camp&Frontage Rd	Goshen to Betty	18	9,300	16.5	55	511,500	0	0	0	0	0		511,500	76,725	588,225	0	57.50%	338,229	0
x	250	0	0	0	0	15%				8	17	Goshen	BORE @ SH 99	varies	140	16.5	250	35,000	0	0	0	0	0		35,000	5,250	40,250	0	57.50%	23,144	0
x	0	2,000	30	0	0	15%				8		Camp&Frontage Rd	MANHOLES	18-24	0	15	0	0	30	133	2,000	60,000	0		60,000	9,000	69,000	0	57.50%	39,675	0
																				0						Sub	1,180,475	0		678,773	0
																				0											
x						25%				8	20	LIFT STATION	Goshen @ Camp	0	0	0	0	0	0	0	0	0	0	500,000	500,000	125,000	625,000	0	57.50%	359,375	0
x						25%				8	21	LIFT STATION	Plaza Dr @ Airport	0	0	0	0	0	0	0	0	0	0	1,000,000	1,000,000	250,000	1,250,000	0	91.80%	1,147,500	0
																										1993-2000 Sub:	3,055,475	516,154		2,185,648	516,154
										FUTURE IMPROVEMENTS (2000-2010)																					
x						25%				8	41	LIFT STATION	Plaza Dr @ Airport	0	0	0	0	0	0	0	0	0	0	800,000	800,000	200,000	1,000,000	0	91.80%	918,000	0
							x	280	25%	12	53	Road 76	Ave 308 to Riggin	33	2,640	14.5	88	179,520	6.87	280	4,060	27,879	0		207,399	51,850		259,248	100.00%	0	259,248
							x	190	25%	12	54	Road 76	Riggin to Ave 320	27	5,280	12	49	258,720	12.7	190	2,280	29,032	0		287,752	71,938		359,690	100.00%	0	359,690
							x	190	25%	12	55	Riggin	Road 76 to Road 84	18	5,280	13	32	168,960	12.7	190	2,470	31,451	0		200,411	50,103		250,514	100.00%	0	250,514
																														0	0
																										2000-2010 Sub:	1,000,000	869,453		918,000	869,453
																										1993-2010 Sub:	4,055,475	1,385,607		3,103,648	1,385,607
										FUTURE IMPROVEMENTS (2010-2020)																				0	0
							x	150	25%	12	85	Rd 84	Riggin to Ave 320	15	5,000	10	27	135,000	12.1	150	1,500	18,167	0		153,167	38,292	0	191,458	100.00%	0	191,458
							x	150	25%	12	86	Riggin	Rd 84 east	15	2,000	12	27	54,000	5.44	150	1,800	9,800	0		63,800	15,950	0	79,750	100.00%	0	79,750
																														0	0
													1993-2020 Sub:		45,730											2010-2020 Sub:	0	271,208		0	271,208
																										1993-2020 TOTAL:	4,055,475	1,656,815		3,103,648	1,656,815
																					TOTAL FUTURE IMPROVEMENTS (1993-2020):					5,712,290					
																								TOTAL INDUSTRIAL IMPROVEMENTS (1993-2020):					4,760,463		

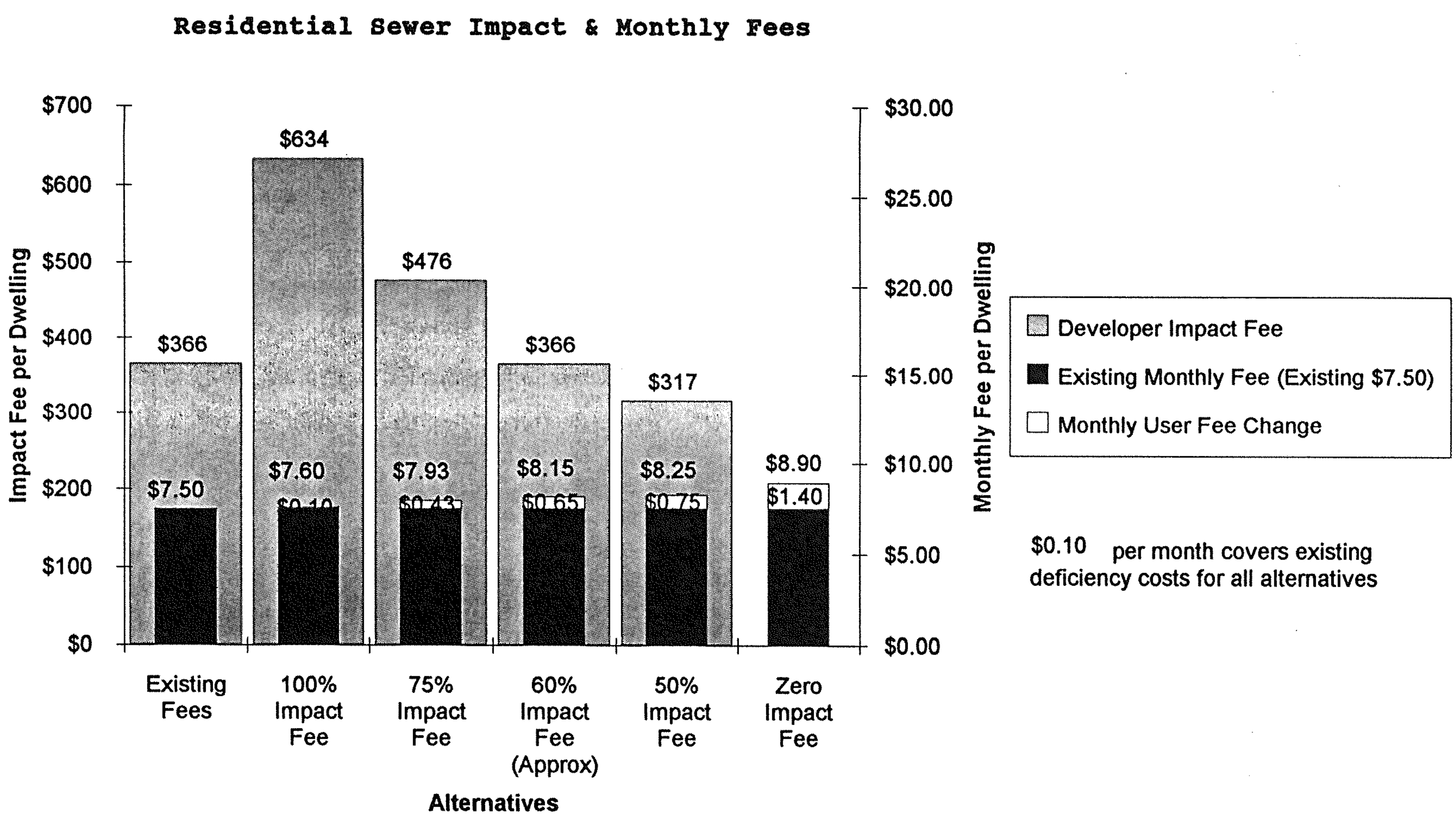


Figure A-1
Sewer Master Plan
Funding Alternatives

		Existing Rates	Units	100% Impact Fee	75% Impact Fee	60% Impact Fee (Approx)	50% Impact Fee	Zero Impact Fee
Residential								
	Single-Family	$366	per Unit	$634.00	$476.00	$366.00	$317.00	$0.00
	Multi-Family	$207	per Unit	$358.57	$269.21	$207.00	$179.29	$0.00
	Mobile Home Park	$229	per Unit	$396.68	$297.83	$229.00	$198.34	$0.00
Commercial								
	Car Wash							
	Coin Operated	$566	per Stall	$980.45	$736.11	$566.00	$490.22	$0.00
	Non-Coin Operated	$9,058	per Stall	$15,690.63	$11,780.35	$9,058.00	$7,845.32	$0.00
	Tourist/Trailer Camp	$57	per Space	$98.74	$74.13	$57.00	$49.37	$0.00
	Theater	$3	per Seat	$5.20	$3.90	$3.00	$2.60	$0.00
	Hotel/Motel	$34	per Room	$58.90	$44.22	$34.00	$29.45	$0.00
	Retail/Small Business	$11	per 1000 Sq. Ft	$19.05	$14.31	$11.00	$9.53	$0.00
	Shopping Center	$8	per 1000 Sq. Ft	$13.86	$10.40	$8.00	$6.93	$0.00
	Office	$45	per 1000 Sq. Ft	$77.95	$58.52	$45.00	$38.98	$0.00
	Service Station	$566	Each	$980.45	$736.11	$566.00	$490.22	$0.00
	Restaurant							
	Fast Food	$2,095	Each	$3,629.04	$2,724.64	$2,095.00	$1,814.52	$0.00
	Walk-up	$623	Each	$1,079.19	$810.24	$623.00	$539.59	$0.00
	Family-Type w/o Bar	$28	per Seat	$48.50	$36.42	$28.00	$24.25	$0.00
	Family-Type W/ Bar	$30	per Seat	$51.97	$39.02	$30.00	$25.98	$0.00
	Laundromat	$28	per Machine	$48.50	$36.42	$28.00	$24.25	$0.00
Institutional								
	Hospital	$142	per Bed	$245.98	$184.68	$142.00	$122.99	$0.00
	Jr. & Sr. High School	$14	per Student	$24.25	$18.21	$14.00	$12.13	$0.00
	Elementary School	$8	per Student	$13.86	$10.40	$8.00	$6.93	$0.00
	Church w/o Kitchen	$3	per Seat	$5.20	$3.90	$3.00	$2.60	$0.00
	Church w/ Kitchen	$4	per Seat	$6.93	$5.20	$4.00	$3.46	$0.00
Light Industrial		$11	per 1000 Sq. Ft	$19.05	$14.31	$11.00	$9.53	$0.00
Industrial								
	Outside Industrial Park	$0.57	per Peak Gallon	$0.99	n/a	n/a	n/a	n/a
	Inside Industrial Park	$0.80	per Peak Gallon	$0.38	n/a	n/a	n/a	n/a

Table A-1
Alternative Sewer Impact Fee Schedules

TABLE A-2

SANITARY SEWER TRUNK LINE IMPACT FEES

(effective July 15, 1994)

Land Use		Fee
Residential		
Single-Family		$476.00 per unit
Multi-Family		$269.21 per unit
Mobile Home		$297.83 per space
Commercial		
Car Wash:	Self Service	$736.11 per stall
	Automatic	$11,780.35 each
Tourist/Trailer Camp		$74.13 per space
Theater		$3.90 per seat
Hotel/Motel		$44.22 per room
Retail/Small Business		$14.31 per 1,000 sq ft
Shopping Center		$10.40 per 1,000 sq ft
Office		$58.52 per 1,000 sq ft
Service Station		$736.11 each
Restaurant:	Fast Food	$2,724.64 each
	Walk-up	$810.24 each
	Family-Type w/o Bar	$36.42 per seat
	Family-Type w/ Bar	$39.02 per seat
Laundromat		$36.42 per machine
Institutional		
Hospital		$184.68 per bed
School:	Jr & Sr. High	$18.21 per student
	Elementary	$10.40 per student
Church:	w/o Kitchen	$3.90 per seat
	w/ Kitchen	$5.20 per seat
Light Industrial		$14.31 per 1,000 sq ft
Industrial		
Outside Industrial Park		$0.99 per gallon per day (peak flow)
Inside Industrial Park		$0.38 per gallon per day (peak flow)

Section 7

FINANCING ALTERNATIVES AND CONNECTION FEES

7.1 GENERAL

In order to provide adequate sewer service to areas that are expected to develop in the future, and to correct known and anticipated sewer deficiencies, the previous section of this report recommended construction of certain improvements to Visalia's sewer system. This section briefly discusses several types of financing alternatives available for funding the construction of public works projects. Upon finalizing their capital expenditure program, the City should obtain the services of a financial consultant to arrive at the most attractive funding method. This section does not recommend a particular method of financing, as each project should be studied individually by a qualified financial consultant prior to making this decision.

There are two basic financing methods available to the City of Visalia to pay for capital improvements of the sewer system: (1) pay-as-you-go, and (2) debt financing. Following are brief descriptions of each of these methods and the various financing mechanisms available within these methods.

7.2 PAY-AS-YOU-GO

Pay-as-you-go is the cash financing of capital improvements. It is a traditional and useful method of financing for many public agencies when the cash resources are available. As metropolitan and suburban areas experience growth booms, pay-as-you-go financing can be a key funding source for at least a portion of the improvements. Cash financing is attractive because it does not involve any interest expense. However, it is very difficult to use cash financing successfully for large projects to accommodate growth. Growth will generate revenues through development fees and increased tax revenues, but the facilities must be constructed first in order for the growth to occur and generate revenues. This is especially true of trunk sewers that must be oversized to accommodate ultimate growth. Pay-as-you-go financing, however, can be used to supplement another source of capital if a development or connection fee structure is placed into effect.

7.3 DEBT FINANCING

Several alternate forms of long-term public debt financing are available to the City of Visalia. The more common methods of financing include Revenue Bonds, Nonprofit Corporation Lease-Revenue Bonds, Certificates of Participation, Special Assessment Districts, Mello-Roos Community Facilities Districts, Integrated Financing Districts, General Obligation Bonds, Infrastructure Financing Districts, and Government Grants and/or loans. The mechanics of these methods are briefly discussed in this section, along with some advantages and disadvantages.

7.3.1 Revenue Bonds

General Description

Revenue bonds can be used to finance facilities that generate a dependable stream of revenues. A revenue bond is payable solely from charges levied for services provided. Revenue bonds have no claim on money derived from taxes or special assessments. Their only security is the borrower's promise to operate the utility system (e.g., sewer system) in a way that will provide net revenues sufficient to meet the obligations of the bond issue. Because the bonds are secured only by revenues of the utility, bond purchasers require assurances that: 1) revenues of the utility are sufficient to meet all expenses, 2) annual bond service has a lien on the revenues of the utility, and 3) future revenue bond issues will not reduce the security of the prior issues.

Revenue bonds require a reserve fund and a minimum coverage pledge. The reserve fund, included in the bond issue and usually equal to 10 percent of the issue size, is maintained for the entire life of the bond issue to meet annual principal and interest requirements in case revenues are not sufficient for bond service in any year(s). Coverage is the ratio of net revenue (i.e., gross revenues less maintenance and operating expenses) to annual bond service. To enhance marketability, revenue bond issuers normally pledge to maintain net revenues of 1.1 to 1.3 times annual bond service, depending on the types of charges which will provide debt service and their method of collection.

Administrative Requirements

The Sewer Revenues Bond Act of 1933 is limited to sewer purposes. Such bonds may be issued for the collection, transportation, treatment, and disposal of sewage. The 1933 Act bonds do not require voter approval, but are subject to referendum if 15 percent of the registered voters or property owners submit a petition requesting a vote on the project. When a referendum is called, a majority vote is necessary for authorization.

Advantages

- o No election is required to issue Revenue Bonds.

Disadvantages

- o Because Revenue Bond financing requires an established, reliable revenue source, it is difficult to use for undeveloped areas.

7.3.2 Nonprofit Corporation Lease-Revenue Bonds

General Description

The Nonprofit Corporation (NPC) is a special financing mechanism available to public agencies and is drawn from the private financing sector. NPC-issued bonds have been used in California for over 20 years to provide a nonvoted, open-ended source of improvement project funds.

In NPC financing, the district forms a NPC under the California Nonprofit Corporation Law. The directors of the nonprofit corporation are selected and appointed by the City. The corporation's only purpose would be to act as a landlord to build facilities for the City. Bonds would be issued by the nonprofit corporation to finance the sewer facilities and the project leased to the City. Bonds are secured by the rental revenues due the corporation under a lease. When the bonds have been repaid, the lease terminates and the City obtains title to the facility for a nominal payment.

There is no legal limitation on the amount or the schedule of principal repayment of bonds that may be issued by a nonprofit corporation. There is also no limit on the interest rate that the bonds may bear nor on any discount that may be offered. In actual practice, the amount of bonds that may be sold is limited only by the amount of rent the lessee of the project is able to pay.

Because the lessee may not begin paying rent for the project until it is completed and ready for use, it is necessary to provide for interest during construction to be paid from bond proceeds. A reserve fund is also established from bond proceeds and maintained over the life of the bonds to pay principal and interest in the event revenues are disrupted.

Although the time and expense of a bond election are not required, more legal and financial work is involved in NPC lease revenue financing than with other alternatives due to the special formation and approval steps required. NPC bonds for utility purposes are designed and marketed in essentially the same manner as revenue bonds.

Administrative Requirement

The Visalia City Council must approve the bonds through an ordinance. Furthermore, a petition of the voters residing in the City's jurisdiction can force an election regarding the lease, whereby 50 percent of the voters can veto the approval of the lease.

Advantages

- o The primary advantage of the NPC bonds is that they do not require the City to hold an election.

- o The NPC bonds are not considered debt for purposes of state constitutional debt limitations.

Disadvantages

- o The fund raising potential of NPC issues is limited by the availability of General Fund revenues and other tax revenues, or user fees which can be appropriated annually to make lease payments.

7.3.3 Certificates of Participation

General Description

Certificates of Participation (COPs) represent a form of lease-purchase (or installment-purchase) financing, which has been used increasingly in recent years largely as an alternative to NPC financing. Financing with certificates is similar to NPC financing in that it generally involves four parties--the public agency as lessee, a private leasing corporation as lessor (lender), a bank as trustee, and the certificate purchase or underwriter. With certificates, the agency can make lease payments from general or special funds, not just from specified revenues. The "pledge of revenues" and "coverage" required for revenue bond issues are not necessary to market certificates.

The lessor/lender obtains funds from the underwriter, often through a competitive sale. The underwriter then sells divided interests in the stream of future lease payments to investors in the form of certificates of participation. Certificates are issued in $5,000 denominations and resemble municipal bonds.

The primary appeal of certificate financing is the use of an existing private leasing corporation as lessor. This provides an advantage over NPC financing, which requires the formation of a new entity. By comparison, certificate financing is less complex and therefore provides for a shorter and less costly process.

Administrative Requirements

A COP issue requires a series of legal documents. First a lease or installment sales agreement between the City and the NPC. Second, documentation is necessary to specify procedures for issuance and payment of the COPs, and to regulate the disbursement of COP proceeds to finance the proposed facilities. Finally, agreements are required to empower the City to oversee construction, and to obligate the trustees to receive lease or installment sales payments to Certificate holders. Since COPs are not subject to typical statutory requirements, including election requirements, the implementation process is relatively easy to complete.

Prior to selling COPs, the City needs to identify the source of revenues in the General Fund to cover its lease or installment sales payments. Typically, the City must include in its budget, each year, the necessary amount of funding to make these payments, and must purchase sufficient insurance to guarantee the completed construction of the sewer improvement.

Advantages

- o The primary advantage of COPs financing is that voter approval of certificates is not required, and thus the City does not have to hold an election.

- o COPs payments do not constitute indebtedness as defined by the California Constitution, and no interest rate limit or issuance discount limitations exist.

Disadvantages

- o The fund raising potential of COPs issues is limited by the availability of General Fund revenues and other tax revenues, or user fees which can be appropriated annually to make lease payments.

- o Under the "Gann Amendment", many cities are limited in their annual budget appropriation to the previous year's appropriation plus an inflation and population growth factor.

7.3.4 Special Assessment Districts

General Description

An assessment district is only a financing tool, rather than a separate political agency or authority. It allows the City to construct public improvements and spread the costs of the improvements to the benefitted properties within the district. The Municipal Improvements Act of 1913 (initiate proceedings for the formation of a District) and the Improvement Bond Act of 1915 (issue bonds) provide mechanisms for the City to construct or acquire public improvements, apportion the costs through liens against properties in a designated area which directly benefits from the improvements (the "Assessment District"), and finance the liens through the issuance of tax exempt bonds. A variety of public works improvements, such as water, sewer, drainage and flood control, streets, sidewalks, and lighting, can be financed by an assessment district. The following principles apply to assessment district proceedings:

- o Assessment bond funds may be used only to acquire or construct public facilities.

- o The improvements for which the assessments are levied must benefit a well-defined land area.

- o The "total assessment" is limited to the cost of the improvements constructed or acquired plus such "incidental expenses" as engineering, legal, financial, and administrative costs.

- o The assessment levied on each piece of property within the assessment district must be proportional to the benefit received.

- o A well-noticed public hearing to give all affected landowners an opportunity to be heard must be held.

The security for assessment bonds is a lien on the property that is established by the assessment proceedings. An assessment lien is a first lien on property, superior to any subsequent assessments or mortgages. Assessment installments are billed on the semi-annual property tax bills. They are payable, become delinquent, and are subject to the same penalty and recovery laws as general property taxes. In addition, when the bonds are issued, the City typically covenants to commence superior court foreclosure proceedings within a specific period following the delinquency of any installment. While cities have traditionally assumed some contingent liability for assessment bonds, recent changes in the law allow cities to limit their potential liability.

Assessment districts have been in use for many years and are well accepted in the bond market. The interest rate on assessment bonds depends on the credit of the particular issue and the general level of interest rates when the bonds are sold. A solidly structured assessment bond can be marketed competitively at attractive rates.

Administrative Requirements

The formation of an Assessment District is initiated through either a Petition submitted by 60 percent of the landowners in a proposed Assessment District, or through the adoption of an Investigative Report by the City Council. Under the Municipal Improvements Act of 1913, the City Council would then adopt a Resolution of Intention which designates the boundaries of the proposed district, describes the proposed improvements, orders issuance of bonds and declares the City's intention to levy the assessments. An Engineer's Report is then prepared and filed with the City, and the City Council preliminarily approving the Report and calling for a public hearing in no less than thirty days.

If filed written protests against the District, prior to or during the public hearing, by the landowners in the proposed Assessment District are less than 50 percent (based on acreage), the City Council may approve the Engineer's Report and the formation of the District, and confirm the proposed assessments. A thirty-day cash payment period is then established during which any owner can pre-pay his assessment. After this thirty-day period, bonds may be sold for all unpaid assessments in the newly-formed Assessment District.

Advantages

- o An Assessment District burdens only property owners within the District itself, not property owner's throughout the city.
- o Assessment District bonds are non-recourse to the City, so the City's General Fund and taxing capacity are not at risk.
- o No election is required to issue Assessment District bonds.

Disadvantages

- o Annual lien payments are based on the assessment lien imposed on a parcel, whether or not that parcel is developed, which makes vacant land taxes relatively high.
- o Allocations of assessments must be strictly based on benefit, which sometimes may not be practical form a political or marketing perspective.
- o Once an assessment lien has been placed on a parcel, it cannot be changed, even if the land use on that parcel has been modified. This can lead to assessment liens which are inconsistent with land uses ultimately developed on a property.
- o Assessment District bond issues require a reserve fund and a 3:1 ratio of property value to public lien.
- o As Assessment District bonds are generally not rated, since they are non-recourse to the City, they usually bear a higher interest rate than General Obligation Bonds or Certificates of Participation.

7.3.5 Mello-Roos Community Facilities Districts

General Description

The Mello-Roos Community Facilities Act of 1982 (Government Code Section 53311-53365) provides an alternate method for financing a broad range of public facilities that are needed to serve new development. It allows for the creation of a special district called a Community Facilities District (CFD), and for the issuance of bonds to provide for the financing of public facilities needed by that district. Like an assessment district, a community facilities district is strictly a financing vehicle, not a separate political entity. Mello-Roos financing was primarily created to finance public facilities, such as police, parks, schools, and fire protection, not covered within other "traditional" acts but can also be used for sewer system improvements. Mello-Roos financing can be used to provide any kind of facility with a useful life of 5 years or more in which the City is authorized to construct, own, operate, or contribute to, and which are not already being provided within the district.

Mello-Roos financing is based on the ability to levy a Special Tax on properties in the district with voter approval. The Special Tax may be used to finance facilities on a pay-as-you-go basis, to pay debt service on bonds issued by the CFD, or to provide certain specified services.

The ballot proposition for a CFD must specify a maximum tax rate and the method in which the tax will be apportioned, described in sufficient detail so that a voter can estimate his tax liability. The tax may not be an ad valorem tax. The intent of the CFD Act is to allow flexibility in the establishment of the special tax. Different classes of property may be taxed at different rates, e.g., one rate for undeveloped land, one for residential, one for commercial, and so forth. In such a case, the tax paid by a given parcel can vary as its land use is converted from undeveloped to a more intensive use.

Mello-Roos taxes may be collected in the same manner as general property taxes, subject to the same penalties and procedures, or the City may adopt an alternate procedure. The City Council may also covenant to pursue superior court foreclosure proceedings in the event of delinquencies. Provisions have been added to the CFD act to advise the purchasers of property in such a district that their property is subject to a Special Tax. Voters can vote to rescind the tax, provided that no bonds have been issued. If bonds have been issued, the amount of tax necessary to pay debt service on the bonds may not be repealed while any bonds are outstanding.

The City has no contingent liability in Mello-Roos financing. A bond reserve fund would be funded from the proceeds of the bond issue and would provide security for the payment of debt service in the event of delinquencies.

Mello-Roos bonds are relatively new, but their use is expanding. To date, they have been used for property owned by one or a limited number of landowners. Credit considerations are similar to those for assessment financing.

Administrative Requirements

The formation of a CFD is initiated by a written request submitted by two members of Visalia's City Council, by a motion of that City Council, or by a petition signed by 10 percent of the prospective district's voters or landowners. After the adoption of a Resolution of Intention by the City Council and after a public hearing, the levy of Special Tax must be placed before the registered voters residing within the proposed CFD, either at the next general election or in a special election. As required by Proposition 13, the measure to authorize a Special Tax or bonds must be approved by a favorable two-thirds vote of the qualified electors in the proposed CFD. Qualified electors may be either registered voters or, if there are fewer than 12 registered voters in the district, landowners, with each landowner having one vote per acre or portion owned.

Advantages

o Mello-Roos does not require that a funded improvement be located within the physical boundaries of the CFD, thus improvements financed through a Mello-Roos Program may benefit property owners outside of the CFD.

o Mello-Roos CFD may include non-contiguous areas.

o Mello-Roos burdens only property owners within the CFD with Special Taxes, not property owners throughout the city.

o Mello-Roos Bonds are non-recourse to the City, so the City's General Fund and taxing capacity are not at risk.

- o The Special Tax may be considerably lower on vacant property than developed property.
- o The Special Tax allocation can adapt to changes in development plans.
- o Mello-Roos permits a landowner election within the CFD if fewer than twelve registered voters reside there.

Disadvantages

- o Mello-Roos bond issues require a reserve fund and at least a 3:1 ratio of property value to public lien.
- o The Special Tax must be re-levied each year by the City.
- o As Mello-Roos District Bonds are generally not rated, since they are non-recourse to the City, they usually bear a higher interest rate than General Obligation Bonds or Certificates of Participation.

7.3.6 <u>Integrated Financing Districts</u>

General Description

In 1986, the legislature enacted the Integrated Financing District Act (IGFD, Government Code Section 53175) to allow agencies to levy a "contingent assessment" for financing capital projects. The act is to be used in conjunction with other "assessment" financing acts to pay for planning, engineering, project construction, debt service, and reimbursement agreement payments.

This act allows an agency to proceed with assessment or Special Tax financing, following public hearings and protest proceedings in an area where owners of undeveloped property, who are not ready to build, would object to assessments on their properties. A contingent assessment is levied on such property, and it is triggered by a specific event related to the development of the parcel, such as approval of a subdivision map or issuance of a building permit.

The amount of the contingent assessment may increase annually until the trigger event activates the assessment. A portion of the assessment may then provide for reimbursement to those properties that were assessed initially. This statute may prove useful in cases in which the majority of the property is ready to develop and can support the costs attributable to the parcels whose assessments are contingent.

In its most likely use, an IGFD is formed over an area that benefits from improvements being financed through another financing mechanism. The benefit received by each parcel is determined and a "contingent lien" is placed on all parcels that benefit from the improvement, but have not paid for its construction. Once development begins on the parcel, the contingent lien will become due and payable to the party who holds a "warrant" securing the lien.

Administrative Requirements

An IGFD is created in the same proceedings to create the co-financing district, if the following items are incorporated in the Resolution of Intention to form the district:

- o A description of the boundaries of the IGFD, which need not be the same as the boundaries of an existing Assessment District or Mello-Roos District.

- o A description of the rate and method of apportionment, over time, of any type of levy proposed within the IGFD, and the contingency under which each levy will be made. The contingent assessments will be identified as a fixed dollar amount per parcel, which may be adjusted annually thereafter.

- o A description and estimated cost of any facilities to be constructed with funds from the IGFD.

- o A description of the proposed reimbursement agreement.

Notice of public hearing shall be made in the same manner as required for the co-financing district.

Advantages

- o Provides equity among all landowners contributing to the financing of major regional improvements.

- o Provides a formal reimbursement mechanism that can be easily transferred to subsequent landowners.

- o Contingent assessments are collected by the City and are subject to foreclosure if unpaid.

Disadvantages

- o Payment of the contingent assessments is dependent on development occurring; if the property does not develop, these revenues may not be realized.

- o Substantial administration would be required from the City to monitor contingent assessed lands, and allocate the revenues according to the reimbursement agreements negotiated by the landowners.

- o The IGFD may become complicated if each landowner negotiates a different reimbursement agreement.

7.3.7 <u>General Obligation Bonds</u>

General Description

The issuance of General Obligation Bonds by a City represents a pledge on the City's part to levy a uniform ad valorem property tax on all taxable properties within the City's jurisdiction in order to annually repay principal and interest due. The bonds are a "general obligation" of the City; that is, bondholders have recourse to the "full faith and credit" of the City (i.e., unlimited property taxation) to ensure that annual debt service requirements are met.

Prior to 1978, General Obligation Bonds were, by far, the most popular vehicle for debt financing of infrastructure and public facilities in California. The approval of State Proposition 13 in 1978 quickly brought that era to a close. It was not until 1986, with the passage of State Proposition 46, that a resurgence in General Obligation Bond authorization was seen. This latter proposition reinstated the ability of local agencies to incur new bonded indebtedness and secure it through the imposition of an ad valorem property tax. Consistent with Proposition 13, however, it was required that two-thirds of the registered voters in the affected district approve such measure. General Obligation Bonds are restricted to a twenty-five year or less maturity.

Administrative Requirements

Implementation begins with the adoption of a resolution by the Visalia City Council to place a measure on the ballot throughout the city, to issue General Obligation Bonds for the purpose of constructing public works improvements.

The Election Code sections governing a General Obligation Bond measure require the preparation of a Tax Rate Statement, Ballots Arguments in favor of and against the proposition, and an independent analysis of the proposition. Following two-thirds approval, the City must adopt a series of resolutions to complete each bond sale.

Advantages

- Since General Obligation Bonds are one of the most secure debt financing instruments available to public agencies, they carry the lowest interest rates of the financing mechanisms presented in this report.

- The administration of a General Obligation Bond tax is simple since it can be solely based on an ad valorem criteria.

- The dispersion of debt service costs throughout the City's jurisdiction helps minimize minimize the taxes to each property owner, as oppc special district consisting of a much smaller area

Disadvantages

- o The requirement of a two-third approval by voters throughout the City's jurisdiction makes it difficult to obtain authorization to sell General Obligation Bonds.

7.3.8 Infrastructure Financing Districts

General Description

In September 1990, Senate Bill (SB) 308 was signed by the governor of California, and it provides for the formation of Infrastructure Financing Districts (IFD) to finance regional infrastructure needs. SB 308 extends the use of tax increment (TI) financing to developed and undeveloped areas within the boundaries of an IFD. IFD financing is similar to TI financing within redevelopment project areas, in that it uses ad valorem property tax revenues to pay for public improvements, without imposing Special Taxes or assessments on the land.

Administrative Requirements

Proceedings to establish an IFD are initiated by the City Council through the adoption of a Resolution of Intention. The resolution must identify the boundaries of the IFD, the type of facilities to be financed, and a time and place for a public hearing. Following adoption of the Resolution of Intention, the City Council must direct the appropriate official to prepare an infrastructure Financing Plan to include a map of the proposed boundaries of the IFD, the location, timing and costs of all public facilities required to serve the proposed development, and a financing section.

A copy of the Plan is sent to each of the affected taxing entities, and to the property owners within the proposed IFD. Subsequent to the public hearing, if the City Council adopts a resolution proposing adoption of the Plan and formation of an IFD, an election must be called to submit the proposal to the qualified electors.

If there are less than 12 registered voters, the qualified electors will be the landowners within the IFD, with each landowner receiving one vote for each acre of property owned. If two-thirds of the votes cast are in favor of forming the IFD, The City Council will adopt an Ordinance creating the IFD and approving the Plan.

Advantages

- o IFD's provide construction funds for the public infrastructure without increasing the burden on homeowners and property owners in the IFD.
- o Bonds issued by an IFD are considered to be a debt of the IFD, and not the City.

Disadvantages

- o SB 308 was approved in September 1990; to date, no agency has formed an IFD. The initial IFDs formed may require a validation action from a State Superior Court.

7.3.9 Government Grants and/or Loans

General Description

The availability of government-subsidized funds to construct sewer system improvements is probably limited to a grant from the Economic Development Administration (EDA) or a low-interest loan from the Farmers Home Administration.

EDA grants are usually tied to a proposed private development that will create new jobs in the community. While these grants, in theory, are relatively easy to qualify for, the timing of the grant approval process does not often coincide with the developer's requirements.

Farmers Home Administration loans require an extensive engineer's report and are approved on an "as-needed" basis. In the past, there were other grant and loan programs available from state and federal agencies. The number of these programs has declined over the last few years while the number of applicants has increased. The present outlook for this type of funding is not promising.

7.4 ANNUAL REVENUE SOURCES

Financing costs to extend the sewer system will also require sources of annual revenues. Assessment district financing brings with it the source of repayment of the assessment bonds: annual assessment installments collected with the property tax bills sufficient to pay debt service on the bonds. Mello-Roos and other types of bonds are secured by the ability to tax in various ways. While other revenues may be used for all or part of the debt service expense, the basic security comes from the City's taxing ability. Most financing methods applicable to the sewer system projects require that the City identify the revenues that will be used to repay the debt on each project. Special levels of charges or surcharges can be established for the areas served by individual sewer trunk lines. The major sources of annual revenue are:

- o Connection or development fees
- o Sewer service charges
- o Standby charges

7.4.1 Connection Fees

Connection fees are one-time fees paid by properties as they develop and connect to the system. Connection fees are an appropriate revenue source for financing development-oriented projects such as the large expansion areas around the city. Sewer trunk lines qualifying for this fee include, but are not limited to, the following trunks and their tributary subtrunks servicing the expansion areas within the 2020 Urban Development Boundary.

- o Avenue 276-Road 148 Trunk (Service Area 9)
- o Shirk-Riggin Trunk (Service Area 10)
- o Avenue 320 Trunk (Service Area 11)
- o Road 76-Avenue 320 Trunk (Service Area 12)
- o Goshen and Plaza Drive Trunks (Service Area 8)

In addition to the trunk systems listed above, extension of existing trunks (i.e., Caldwell Trunk and Walnut Trunk) to service new expansion areas also qualify for this fee. The sewer projects described above are required for Visalia's growth, and therefore should be paid by the properties that benefit from the facilities. In general, master planned sewer lines that are 15 inches in diameter or larger and that serve future developments will be used to calculate the connection fee schedule.

However, connection fees can be an unpredictable source of revenue, and any financing plan that calls for reliance on connection fees must recognize that they may not generate a reliable and controllable cash flow. New construction and development generate connection fees. If construction slows down, connection fee revenue will slow down, regardless of the amount of the fee charged per unit or per acre. If connection fees are to be used for debt service, they must be carried forward from the prior year; that is, charges already collected and on hand can be applied to the following year's debt service expense. If connection charges are insufficient, they must be supplemented by more predictable revenue sources such as service charges.

Assembly Bill (AB) 1600 applies to *fees* charged by the City, in connection with approval of new development projects, to defray the costs of "public facilities." It is pertinent to an action by the City (effective January 1, 1989) that: a) imposes a fee as a condition of approval of a development project, b) establishes a fee, or c) increases a fee.

AB 1600 enacts Government Code Sections 66000-66003 and generally contains four requirements:

1. The City must follow the process set forth in the bill and make certain determinations regarding the purpose and use of the fee. The City must also establish a nexus (reasonable relationship) between a) the fee's use and the type of development project (i.e., land use type) on which the fee is imposed, and b) the need for the public facility and the type of development project on which the fee is imposed.

2. The fee revenue must be segregated from the general fund in order to avoid commingling of capital facilities fees and the general fund.

3. If a City has had possession of a developer fee for five years or more and has not committed that money, then it must make findings describing the continuing need for that money each fiscal year thereafter.

4. If the City cannot make the findings required under paragraph 3, then the City must go through a refund procedure.

Current law requires that developer fees collected for residential development be kept in a separate capital facilities account or fund and that the interest earned on those monies also be kept in that account or fund. Senate Bill (SB) 372 extends that requirement to all development fees, not just residential development project fees.

"Public facilities" are normally new facilities required to service a developing area, but they could also include upgrades or rehabilitations of existing facilities if the City can meet the "nexus" (or connection) test set forth in the bill. An example of meeting the nexus test would be the upgrading of an existing pump station (or the replacement of an existing sewer pipe with a larger pipe) to handle a higher volume of sewer flows and serve a larger population. In such a case, the nexus can be established. The bill does not apply to monthly sewer service charges.

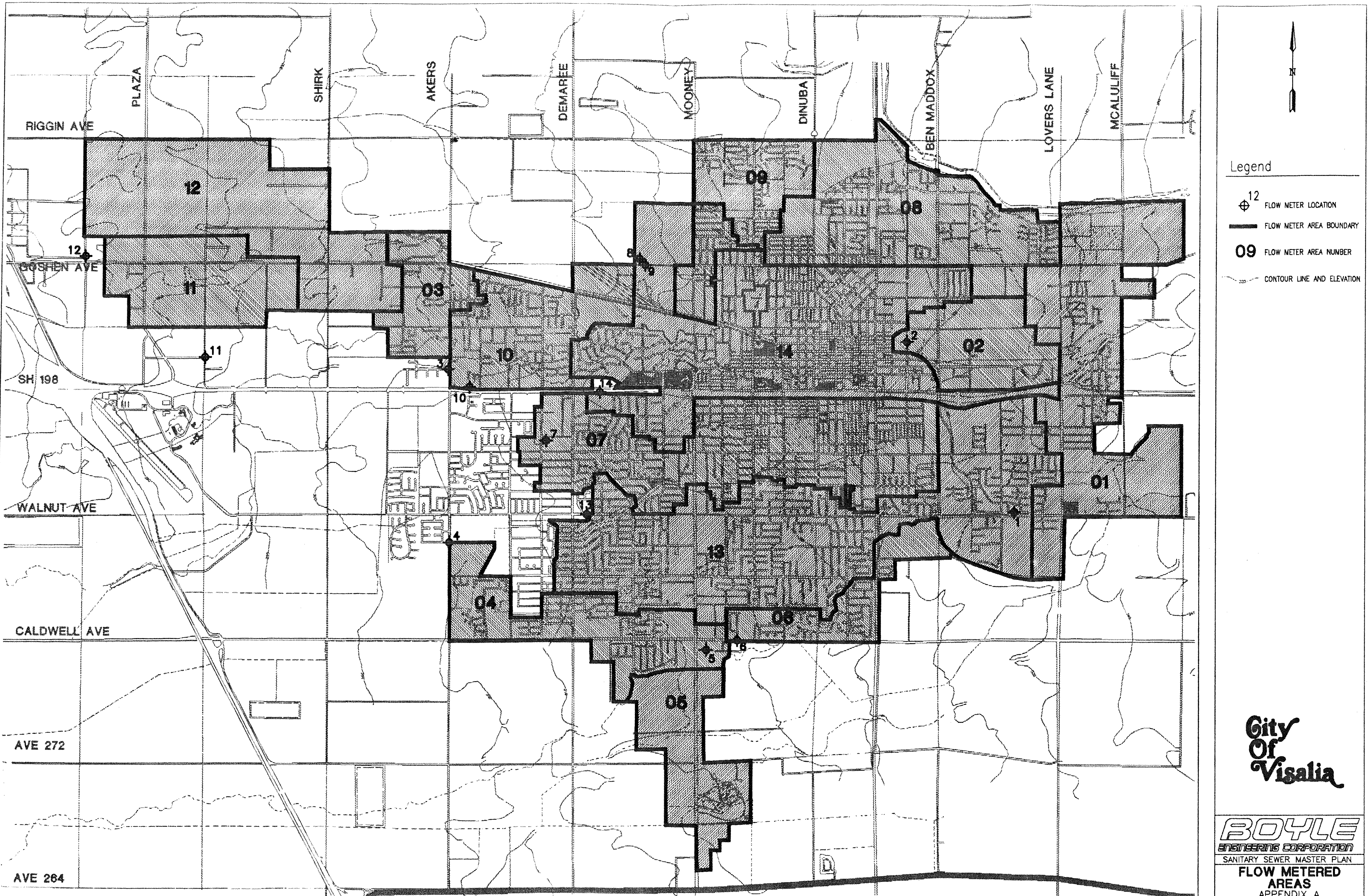
7.4.2 Sewer Service Charges

Sewer service charges are the ongoing fees for service paid by customers connected to the sewer system. Services charges usually reflect operation and maintenance costs plus any additional costs unique to a particular portion of the system. A property does not pay a service charge until it is connected to, and receiving service from, the system. Service charges are a predictable and reliable source of revenue. Supplemental service charges can be levied in particular areas to support the additional costs of serving such areas.

7.4.3 Standby Charges

Standby charges are availability charges or readiness-to-serve charges levied on undeveloped or unserved properties that are within the service area of the sewer facilities but have not yet been connected. Standby charges are generally levied on a per-acre or per-parcel basis and are collected on the property tax bill. Once a property develops and/or connects to the system, it no longer pays a standby charge. Standby charges reflect the investment in capital facilities that has been advanced on behalf of such undeveloped parcels.

APPENDIX A
FLOW METERED AREAS MAP



BOYLE ENGINEERING CORPORATION

SANITARY SEWER MASTER PLAN

FLOW METERED AREAS

APPENDIX A

FILE NAME: APPENDIX.DWG
PLOT SCALE: FIT (PAPERSPACE)
LAT REVISION: 3/29/93

APPENDIX B
FLOW METERING PROGRAM DATA

CITY OF VISALIA

SANITARY SEWER MASTER PLAN - FLOWMETERING PROGRAM

MH NO.	DATE	PIPE SIZE	ATLAS SHEET	MANHOLE LOCATION
-	8/13/91	16"	70 A	JAMES AVENUE, 600' E/O MOONEY BOULEVARD
1	8/13/91	21"	62 D	WALNUT AVENUE, 680' E/O PINKHAM ROAD
2	8/15/91	21"	14 A	BURKE STREET, 700' N/O CENTER STREET
3	8/20/91	15"	117 D	AKERS ROAD, 150' N/O HILLSDALE DRIVE
4	8/20/91	36"	114 A	AKERS ROAD, 600' S/O WAGNER AVENUE
5	8/22/91	16"	70 A	ALLEY 300' E/O MOONEY BLVD, 300' S/O JAMES AVENUE
6	8/26/91	24"	41 C	CALDWELL AVENUE, AT DOLLNER STREET
7	8/26/91	33"	77 D	ALLEY 300' N/O TULARE AVENUE, 480' E/O LINWOOD AVENU
8	8/29/91	18"	25 A	HOUSTON AVENUE, 1700' W/O MOONEY BOULEVARD
9	9/03/91	15"	25 A	HOUSTON AVENUE, 1600' W/O MOONEY BOULEVARD
10	9/03/91	21"	117 D	MINERAL KING AVENUE, 980' E/O AKERS ROAD
11	9/05/91	21"	432 B	ROAD 84, FIRST MH N/O CROWLEY AVENUE
12	9/05/91	36"	615 B	ROAD 76, FIRST MH N/O GOSHEN AVENUE
13	9/10/91	33"	44 A	WALNUT AVENUE, AT COLONIAL DRIVE
14	9/10/91	30"	46 A	STATE HWY 198, 1150' E/O DEMAREE ROAD

------------- A051591B.18D -- 08/13/91 ---------------------------------------

Original name:A051591A.18D
Modification : B

Site Information:
Identification: LOCATION NO. 1
Description : WALNUT AVE.
680' E/O PINKHAM RD.

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/13/91 10:59
End Time : 08/15/91 12:29
Start Type : Immediate
Memory Mode : Wraparound
Cycle Time : 15 min.
Sample 'On' Time : 0.5 min.
Data Cycles : 198
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	21.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:19 File: A051591B.18D
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 1
WALNUT AVE.
680' E/O PINKHAM RD

Metering Period:
08/13/91 10:59 - 08/15/91 12:29

Report Period:
08/13/91 10:59 - 08/15/91 12:29

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/13	23:14	81.88 *	3.50 *	0.82 *					
08/13	17:44	50.71 *	3.00 *	0.65 *					
08/14	23:14	85.32	3.80	0.75					
08/14	05:29	17.58	2.00	0.43					
08/15	10:14	85.33 *	3.90 *	0.72 *					
08/15	06:14	16.88 *	2.30 *	0.33 *					

DAILY AVERAGES

Date: 09/20/91 14:18 File: A051591B.18D
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 1
WALNUT AVE.
680' E/O PINKHAM RD

Metering Period:
08/13/91 10:59 - 08/15/91 12:29

Report Period:
08/13/91 10:59 - 08/15/91 12:29

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/13	00:00	67.74 *	3.27 *	0.75 *
08/14	00:00	53.16	3.09	0.62
08/15	00:00	42.66 *	2.98 *	0.51 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

15 MIN (ALL) AVERAGES

Date: 09/18/91 11:24 File: A051591B.18D
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 1
WALNUT AVE.
680' E/O PINKHAM RD.

Metering Period:
08/13/91 10:59 - 08/15/91 12:29

Report Period:
08/13/91 10:59 - 08/15/91 12:29

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/13 10:59	69.33	3.20	0.80	08/13 21:29	65.88	3.10	0.80
08/13 11:14	70.06	3.30	0.77	08/13 21:44	65.00	3.20	0.75
08/13 11:29	68.24	3.30	0.75	08/13 21:59	65.88	3.10	0.80
08/13 11:44	69.33	3.20	0.80	08/13 22:14	70.06	3.30	0.77
08/13 11:59	69.33	3.20	0.80	08/13 22:29	70.06	3.30	0.77
08/13 12:14	70.06	3.30	0.77	08/13 22:44	72.79	3.30	0.80
08/13 12:29	72.79	3.30	0.80	08/13 22:59	81.02	3.40	0.85
08/13 12:44	70.06	3.30	0.77	08/13 23:14	81.88	3.50	0.82
08/13 12:59	72.79	3.30	0.80	08/13 23:29	76.25	3.40	0.80
08/13 13:14	72.79	3.30	0.80	08/13 23:44	71.48	3.40	0.75
08/13 13:29	68.24	3.30	0.75	08/13 23:59	62.40	3.20	0.72
08/13 13:44	63.41	3.10	0.77	08/14 00:14	65.00	3.20	0.75
08/13 13:59	61.76	3.10	0.75	08/14 00:29	57.64	3.10	0.70
08/13 14:14	65.00	3.20	0.75	08/14 00:44	57.64	3.10	0.70
08/13 14:29	65.00	3.20	0.75	08/14 00:59	54.62	3.00	0.70
08/13 14:44	65.00	3.20	0.75	08/14 01:14	52.28	3.00	0.67
08/13 14:59	69.33	3.20	0.80	08/14 01:29	44.42	2.90	0.60
08/13 15:14	72.79	3.30	0.80	08/14 01:44	44.42	2.90	0.60
08/13 15:29	68.24	3.30	0.75	08/14 01:59	40.97	2.70	0.62
08/13 15:44	65.00	3.20	0.75	08/14 02:14	37.66	2.70	0.57
08/13 15:59	65.00	3.20	0.75	08/14 02:29	36.34	2.70	0.55
08/13 16:14	62.40	3.20	0.72	08/14 02:44	36.34	2.70	0.55
08/13 16:29	65.00	3.20	0.75	08/14 02:59	33.27	2.50	0.57
08/13 16:44	65.00	3.20	0.75	08/14 03:14	30.35	2.50	0.52
08/13 16:59	58.52	3.00	0.75	08/14 03:29	30.35	2.50	0.52
08/13 17:14	57.64	3.10	0.70	08/14 03:44	27.38	2.40	0.50
08/13 17:29	53.52	3.10	0.65	08/14 03:59	23.77	2.20	0.50
08/13 17:44	50.71	3.00	0.65	08/14 04:14	24.55	2.30	0.48
08/13 17:59	53.52	3.10	0.65	08/14 04:29	22.34	2.20	0.47
08/13 18:14	60.67	3.20	0.70	08/14 04:44	21.39	2.20	0.45
08/13 18:29	60.96	3.30	0.67	08/14 04:59	20.73	2.10	0.47
08/13 18:44	72.79	3.30	0.80	08/14 05:14	19.40	2.10	0.44
08/13 18:59	65.51	3.30	0.72	08/14 05:29	17.58	2.00	0.43
08/13 19:14	69.90	3.50	0.70	08/14 05:44	17.99	2.00	0.44
08/13 19:29	66.90	3.50	0.67	08/14 05:59	17.99	2.00	0.44
08/13 19:44	70.93	3.70	0.65	08/14 06:14	18.96	2.10	0.43
08/13 19:59	73.14	3.60	0.70	08/14 06:29	19.40	2.10	0.44
08/13 20:14	73.11	3.70	0.67	08/14 06:44	22.34	2.20	0.47
08/13 20:29	78.16	3.40	0.82	08/14 06:59	21.61	2.10	0.49
08/13 20:44	72.79	3.30	0.80	08/14 07:14	21.87	2.20	0.46
08/13 20:59	71.07	3.20	0.82	08/14 07:29	25.06	2.30	0.49
08/13 21:14	66.73	3.20	0.77	08/14 07:44	24.55	2.30	0.48

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/14 07:59	25.57	2.30	0.50	08/14 21:44	64.91	3.50	0.65
08/14 08:14	26.83	2.40	0.49	08/14 21:59	66.90	3.50	0.67
08/14 08:29	30.35	2.50	0.52	08/14 22:14	64.91	3.50	0.65
08/14 08:44	39.64	2.70	0.60	08/14 22:29	67.92	3.60	0.65
08/14 08:59	58.52	3.00	0.75	08/14 22:44	70.01	3.60	0.67
08/14 09:14	72.79	3.30	0.80	08/14 22:59	73.14	3.60	0.70
08/14 09:29	71.48	3.40	0.75	08/14 23:14	85.32	3.80	0.75
08/14 09:44	75.23	3.60	0.72	08/14 23:29	79.63	3.80	0.70
08/14 09:59	71.90	3.50	0.72	08/14 23:44	70.93	3.70	0.65
08/14 10:14	66.90	3.50	0.67	08/14 23:59	67.92	3.60	0.65
08/14 10:29	67.92	3.60	0.65	08/15 00:14	64.91	3.50	0.65
08/14 10:44	70.01	3.60	0.67	08/15 00:29	61.91	3.50	0.62
08/14 10:59	69.90	3.50	0.70	08/15 00:44	57.19	3.40	0.60
08/14 11:14	73.14	3.60	0.70	08/15 00:59	54.59	3.30	0.60
08/14 11:29	74.89	3.50	0.75	08/15 01:14	50.04	3.30	0.55
08/14 11:44	66.90	3.50	0.67	08/15 01:29	45.07	3.20	0.52
08/14 11:59	69.90	3.50	0.70	08/15 01:44	41.17	3.10	0.50
08/14 12:14	66.90	3.50	0.67	08/15 01:59	37.02	2.90	0.50
08/14 12:29	61.95	3.40	0.65	08/15 02:14	35.89	3.00	0.46
08/14 12:44	61.95	3.40	0.65	08/15 02:29	33.32	2.90	0.45
08/14 12:59	60.96	3.30	0.67	08/15 02:44	33.32	2.90	0.45
08/14 13:14	63.86	3.40	0.67	08/15 02:59	32.23	2.80	0.46
08/14 13:29	66.72	3.40	0.70	08/15 03:14	28.72	2.80	0.41
08/14 13:44	66.90	3.50	0.67	08/15 03:29	26.43	2.70	0.40
08/14 13:59	68.63	3.40	0.72	08/15 03:44	22.97	2.60	0.37
08/14 14:14	69.90	3.50	0.70	08/15 03:59	22.18	2.50	0.38
08/14 14:29	63.86	3.40	0.67	08/15 04:14	19.85	2.50	0.34
08/14 14:44	69.90	3.50	0.70	08/15 04:29	19.85	2.50	0.34
08/14 14:59	66.72	3.40	0.70	08/15 04:44	19.17	2.40	0.35
08/14 15:14	66.90	3.50	0.67	08/15 04:59	17.90	2.30	0.35
08/14 15:29	61.95	3.40	0.65	08/15 05:14	17.39	2.30	0.34
08/14 15:44	61.95	3.40	0.65	08/15 05:29	18.62	2.40	0.34
08/14 15:59	59.14	3.30	0.65	08/15 05:44	17.39	2.30	0.34
08/14 16:14	61.95	3.40	0.65	08/15 05:59	17.11	2.20	0.36
08/14 16:29	59.09	3.40	0.62	08/15 06:14	16.88	2.30	0.33
08/14 16:44	59.14	3.30	0.65	08/15 06:29	18.62	2.40	0.34
08/14 16:59	53.73	3.20	0.62	08/15 06:44	19.17	2.40	0.35
08/14 17:14	52.00	3.20	0.60	08/15 06:59	18.41	2.30	0.36
08/14 17:29	54.59	3.30	0.60	08/15 07:14	21.01	2.50	0.36
08/14 17:44	59.14	3.30	0.65	08/15 07:29	21.60	2.50	0.37
08/14 17:59	63.69	3.30	0.70	08/15 07:44	22.35	2.60	0.36
08/14 18:14	63.86	3.40	0.67	08/15 07:59	26.08	2.60	0.42
08/14 18:29	63.86	3.40	0.67	08/15 08:14	27.75	2.70	0.42
08/14 18:44	59.09	3.40	0.62	08/15 08:29	35.54	2.90	0.48
08/14 18:59	63.69	3.30	0.70	08/15 08:44	40.57	3.00	0.52
08/14 19:14	59.09	3.40	0.62	08/15 08:59	53.52	3.10	0.65
08/14 19:29	57.19	3.40	0.60	08/15 09:14	59.14	3.30	0.65
08/14 19:44	54.59	3.30	0.60	08/15 09:29	69.90	3.50	0.70
08/14 19:59	59.14	3.30	0.65	08/15 09:44	78.57	3.70	0.72
08/14 20:14	61.91	3.50	0.62	08/15 09:59	81.84	3.70	0.75
08/14 20:29	67.92	3.60	0.65	08/15 10:14	85.33	3.90	0.72
08/14 20:44	73.14	3.60	0.70	08/15 10:29	79.40	3.90	0.67
08/14 20:59	64.91	3.50	0.65	08/15 10:44	77.03	3.90	0.65
08/14 21:14	64.91	3.50	0.65	08/15 10:59	73.94	3.80	0.65
08/14 21:29	61.91	3.50	0.62	08/15 11:14	68.25	3.80	0.60

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/15	11:29	79.88	3.10	0.97
08/15	11:44	58.07	3.20	0.67
08/15	11:59	69.90	3.50	0.70
08/15	12:14	69.90	3.50	0.70

Codes:

K Multiply data by 1,000
M Multiply data by 1,000,000
- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

------------- A051605B.18F -- 08/15/91 ---------------------------------------

Original name:A051605A.18F
Modification : B

File Type : Binary

Site Information:
Identification: LOCATION NO. 2
Description : BURKE ST.
700' N/O CENTER ST.

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/15/91 12:32
End Time : 08/20/91 08:12
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 694
Data Channels : 2

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	21.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:23 File: A051605B.18F
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 2
BURKE ST.
700' N/O CENTER ST.

Metering Period:
08/15/91 12:32 - 08/20/91 08:12

Report Period:
08/15/91 12:32 - 08/20/91 08:12

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/15	22:12	293.79 *	5.70 *	1.37 *					
08/15	17:02	218.89 *	5.00 *	1.25 *					
08/16	09:12	301.77	5.80	1.37					
08/16	06:12	77.06	2.80	1.10					
08/17	11:42	327.83	5.90	1.45					
08/17	06:02	49.62	2.50	0.85					
08/18	11:42	239.90	5.00	1.37					
08/18	07:12	28.59	1.60	1.00					
08/19	08:52	182.24	4.10	1.42					
08/19	06:22	18.02	1.20	1.00					
08/20	00:02	76.25 *	3.40 *	0.80 *					
08/20	07:42	1.03 *	0.40 *	0.33 *					

page 1

DAILY AVERAGES

Date: 09/20/91 14:26 File: A051605B.18F
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 2
BURKE ST.
700' N/O CENTER ST.

Metering Period:
08/15/91 12:32 - 08/20/91 08:12

Report Period:
08/15/91 12:32 - 08/20/91 08:12

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/15	00:00	254.58 *	5.29 *	1.33 *
08/16	00:00	212.40	4.79	1.26
08/17	00:00	174.06	4.31	1.17
08/18	00:00	133.28	3.57	1.20
08/19	00:00	88.17	3.35	0.94
08/20	00:00	21.26 *	1.49 *	0.70 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/20/91 10:57 File: A051605B.18F
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 2
BURKE ST.
700' N/O CENTER ST.

Metering Period:
08/15/91 12:32 - 08/20/91 08:12

Report Period:
08/15/91 12:32 - 08/18/91 23:59

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/15 12:32	249.19	5.30	1.30	08/15 19:32	273.96	5.50	1.35
08/15 12:42	262.61	5.30	1.37	08/15 19:42	271.21	5.60	1.30
08/15 12:52	262.61	5.30	1.37	08/15 19:52	289.50	5.70	1.35
08/15 13:02	278.02	5.50	1.37	08/15 20:02	285.81	5.60	1.37
08/15 13:12	281.64	5.60	1.35	08/15 20:12	278.02	5.50	1.37
08/15 13:22	276.23	5.40	1.40	08/15 20:22	260.45	5.40	1.32
08/15 13:32	284.11	5.50	1.40	08/15 20:32	260.45	5.40	1.32
08/15 13:42	263.82	5.50	1.30	08/15 20:42	270.31	5.40	1.37
08/15 13:52	266.37	5.40	1.35	08/15 20:52	266.37	5.40	1.35
08/15 14:02	260.45	5.40	1.32	08/15 21:02	266.37	5.40	1.35
08/15 14:12	253.02	5.30	1.32	08/15 21:12	258.77	5.30	1.35
08/15 14:22	251.18	5.20	1.35	08/15 21:22	260.45	5.40	1.32
08/15 14:32	251.18	5.20	1.35	08/15 21:32	258.77	5.30	1.35
08/15 14:42	241.87	5.20	1.30	08/15 21:42	266.37	5.40	1.35
08/15 14:52	220.24	5.10	1.22	08/15 21:52	280.18	5.40	1.42
08/15 15:02	243.70	5.10	1.35	08/15 22:02	285.81	5.60	1.37
08/15 15:12	229.26	5.10	1.27	08/15 22:12	293.79	5.70	1.37
08/15 15:22	229.26	5.10	1.27	08/15 22:22	293.79	5.70	1.37
08/15 15:32	227.64	5.00	1.30	08/15 22:32	278.02	5.50	1.37
08/15 15:42	222.39	5.00	1.27	08/15 22:42	276.23	5.40	1.40
08/15 15:52	227.64	5.00	1.30	08/15 22:52	276.23	5.40	1.40
08/15 16:02	236.40	5.00	1.35	08/15 23:02	262.61	5.30	1.37
08/15 16:12	220.61	4.90	1.30	08/15 23:12	258.77	5.30	1.35
08/15 16:22	220.61	4.90	1.30	08/15 23:22	266.37	5.40	1.35
08/15 16:32	220.61	4.90	1.30	08/15 23:32	256.50	5.40	1.30
08/15 16:42	227.64	5.00	1.30	08/15 23:42	256.50	5.40	1.30
08/15 16:52	220.61	4.90	1.30	08/15 23:52	256.50	5.40	1.30
08/15 17:02	218.89	5.00	1.25	08/16 00:02	249.19	5.30	1.30
08/15 17:12	222.39	5.00	1.27	08/16 00:12	249.19	5.30	1.30
08/15 17:22	220.61	4.90	1.30	08/16 00:22	236.29	5.20	1.27
08/15 17:32	227.64	5.00	1.30	08/16 00:32	234.68	5.10	1.30
08/15 17:42	229.26	5.10	1.27	08/16 00:42	222.39	5.00	1.27
08/15 17:52	238.29	5.10	1.32	08/16 00:52	220.61	4.90	1.30
08/15 18:02	241.87	5.20	1.30	08/16 01:02	213.57	4.80	1.30
08/15 18:12	241.87	5.20	1.30	08/16 01:12	192.17	4.60	1.25
08/15 18:22	226.99	5.20	1.22	08/16 01:22	185.70	4.50	1.25
08/15 18:32	249.19	5.30	1.30	08/16 01:32	174.93	4.40	1.22
08/15 18:42	253.02	5.30	1.32	08/16 01:42	159.91	4.20	1.20
08/15 18:52	258.77	5.30	1.35	08/16 01:52	156.58	4.10	1.22
08/15 19:02	266.37	5.40	1.35	08/16 02:02	148.11	4.00	1.20
08/15 19:12	266.37	5.40	1.35	08/16 02:12	138.66	3.90	1.17
08/15 19:22	267.88	5.50	1.32	08/16 02:22	133.09	3.80	1.17

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/16 02:32	130.82	3.80	1.15	08/16 11:42	267.88	5.50	1.32
08/16 02:42	127.67	3.70	1.17	08/16 11:52	278.02	5.50	1.37
08/16 02:52	120.16	3.60	1.15	08/16 12:02	281.64	5.60	1.35
08/16 03:02	114.84	3.50	1.15	08/16 12:12	273.96	5.50	1.35
08/16 03:12	109.61	3.40	1.15	08/16 12:22	263.82	5.50	1.30
08/16 03:22	104.64	3.30	1.15	08/16 12:32	275.38	5.60	1.32
08/16 03:32	104.64	3.30	1.15	08/16 12:42	263.82	5.50	1.30
08/16 03:42	101.91	3.30	1.12	08/16 12:52	278.02	5.50	1.37
08/16 03:52	97.07	3.20	1.12	08/16 13:02	273.96	5.50	1.35
08/16 04:02	97.07	3.20	1.12	08/16 13:12	278.02	5.50	1.37
08/16 04:12	94.70	3.10	1.15	08/16 13:22	273.96	5.50	1.35
08/16 04:22	92.23	3.10	1.12	08/16 13:32	260.45	5.40	1.32
08/16 04:32	87.39	3.00	1.12	08/16 13:42	256.50	5.40	1.30
08/16 04:42	85.83	3.00	1.10	08/16 13:52	256.50	5.40	1.30
08/16 04:52	85.83	3.00	1.10	08/16 14:02	250.58	5.40	1.27
08/16 05:02	89.73	3.00	1.15	08/16 14:12	249.19	5.30	1.30
08/16 05:12	82.92	2.90	1.12	08/16 14:22	249.19	5.30	1.30
08/16 05:22	81.44	2.90	1.10	08/16 14:32	241.87	5.20	1.30
08/16 05:32	85.83	3.00	1.10	08/16 14:42	245.59	5.20	1.32
08/16 05:42	81.44	2.90	1.10	08/16 14:52	241.87	5.20	1.30
08/16 05:52	78.46	2.80	1.12	08/16 15:02	245.59	5.20	1.32
08/16 06:02	79.22	2.90	1.07	08/16 15:12	241.87	5.20	1.30
08/16 06:12	77.06	2.80	1.10	08/16 15:22	236.29	5.20	1.27
08/16 06:22	82.92	2.90	1.12	08/16 15:32	241.87	5.20	1.30
08/16 06:32	89.73	3.00	1.15	08/16 15:42	234.68	5.10	1.30
08/16 06:42	94.70	3.10	1.15	08/16 15:52	234.68	5.10	1.30
08/16 06:52	95.33	3.20	1.10	08/16 16:02	225.65	5.10	1.25
08/16 07:02	101.40	3.20	1.17	08/16 16:12	222.39	5.00	1.27
08/16 07:12	109.61	3.40	1.15	08/16 16:22	229.26	5.10	1.27
08/16 07:22	122.25	3.60	1.17	08/16 16:32	225.65	5.10	1.25
08/16 07:32	133.09	3.80	1.17	08/16 16:42	218.89	5.00	1.25
08/16 07:42	148.11	4.00	1.20	08/16 16:52	222.39	5.00	1.27
08/16 07:52	172.76	4.30	1.25	08/16 17:02	220.24	5.10	1.22
08/16 08:02	192.17	4.60	1.25	08/16 17:12	243.44	5.30	1.27
08/16 08:12	227.64	5.00	1.30	08/16 17:22	243.44	5.30	1.27
08/16 08:22	249.19	5.30	1.30	08/16 17:32	249.19	5.30	1.30
08/16 08:32	285.81	5.60	1.37	08/16 17:42	236.29	5.20	1.27
08/16 08:42	293.79	5.70	1.37	08/16 17:52	236.29	5.20	1.27
08/16 08:52	290.75	5.80	1.32	08/16 18:02	241.87	5.20	1.30
08/16 09:02	293.79	5.70	1.37	08/16 18:12	232.57	5.20	1.25
08/16 09:12	301.77	5.80	1.37	08/16 18:22	241.87	5.20	1.30
08/16 09:22	293.79	5.70	1.37	08/16 18:32	241.87	5.20	1.30
08/16 09:32	285.81	5.60	1.37	08/16 18:42	243.44	5.30	1.27
08/16 09:42	284.11	5.50	1.40	08/16 18:52	249.19	5.30	1.30
08/16 09:52	263.82	5.50	1.30	08/16 19:02	239.60	5.30	1.25
08/16 10:02	260.45	5.40	1.32	08/16 19:12	241.87	5.20	1.30
08/16 10:12	258.77	5.30	1.35	08/16 19:22	245.59	5.20	1.32
08/16 10:22	256.50	5.40	1.30	08/16 19:32	239.60	5.30	1.25
08/16 10:32	253.02	5.30	1.32	08/16 19:42	243.44	5.30	1.27
08/16 10:42	260.45	5.40	1.32	08/16 19:52	249.19	5.30	1.30
08/16 10:52	243.44	5.30	1.27	08/16 20:02	260.45	5.40	1.32
08/16 11:02	266.37	5.40	1.35	08/16 20:12	257.73	5.50	1.27
08/16 11:12	226.91	5.40	1.15	08/16 20:22	263.82	5.50	1.30
08/16 11:22	273.96	5.50	1.35	08/16 20:32	273.96	5.50	1.35
08/16 11:32	273.96	5.50	1.35	08/16 20:42	263.82	5.50	1.30

page 2

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/16 20:52	271.21	5.60	1.30	08/17 06:02	49.62	2.50	0.85
08/16 21:02	257.73	5.50	1.27	08/17 06:12	56.16	2.70	0.85
08/16 21:12	263.82	5.50	1.30	08/17 06:22	59.47	2.70	0.90
08/16 21:22	263.82	5.50	1.30	08/17 06:32	56.16	2.70	0.85
08/16 21:32	257.73	5.50	1.27	08/17 06:42	57.48	2.70	0.87
08/16 21:42	256.50	5.40	1.30	08/17 06:52	55.88	2.60	0.90
08/16 21:52	239.60	5.30	1.25	08/17 07:02	60.79	2.70	0.92
08/16 22:02	249.19	5.30	1.30	08/17 07:12	64.45	2.80	0.92
08/16 22:12	243.44	5.30	1.27	08/17 07:22	64.09	2.70	0.97
08/16 22:22	250.58	5.40	1.27	08/17 07:32	64.09	2.70	0.97
08/16 22:32	246.64	5.40	1.25	08/17 07:42	60.79	2.70	0.92
08/16 22:42	256.50	5.40	1.30	08/17 07:52	57.12	2.60	0.92
08/16 22:52	253.67	5.50	1.25	08/17 08:02	60.79	2.70	0.92
08/16 23:02	256.50	5.40	1.30	08/17 08:12	60.79	2.70	0.92
08/16 23:12	246.64	5.40	1.25	08/17 08:22	66.55	2.80	0.95
08/16 23:22	246.64	5.40	1.25	08/17 08:32	74.12	3.00	0.95
08/16 23:32	246.64	5.40	1.25	08/17 08:42	82.35	3.10	1.00
08/16 23:42	233.85	5.30	1.22	08/17 08:52	90.99	3.30	1.00
08/16 23:52	230.02	5.30	1.20	08/17 09:02	92.45	3.40	0.97
08/17 00:02	226.99	5.20	1.22	08/17 09:12	148.11	4.00	1.20
08/17 00:12	226.99	5.20	1.22	08/17 09:22	169.24	4.20	1.27
08/17 00:22	220.24	5.10	1.22	08/17 09:32	172.76	4.30	1.25
08/17 00:32	216.63	5.10	1.20	08/17 09:42	184.48	4.60	1.20
08/17 00:42	196.12	5.00	1.12	08/17 09:52	216.86	4.80	1.32
08/17 00:52	203.64	4.90	1.20	08/17 10:02	218.89	5.00	1.25
08/17 01:02	198.55	4.90	1.17	08/17 10:12	243.70	5.10	1.35
08/17 01:12	197.15	4.80	1.20	08/17 10:22	258.77	5.30	1.35
08/17 01:22	182.75	4.70	1.15	08/17 10:32	268.36	5.30	1.40
08/17 01:32	182.75	4.70	1.15	08/17 10:42	270.31	5.40	1.37
08/17 01:42	170.84	4.50	1.15	08/17 10:52	296.24	5.60	1.42
08/17 01:52	160.59	4.40	1.12	08/17 11:02	300.22	5.70	1.40
08/17 02:02	152.03	4.30	1.10	08/17 11:12	310.94	5.70	1.45
08/17 02:12	141.18	4.10	1.10	08/17 11:22	319.39	5.80	1.45
08/17 02:22	124.43	3.90	1.05	08/17 11:32	321.05	5.90	1.42
08/17 02:32	120.88	3.90	1.02	08/17 11:42	327.83	5.90	1.45
08/17 02:42	113.75	3.80	1.00	08/17 11:52	321.05	5.90	1.42
08/17 02:52	103.67	3.70	0.95	08/17 12:02	321.05	5.90	1.42
08/17 03:02	99.26	3.60	0.95	08/17 12:12	308.37	5.80	1.40
08/17 03:12	99.86	3.50	1.00	08/17 12:22	316.53	5.90	1.40
08/17 03:22	92.45	3.40	0.97	08/17 12:32	319.39	5.80	1.45
08/17 03:32	92.45	3.40	0.97	08/17 12:42	308.37	5.80	1.40
08/17 03:42	88.26	3.30	0.97	08/17 12:52	300.22	5.70	1.40
08/17 03:52	86.44	3.30	0.95	08/17 13:02	300.22	5.70	1.40
08/17 04:02	86.67	3.20	1.00	08/17 13:12	292.07	5.60	1.40
08/17 04:12	82.33	3.20	0.95	08/17 13:22	263.82	5.50	1.30
08/17 04:22	78.23	3.10	0.95	08/17 13:32	256.50	5.40	1.30
08/17 04:32	86.67	3.20	1.00	08/17 13:42	266.37	5.40	1.35
08/17 04:42	84.07	3.20	0.97	08/17 13:52	253.02	5.30	1.32
08/17 04:52	79.88	3.10	0.97	08/17 14:02	258.77	5.30	1.35
08/17 05:02	66.32	3.00	0.85	08/17 14:12	258.77	5.30	1.35
08/17 05:12	59.55	2.80	0.85	08/17 14:22	241.87	5.20	1.30
08/17 05:22	59.55	2.80	0.85	08/17 14:32	241.87	5.20	1.30
08/17 05:32	50.91	2.60	0.82	08/17 14:42	245.59	5.20	1.32
08/17 05:42	50.91	2.60	0.82	08/17 14:52	238.29	5.10	1.32
08/17 05:52	49.67	2.60	0.80	08/17 15:02	252.73	5.10	1.40

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/17 15:12	238.29	5.10	1.32	08/18 00:22	138.66	3.90	1.17
08/17 15:22	222.39	5.00	1.27	08/18 00:32	144.58	3.90	1.22
08/17 15:32	220.61	4.90	1.30	08/18 00:42	133.09	3.80	1.17
08/17 15:42	205.36	4.80	1.25	08/18 00:52	130.82	3.80	1.15
08/17 15:52	198.64	4.70	1.25	08/18 01:02	121.72	3.80	1.07
08/17 16:02	192.17	4.60	1.25	08/18 01:12	122.25	3.60	1.17
08/17 16:12	181.24	4.50	1.22	08/18 01:22	116.83	3.50	1.17
08/17 16:22	186.40	4.40	1.30	08/18 01:32	109.61	3.40	1.15
08/17 16:32	174.93	4.40	1.22	08/18 01:42	104.64	3.30	1.15
08/17 16:42	172.06	4.40	1.20	08/18 01:52	99.67	3.20	1.15
08/17 16:52	181.24	4.50	1.22	08/18 02:02	92.23	3.10	1.12
08/17 17:02	179.23	4.40	1.25	08/18 02:12	90.58	3.10	1.10
08/17 17:12	182.10	4.40	1.27	08/18 02:22	82.92	2.90	1.12
08/17 17:22	172.06	4.40	1.20	08/18 02:32	77.06	2.80	1.10
08/17 17:32	174.93	4.40	1.22	08/18 02:42	74.96	2.80	1.07
08/17 17:42	179.23	4.40	1.25	08/18 02:52	72.68	2.70	1.10
08/17 17:52	179.23	4.40	1.25	08/18 03:02	68.30	2.60	1.10
08/17 18:02	174.93	4.40	1.22	08/18 03:12	65.19	2.60	1.05
08/17 18:12	185.70	4.50	1.25	08/18 03:22	62.46	2.50	1.07
08/17 18:22	188.67	4.50	1.27	08/18 03:32	59.54	2.50	1.02
08/17 18:32	192.17	4.60	1.25	08/18 03:42	57.50	2.40	1.05
08/17 18:42	198.64	4.70	1.25	08/18 03:52	49.91	2.20	1.05
08/17 18:52	206.58	4.70	1.30	08/18 04:02	48.49	2.20	1.02
08/17 19:02	195.24	4.60	1.27	08/18 04:12	49.91	2.20	1.05
08/17 19:12	195.24	4.60	1.27	08/18 04:22	42.94	2.00	1.05
08/17 19:22	187.56	4.60	1.22	08/18 04:32	44.98	2.10	1.02
08/17 19:32	185.70	4.50	1.25	08/18 04:42	39.57	1.90	1.05
08/17 19:42	195.24	4.60	1.27	08/18 04:52	38.44	1.90	1.02
08/17 19:52	192.17	4.60	1.25	08/18 05:02	41.71	2.00	1.02
08/17 20:02	181.24	4.50	1.22	08/18 05:12	39.57	1.90	1.05
08/17 20:12	185.70	4.50	1.25	08/18 05:22	40.89	2.00	1.00
08/17 20:22	185.70	4.50	1.25	08/18 05:32	40.89	2.00	1.00
08/17 20:32	185.70	4.50	1.25	08/18 05:42	34.48	1.80	1.00
08/17 20:42	193.13	4.50	1.30	08/18 05:52	35.17	1.80	1.02
08/17 20:52	181.24	4.50	1.22	08/18 06:02	34.48	1.80	1.00
08/17 21:02	178.27	4.50	1.20	08/18 06:12	34.48	1.80	1.00
08/17 21:12	179.23	4.40	1.25	08/18 06:22	31.97	1.70	1.02
08/17 21:22	172.06	4.40	1.20	08/18 06:32	31.34	1.70	1.00
08/17 21:32	172.06	4.40	1.20	08/18 06:42	31.34	1.70	1.00
08/17 21:42	165.85	4.30	1.20	08/18 06:52	29.16	1.60	1.02
08/17 21:52	165.85	4.30	1.20	08/18 07:02	31.34	1.70	1.00
08/17 22:02	175.53	4.30	1.27	08/18 07:12	28.59	1.60	1.00
08/17 22:12	172.76	4.30	1.25	08/18 07:22	32.91	1.70	1.05
08/17 22:22	165.85	4.30	1.20	08/18 07:32	34.48	1.80	1.00
08/17 22:32	168.62	4.30	1.22	08/18 07:42	35.17	1.80	1.02
08/17 22:42	168.62	4.30	1.22	08/18 07:52	34.48	1.80	1.00
08/17 22:52	174.93	4.40	1.22	08/18 08:02	40.89	2.00	1.00
08/17 23:02	172.76	4.30	1.25	08/18 08:12	42.94	2.00	1.05
08/17 23:12	168.62	4.30	1.22	08/18 08:22	48.49	2.20	1.02
08/17 23:22	169.24	4.20	1.27	08/18 08:32	49.91	2.20	1.05
08/17 23:32	166.57	4.20	1.25	08/18 08:42	59.54	2.50	1.02
08/17 23:42	154.01	4.10	1.20	08/18 08:52	66.44	2.60	1.07
08/17 23:52	148.11	4.00	1.20	08/18 09:02	85.83	3.00	1.10
08/18 00:02	148.11	4.00	1.20	08/18 09:12	95.33	3.20	1.10
08/18 00:12	150.58	4.00	1.22	08/18 09:22	116.28	3.40	1.22

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/18	09:32	130.95	3.70	1.20
08/18	09:42	148.14	3.90	1.25
08/18	09:52	169.41	4.10	1.32
08/18	10:02	166.57	4.20	1.25
08/18	10:12	179.67	4.30	1.30
08/18	10:22	182.10	4.40	1.27
08/18	10:32	193.13	4.50	1.30
08/18	10:42	202.93	4.60	1.32
08/18	10:52	217.71	4.70	1.37
08/18	11:02	225.08	4.80	1.37
08/18	11:12	225.08	4.80	1.37
08/18	11:22	229.09	4.90	1.35
08/18	11:32	237.58	4.90	1.40
08/18	11:42	239.90	5.00	1.37
08/18	11:52	229.09	4.90	1.35
08/18	12:02	229.09	4.90	1.35
08/18	12:12	229.09	4.90	1.35
08/18	12:22	216.86	4.80	1.32
08/18	12:32	209.76	4.70	1.32
08/18	12:42	225.08	4.80	1.37
08/18	12:52	217.71	4.70	1.37
08/18	13:02	206.58	4.70	1.30
08/18	13:12	214.53	4.70	1.35
08/18	13:22	214.53	4.70	1.35
08/18	13:32	207.54	4.60	1.35
08/18	13:42	193.13	4.50	1.30
08/18	13:52	186.40	4.40	1.30
08/18	14:02	193.57	4.40	1.35
08/18	14:12	175.53	4.30	1.27
08/18	14:22	179.67	4.30	1.30
08/18	14:32	179.67	4.30	1.30
08/18	14:42	179.67	4.30	1.30
08/18	14:52	182.44	4.30	1.32
08/18	15:02	179.67	4.30	1.30
08/18	15:12	166.57	4.20	1.25
08/18	15:22	166.57	4.20	1.25
08/18	15:32	166.84	4.10	1.30
08/18	15:42	162.99	4.10	1.27
08/18	15:52	148.11	4.00	1.20
08/18	16:02	150.51	3.90	1.27
08/18	16:12	148.14	3.90	1.25
08/18	16:22	138.78	3.80	1.22
08/18	16:32	133.09	3.80	1.17
08/18	16:42	138.78	3.80	1.22
08/18	16:52	136.40	3.70	1.25
08/18	17:02	133.13	3.70	1.22
08/18	17:12	127.67	3.70	1.17
08/18	17:22	133.13	3.70	1.22
08/18	17:32	127.48	3.60	1.22
08/18	17:42	122.25	3.60	1.17
08/18	17:52	122.25	3.60	1.17
08/18	18:02	125.39	3.60	1.20
08/18	18:12	127.48	3.60	1.22
08/18	18:22	133.13	3.70	1.22
08/18	18:32	136.40	3.70	1.25
08/18	18:42	125.39	3.60	1.20
08/18	18:52	130.95	3.70	1.20
08/18	19:02	127.48	3.60	1.22
08/18	19:12	133.13	3.70	1.22
08/18	19:22	136.40	3.70	1.25
08/18	19:32	133.13	3.70	1.22
08/18	19:42	144.47	3.80	1.27
08/18	19:52	148.14	3.90	1.25
08/18	20:02	156.43	3.90	1.32
08/18	20:12	159.91	4.20	1.20
08/18	20:22	182.10	4.40	1.27
08/18	20:32	192.17	4.60	1.25
08/18	20:42	199.86	4.60	1.30
08/18	20:52	199.86	4.60	1.30
08/18	21:02	196.10	4.50	1.32
08/18	21:12	193.13	4.50	1.30
08/18	21:22	193.13	4.50	1.30
08/18	21:32	193.13	4.50	1.30
08/18	21:42	200.56	4.50	1.35
08/18	21:52	193.13	4.50	1.30
08/18	22:02	200.56	4.50	1.35
08/18	22:12	200.56	4.50	1.35
08/18	22:22	200.56	4.50	1.35
08/18	22:32	203.53	4.50	1.37
08/18	22:42	196.10	4.50	1.32
08/18	22:52	207.54	4.60	1.35
08/18	23:02	196.10	4.50	1.32
08/18	23:12	186.40	4.40	1.30
08/18	23:22	172.76	4.30	1.25
08/18	23:32	162.57	4.20	1.22
08/18	23:42	160.43	4.10	1.25
08/18	23:52	160.43	4.10	1.25

Codes:

- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

------------- A051605B.18K -- 08/20/91 -------------------------------------

Original name:A051605A.18K
Modification : B

File Type : Binary

Site Information:
Identification: LOCATION NO. 3
Description : AKERS RD.
150' N/O HILLSDALE

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/20/91 08:49
End Time : 08/22/91 07:29
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 280
Data Channels : 2

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	15.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:28 File: A051605B.18K
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 3
AKERS RD.
150' N/O HILLSDALE

Metering Period:
08/20/91 08:49 - 08/22/91 07:29

Report Period:
08/20/91 08:49 - 08/22/91 07:29

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/20	09:29	65.43 *	7.80 *	0.25 *					
08/20	23:29	3.68 *	6.10 *	0.02 *					
08/21	08:19	78.22	7.60	0.31					
08/21	03:09	1.37	5.00	0.01					
08/22	07:19	66.86 *	7.50 *	0.27 *					
08/22	02:49	3.15 *	5.50 *	0.02 *					

DAILY AVERAGES

Date: 09/20/91 14:27 File: A051605B.18K
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 3
AKERS RD.
150' N/O HILLSDALE

Metering Period:
08/20/91 08:49 - 08/22/91 07:29

Report Period:
08/20/91 08:49 - 08/22/91 07:29

START Date Time	FLO GPM	LEV in.	VEL FPS
08/20 00:00	21.13 *	6.73 *	0.10 *
08/21 00:00	29.70	6.22	0.14
08/22 00:00	11.71 *	5.76 *	0.07 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/20/91 11:07 File: A051605B.18K
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 3
AKERS RD.
150' N/O HILLSDALE

Metering Period:
08/20/91 08:49 - 08/22/91 07:29

Report Period:
08/20/91 08:49 - 08/22/91 07:29

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/20 08:49	33.36	7.30	0.14	08/20 15:49	13.18	6.20	0.07
08/20 08:59	49.07	7.20	0.21	08/20 15:59	15.06	6.20	0.08
08/20 09:09	49.07	7.20	0.21	08/20 16:09	13.49	6.30	0.07
08/20 09:19	48.59	7.40	0.20	08/20 16:19	17.34	6.30	0.09
08/20 09:29	65.43	7.80	0.25	08/20 16:29	13.49	6.30	0.07
08/20 09:39	57.58	7.80	0.22	08/20 16:39	17.34	6.30	0.09
08/20 09:49	53.97	7.70	0.21	08/20 16:49	17.74	6.40	0.09
08/20 09:59	44.58	7.50	0.18	08/20 16:59	15.42	6.30	0.08
08/20 10:09	34.02	7.40	0.14	08/20 17:09	13.18	6.20	0.07
08/20 10:19	38.87	7.40	0.16	08/20 17:19	11.29	6.20	0.06
08/20 10:29	31.59	7.40	0.13	08/20 17:29	14.70	6.10	0.08
08/20 10:39	30.98	7.30	0.13	08/20 17:39	15.06	6.20	0.08
08/20 10:49	28.04	7.20	0.12	08/20 17:49	13.18	6.20	0.07
08/20 10:59	15.39	6.90	0.07	08/20 17:59	15.42	6.30	0.08
08/20 11:09	21.99	6.90	0.10	08/20 18:09	17.34	6.30	0.09
08/20 11:19	27.99	6.80	0.13	08/20 18:19	21.69	6.40	0.11
08/20 11:29	19.79	6.90	0.09	08/20 18:29	14.43	6.60	0.07
08/20 11:39	22.44	7.00	0.10	08/20 18:39	18.96	6.70	0.09
08/20 11:49	21.99	6.90	0.10	08/20 18:49	14.75	6.70	0.07
08/20 11:59	32.29	6.80	0.15	08/20 18:59	19.37	6.80	0.09
08/20 12:09	4.21	6.70	0.02	08/20 19:09	17.22	6.80	0.08
08/20 12:19	21.07	6.70	0.10	08/20 19:19	15.07	6.80	0.07
08/20 12:29	18.15	6.50	0.09	08/20 19:29	15.07	6.80	0.07
08/20 12:39	18.56	6.60	0.09	08/20 19:39	14.75	6.70	0.07
08/20 12:49	18.56	6.60	0.09	08/20 19:49	10.31	6.60	0.05
08/20 12:59	18.56	6.60	0.09	08/20 19:59	19.37	6.80	0.09
08/20 13:09	16.13	6.50	0.08	08/20 20:09	24.69	7.00	0.11
08/20 13:19	18.56	6.60	0.09	08/20 20:19	32.72	7.20	0.14
08/20 13:29	19.72	6.40	0.10	08/20 20:29	28.04	7.20	0.12
08/20 13:39	19.27	6.30	0.10	08/20 20:39	23.37	7.20	0.10
08/20 13:49	11.83	6.40	0.06	08/20 20:49	25.70	7.20	0.11
08/20 13:59	14.12	6.50	0.07	08/20 20:59	25.20	7.10	0.11
08/20 14:09	16.13	6.50	0.08	08/20 21:09	29.78	7.10	0.13
08/20 14:19	22.68	6.60	0.11	08/20 21:19	32.07	7.10	0.14
08/20 14:29	26.93	7.00	0.12	08/20 21:29	29.18	7.00	0.13
08/20 14:39	21.03	7.20	0.09	08/20 21:39	29.18	7.00	0.13
08/20 14:49	20.61	7.10	0.09	08/20 21:49	15.07	6.80	0.07
08/20 14:59	19.37	6.80	0.09	08/20 21:59	10.76	6.80	0.05
08/20 15:09	14.12	6.50	0.07	08/20 22:09	14.75	6.70	0.07
08/20 15:19	9.86	6.40	0.05	08/20 22:19	10.76	6.80	0.05
08/20 15:29	15.77	6.40	0.08	08/20 22:29	10.31	6.60	0.05
08/20 15:39	11.29	6.20	0.06	08/20 22:39	7.89	6.40	0.04

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/20 22:49	11.83	6.40	0.06	08/21 07:59	47.66	7.30	0.20
08/20 22:59	11.83	6.40	0.06	08/21 08:09	51.02	7.40	0.21
08/20 23:09	9.86	6.40	0.05	08/21 08:19	78.22	7.60	0.31
08/20 23:19	11.29	6.20	0.06	08/21 08:29	75.92	8.00	0.28
08/20 23:29	3.68	6.10	0.02	08/21 08:39	63.94	7.90	0.24
08/20 23:39	7.35	6.10	0.04	08/21 08:49	68.05	7.80	0.26
08/20 23:49	11.03	6.10	0.06	08/21 08:59	60.56	7.60	0.24
08/20 23:59	5.38	6.00	0.03	08/21 09:09	54.81	7.30	0.23
08/21 00:09	3.50	5.90	0.02	08/21 09:19	50.39	7.10	0.22
08/21 00:19	3.50	5.90	0.02	08/21 09:29	48.37	6.90	0.22
08/21 00:29	3.41	5.80	0.02	08/21 09:39	36.60	6.80	0.17
08/21 00:39	3.24	5.60	0.02	08/21 09:49	37.93	6.70	0.18
08/21 00:49	3.24	5.60	0.02	08/21 09:59	47.42	6.60	0.23
08/21 00:59	3.24	5.60	0.02	08/21 10:09	55.97	6.80	0.26
08/21 01:09	1.54	5.40	0.01	08/21 10:19	53.86	7.00	0.24
08/21 01:19	3.07	5.40	0.02	08/21 10:29	53.86	7.00	0.24
08/21 01:29	4.48	5.30	0.03	08/21 10:39	44.89	7.00	0.20
08/21 01:39	2.99	5.30	0.02	08/21 10:49	34.44	6.80	0.16
08/21 01:49	2.90	5.20	0.02	08/21 10:59	35.05	6.60	0.17
08/21 01:59	2.74	5.00	0.02	08/21 11:09	37.46	6.40	0.19
08/21 02:09	2.74	5.00	0.02	08/21 11:19	32.27	6.50	0.16
08/21 02:19	2.74	5.00	0.02	08/21 11:29	39.18	6.60	0.19
08/21 02:29	2.82	5.10	0.02	08/21 11:39	37.93	6.70	0.18
08/21 02:39	2.90	5.20	0.02	08/21 11:49	39.18	6.60	0.19
08/21 02:49	2.90	5.20	0.02	08/21 11:59	39.18	6.60	0.19
08/21 02:59	4.23	5.10	0.03	08/21 12:09	38.32	6.50	0.19
08/21 03:09	1.37	5.00	0.01	08/21 12:19	39.18	6.60	0.19
08/21 03:19	6.63	4.90	0.05	08/21 12:29	40.33	6.50	0.20
08/21 03:29	5.31	4.90	0.04	08/21 12:39	41.24	6.60	0.20
08/21 03:39	5.31	4.90	0.04	08/21 12:49	39.18	6.60	0.19
08/21 03:49	5.47	5.00	0.04	08/21 12:59	43.37	6.40	0.22
08/21 03:59	5.47	5.00	0.04	08/21 13:09	35.77	6.20	0.19
08/21 04:09	5.31	4.90	0.04	08/21 13:19	32.00	6.20	0.17
08/21 04:19	5.47	5.00	0.04	08/21 13:29	48.40	6.50	0.24
08/21 04:29	1.41	5.10	0.01	08/21 13:39	61.11	6.70	0.29
08/21 04:39	6.84	5.00	0.05	08/21 13:49	45.21	6.80	0.21
08/21 04:49	1.37	5.00	0.01	08/21 13:59	41.24	6.60	0.20
08/21 04:59	6.63	4.90	0.05	08/21 14:09	47.42	6.60	0.23
08/21 05:09	6.84	5.00	0.05	08/21 14:19	44.37	6.50	0.22
08/21 05:19	6.84	5.00	0.05	08/21 14:29	37.46	6.40	0.19
08/21 05:29	7.05	5.10	0.05	08/21 14:39	32.00	6.20	0.17
08/21 05:39	7.25	5.20	0.05	08/21 14:49	29.41	6.10	0.16
08/21 05:49	7.25	5.20	0.05	08/21 14:59	29.41	6.10	0.16
08/21 05:59	5.97	5.30	0.04	08/21 15:09	30.12	6.20	0.16
08/21 06:09	2.99	5.30	0.02	08/21 15:19	36.61	6.30	0.19
08/21 06:19	4.73	5.50	0.03	08/21 15:29	39.53	6.20	0.21
08/21 06:29	1.62	5.60	0.01	08/21 15:39	33.08	6.10	0.18
08/21 06:39	4.99	5.70	0.03	08/21 15:49	25.73	6.10	0.14
08/21 06:49	3.41	5.80	0.02	08/21 15:59	27.57	6.10	0.15
08/21 06:59	9.19	6.10	0.05	08/21 16:09	30.12	6.20	0.16
08/21 07:09	10.08	6.50	0.05	08/21 16:19	33.08	6.10	0.18
08/21 07:19	18.96	6.70	0.09	08/21 16:29	25.12	6.00	0.14
08/21 07:29	18.96	6.70	0.09	08/21 16:39	25.73	6.10	0.14
08/21 07:39	25.29	6.70	0.12	08/21 16:49	29.41	6.10	0.16
08/21 07:49	43.52	7.10	0.19	08/21 16:59	29.41	6.10	0.16

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/21	17:09	22.06	6.10	0.12
08/21	17:19	23.32	6.00	0.13
08/21	17:29	23.32	6.00	0.13
08/21	17:39	17.94	6.00	0.10
08/21	17:49	26.91	6.00	0.15
08/21	17:59	30.50	6.00	0.17
08/21	18:09	27.57	6.10	0.15
08/21	18:19	36.61	6.30	0.19
08/21	18:29	39.43	6.40	0.20
08/21	18:39	36.30	6.50	0.18
08/21	18:49	44.37	6.50	0.22
08/21	18:59	42.35	6.50	0.21
08/21	19:09	49.49	6.60	0.24
08/21	19:19	43.30	6.60	0.21
08/21	19:29	43.30	6.60	0.21
08/21	19:39	43.30	6.60	0.21
08/21	19:49	42.14	6.70	0.20
08/21	19:59	43.30	6.60	0.21
08/21	20:09	41.24	6.60	0.20
08/21	20:19	47.42	6.60	0.23
08/21	20:29	44.25	6.70	0.21
08/21	20:39	45.36	6.60	0.22
08/21	20:49	48.37	6.90	0.22
08/21	20:59	61.84	7.10	0.27
08/21	21:09	52.68	7.10	0.23
08/21	21:19	52.77	6.90	0.24
08/21	21:29	49.51	6.80	0.23
08/21	21:39	50.57	6.90	0.23
08/21	21:49	54.96	6.90	0.25
08/21	21:59	52.77	6.90	0.24
08/21	22:09	45.21	6.80	0.21
08/21	22:19	37.11	6.60	0.18
08/21	22:29	43.30	6.60	0.21
08/21	22:39	41.77	6.90	0.19
08/21	22:49	41.77	6.90	0.19
08/21	22:59	51.62	7.00	0.23
08/21	23:09	47.13	7.00	0.21
08/21	23:19	36.60	6.80	0.17
08/21	23:29	32.27	6.50	0.16
08/21	23:39	28.23	6.50	0.14
08/21	23:49	15.77	6.40	0.08
08/21	23:59	17.74	6.40	0.09
08/22	00:09	17.74	6.40	0.09
08/22	00:19	16.94	6.20	0.09
08/22	00:29	14.70	6.10	0.08
08/22	00:39	14.35	6.00	0.08
08/22	00:49	12.25	5.90	0.07
08/22	00:59	14.00	5.90	0.08
08/22	01:09	11.95	5.80	0.07
08/22	01:19	11.95	5.80	0.07
08/22	01:29	8.32	5.70	0.05
08/22	01:39	11.64	5.70	0.07
08/22	01:49	8.10	5.60	0.05
08/22	01:59	9.72	5.60	0.06
08/22	02:09	6.48	5.60	0.04
08/22	02:19	6.14	5.40	0.04
08/22	02:29	7.89	5.50	0.05
08/22	02:39	9.46	5.50	0.06
08/22	02:49	3.15	5.50	0.02
08/22	02:59	8.10	5.60	0.05
08/22	03:09	7.89	5.50	0.05
08/22	03:19	7.89	5.50	0.05
08/22	03:29	9.46	5.50	0.06
08/22	03:39	6.14	5.40	0.04
08/22	03:49	7.68	5.40	0.05
08/22	03:59	7.68	5.40	0.05
08/22	04:09	7.68	5.40	0.05
08/22	04:19	7.46	5.30	0.05
08/22	04:29	7.46	5.30	0.05
08/22	04:39	4.48	5.30	0.03
08/22	04:49	7.46	5.30	0.05
08/22	04:59	7.68	5.40	0.05
08/22	05:09	9.21	5.40	0.06
08/22	05:19	7.68	5.40	0.05
08/22	05:29	7.68	5.40	0.05
08/22	05:39	11.34	5.60	0.07
08/22	05:49	14.58	5.60	0.09
08/22	05:59	11.64	5.70	0.07
08/22	06:09	10.24	5.80	0.06
08/22	06:19	3.50	5.90	0.02
08/22	06:29	3.68	6.10	0.02
08/22	06:39	9.41	6.20	0.05
08/22	06:49	11.56	6.30	0.06
08/22	06:59	18.15	6.50	0.09
08/22	07:09	42.64	7.00	0.19
08/22	07:19	66.86	7.50	0.27

Codes:

K Multiply data by 1,000
M Multiply data by 1,000,000
- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

------------- A051591A.18K -- 08/20/91 ---------------------------------------

Original name:A051591A.18K
Modification : A

File Type : Binary

Site Information:
Identification: LOCATION NO. 4
Description : AKERS RD.
600' S/O WAGNER AVE

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/20/91 09:40
End Time : 08/22/91 08:20
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 280
Data Channels : 2

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

Site: Type:	Diameter:			Cal Co
OPEN CHAN CIRCULAR	36.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:29 File: A051591B.18K
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 4
AKERS RD.
600' S/O WAGNER AVE.

Metering Period:
08/20/91 09:40 - 08/22/91 08:20

Report Period:
08/20/91 09:40 - 08/22/91 08:20

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/20	12:20	1.00K*	8.20 *	1.75 *					
08/20	09:40	408.86 *	5.90 *	1.20 *					
08/21	13:00	892.38	7.90	1.65					
08/21	05:20	128.97	3.70	0.80					
08/22	00:00	449.61 *	6.10 *	1.25 *					
08/22	05:10	134.89 *	3.80 *	0.80 *					

DAILY AVERAGES

Date: 09/20/91 14:30 File: A051591B.18K
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 4
AKERS RD.
600' S/O WAGNER AVE.

Metering Period:
08/20/91 09:40 - 08/22/91 08:20

Report Period:
08/20/91 09:40 - 08/22/91 08:20

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/20	00:00	624.11 *	6.77 *	1.45 *
08/21	00:00	466.75	5.92	1.27
08/22	00:00	234.84 *	4.59 *	0.98 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

page 1

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:08 File: A051591A.18K
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 4
AKERS RD.
600' S/O WAGNER AVE

Metering Period:
08/20/91 09:40 - 08/22/91 08:20

Report Period:
08/20/91 09:40 - 08/22/91 08:20

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/20 09:40	408.86	5.90	1.20	08/20 16:40	544.76	6.50	1.37
08/20 09:50	456.81	6.10	1.27	08/20 16:50	531.77	6.40	1.37
08/20 10:00	467.60	6.10	1.30	08/20 17:00	543.41	6.40	1.40
08/20 10:10	492.26	6.30	1.30	08/20 17:10	543.41	6.40	1.40
08/20 10:20	499.84	6.30	1.32	08/20 17:20	556.69	6.50	1.40
08/20 10:30	557.76	6.60	1.37	08/20 17:30	576.57	6.50	1.45
08/20 10:40	772.61	7.50	1.55	08/20 17:40	569.97	6.60	1.40
08/20 10:50	857.42	7.70	1.65	08/20 17:50	610.68	6.60	1.50
08/20 11:00	858.99	7.80	1.62	08/20 18:00	590.33	6.60	1.45
08/20 11:10	848.39	7.80	1.60	08/20 18:10	544.76	6.50	1.37
08/20 11:20	841.83	7.70	1.62	08/20 18:20	524.00	6.40	1.35
08/20 11:30	815.84	7.70	1.57	08/20 18:30	543.41	6.40	1.40
08/20 11:40	920.89	8.00	1.67	08/20 18:40	543.41	6.40	1.40
08/20 11:50	983.71	8.10	1.75	08/20 18:50	551.17	6.40	1.42
08/20 12:00	983.71	8.10	1.75	08/20 19:00	543.41	6.40	1.40
08/20 12:10	974.44	8.20	1.70	08/20 19:10	551.17	6.40	1.42
08/20 12:20	1.00K	8.20	1.75	08/20 19:20	531.77	6.40	1.37
08/20 12:30	955.60	8.10	1.70	08/20 19:30	524.00	6.40	1.35
08/20 12:40	874.90	7.80	1.65	08/20 19:40	543.41	6.40	1.40
08/20 12:50	814.48	7.60	1.60	08/20 19:50	531.77	6.40	1.37
08/20 13:00	749.69	7.30	1.57	08/20 20:00	524.88	6.50	1.32
08/20 13:10	701.17	7.20	1.50	08/20 20:10	556.69	6.50	1.40
08/20 13:20	708.94	7.10	1.55	08/20 20:20	544.76	6.50	1.37
08/20 13:30	655.87	6.90	1.50	08/20 20:30	556.69	6.50	1.40
08/20 13:40	640.77	6.80	1.50	08/20 20:40	598.47	6.60	1.47
08/20 13:50	619.42	6.80	1.45	08/20 20:50	578.11	6.60	1.42
08/20 14:00	679.92	7.00	1.52	08/20 21:00	590.33	6.60	1.45
08/20 14:10	724.54	7.20	1.55	08/20 21:10	590.33	6.60	1.45
08/20 14:20	740.14	7.30	1.55	08/20 21:20	590.33	6.60	1.45
08/20 14:30	740.14	7.30	1.55	08/20 21:30	557.76	6.60	1.37
08/20 14:40	718.09	7.10	1.57	08/20 21:40	569.97	6.60	1.40
08/20 14:50	679.92	7.00	1.52	08/20 21:50	569.97	6.60	1.40
08/20 15:00	677.74	6.90	1.55	08/20 22:00	556.69	6.50	1.40
08/20 15:10	627.96	6.80	1.47	08/20 22:10	544.76	6.50	1.37
08/20 15:20	613.16	6.70	1.47	08/20 22:20	524.00	6.40	1.35
08/20 15:30	569.97	6.60	1.40	08/20 22:30	562.82	6.40	1.45
08/20 15:40	578.11	6.60	1.42	08/20 22:40	569.97	6.60	1.40
08/20 15:50	531.77	6.40	1.37	08/20 22:50	556.69	6.50	1.40
08/20 16:00	530.13	6.30	1.40	08/20 23:00	556.69	6.50	1.40
08/20 16:10	531.77	6.40	1.37	08/20 23:10	511.20	6.30	1.35
08/20 16:20	524.00	6.40	1.35	08/20 23:20	511.20	6.30	1.35
08/20 16:30	576.57	6.50	1.45	08/20 23:30	499.84	6.30	1.32

page 1

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/20 23:40	474.79	6.10	1.32	08/21 08:50	387.45	5.70	1.20
08/20 23:50	467.60	6.10	1.30	08/21 09:00	376.82	5.60	1.20
08/21 00:00	449.61	6.10	1.25	08/21 09:10	367.40	5.60	1.17
08/21 00:10	420.25	6.00	1.20	08/21 09:20	376.82	5.60	1.20
08/21 00:20	425.90	5.90	1.25	08/21 09:30	376.82	5.60	1.20
08/21 00:30	393.90	5.70	1.22	08/21 09:40	431.24	5.80	1.30
08/21 00:40	398.07	5.80	1.20	08/21 09:50	474.79	6.10	1.32
08/21 00:50	387.45	5.70	1.20	08/21 10:00	487.31	6.20	1.32
08/21 01:00	376.82	5.60	1.20	08/21 10:10	474.79	6.10	1.32
08/21 01:10	367.40	5.60	1.17	08/21 10:20	456.81	6.10	1.27
08/21 01:20	357.05	5.50	1.17	08/21 10:30	468.86	6.20	1.27
08/21 01:30	331.87	5.40	1.12	08/21 10:40	467.60	6.10	1.30
08/21 01:40	321.96	5.30	1.12	08/21 10:50	474.79	6.10	1.32
08/21 01:50	288.96	5.10	1.07	08/21 11:00	479.93	6.20	1.30
08/21 02:00	274.99	5.00	1.05	08/21 11:10	531.77	6.40	1.37
08/21 02:10	266.42	4.90	1.05	08/21 11:20	543.41	6.40	1.40
08/21 02:20	242.17	4.70	1.02	08/21 11:30	543.41	6.40	1.40
08/21 02:30	245.58	4.80	1.00	08/21 11:40	544.76	6.50	1.37
08/21 02:40	237.42	4.70	1.00	08/21 11:50	613.16	6.70	1.47
08/21 02:50	214.47	4.50	0.97	08/21 12:00	604.82	6.70	1.45
08/21 03:00	210.05	4.50	0.95	08/21 12:10	592.31	6.70	1.42
08/21 03:10	195.97	4.40	0.92	08/21 12:20	613.16	6.70	1.47
08/21 03:20	185.05	4.30	0.90	08/21 12:30	664.62	6.90	1.52
08/21 03:30	185.05	4.30	0.90	08/21 12:40	822.45	7.50	1.65
08/21 03:40	178.39	4.20	0.90	08/21 12:50	885.50	7.80	1.67
08/21 03:50	171.73	4.10	0.90	08/21 13:00	892.38	7.90	1.65
08/21 04:00	162.19	4.10	0.85	08/21 13:10	841.83	7.70	1.62
08/21 04:10	162.19	4.10	0.85	08/21 13:20	822.45	7.50	1.65
08/21 04:20	150.40	4.00	0.82	08/21 13:30	764.02	7.30	1.60
08/21 04:30	150.40	4.00	0.82	08/21 13:40	710.52	7.20	1.52
08/21 04:40	144.33	3.90	0.82	08/21 13:50	724.54	7.20	1.55
08/21 04:50	140.81	3.90	0.80	08/21 14:00	672.35	7.10	1.47
08/21 05:00	134.89	3.80	0.80	08/21 14:10	657.55	7.00	1.47
08/21 05:10	129.83	3.80	0.77	08/21 14:20	679.92	7.00	1.52
08/21 05:20	128.97	3.70	0.80	08/21 14:30	642.76	6.90	1.47
08/21 05:30	128.97	3.70	0.80	08/21 14:40	619.42	6.80	1.45
08/21 05:40	128.97	3.70	0.80	08/21 14:50	625.68	6.70	1.50
08/21 05:50	129.83	3.80	0.77	08/21 15:00	604.82	6.70	1.45
08/21 06:00	128.97	3.70	0.80	08/21 15:10	590.33	6.60	1.45
08/21 06:10	138.26	3.80	0.82	08/21 15:20	590.33	6.60	1.45
08/21 06:20	143.32	3.80	0.85	08/21 15:30	598.47	6.60	1.47
08/21 06:30	149.61	3.90	0.85	08/21 15:40	576.57	6.50	1.45
08/21 06:40	149.61	3.90	0.85	08/21 15:50	551.17	6.40	1.42
08/21 06:50	150.40	4.00	0.82	08/21 16:00	531.77	6.40	1.37
08/21 07:00	159.57	4.00	0.87	08/21 16:10	543.41	6.40	1.40
08/21 07:10	175.54	4.10	0.92	08/21 16:20	511.20	6.30	1.35
08/21 07:20	206.62	4.40	0.97	08/21 16:30	492.26	6.30	1.30
08/21 07:30	237.42	4.70	1.00	08/21 16:40	487.31	6.20	1.32
08/21 07:40	279.11	4.90	1.10	08/21 16:50	487.31	6.20	1.32
08/21 07:50	310.56	5.10	1.15	08/21 17:00	530.13	6.30	1.40
08/21 08:00	355.58	5.40	1.20	08/21 17:10	590.33	6.60	1.45
08/21 08:10	376.82	5.60	1.20	08/21 17:20	708.94	7.10	1.55
08/21 08:20	404.70	5.80	1.22	08/21 17:30	765.94	7.40	1.57
08/21 08:30	398.07	5.80	1.20	08/21 17:40	797.53	7.50	1.60
08/21 08:40	404.70	5.80	1.22	08/21 17:50	782.57	7.50	1.57

page 2

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/21	18:00	790.33	7.40	1.62
08/21	18:10	765.94	7.40	1.57
08/21	18:20	747.91	7.20	1.60
08/21	18:30	695.22	7.10	1.52
08/21	18:40	679.92	7.00	1.52
08/21	18:50	642.76	6.90	1.47
08/21	19:00	627.96	6.80	1.47
08/21	19:10	640.77	6.80	1.50
08/21	19:20	627.96	6.80	1.47
08/21	19:30	649.32	6.80	1.52
08/21	19:40	627.96	6.80	1.47
08/21	19:50	613.16	6.70	1.47
08/21	20:00	604.82	6.70	1.45
08/21	20:10	592.31	6.70	1.42
08/21	20:20	592.31	6.70	1.42
08/21	20:30	613.16	6.70	1.47
08/21	20:40	625.68	6.70	1.50
08/21	20:50	578.11	6.60	1.42
08/21	21:00	590.33	6.60	1.45
08/21	21:10	549.61	6.60	1.35
08/21	21:20	590.33	6.60	1.45
08/21	21:30	613.16	6.70	1.47
08/21	21:40	569.97	6.60	1.40
08/21	21:50	557.76	6.60	1.37
08/21	22:00	578.11	6.60	1.42
08/21	22:10	549.61	6.60	1.35
08/21	22:20	556.69	6.50	1.40
08/21	22:30	556.69	6.50	1.40
08/21	22:40	556.69	6.50	1.40
08/21	22:50	569.97	6.60	1.40
08/21	23:00	569.97	6.60	1.40
08/21	23:10	556.69	6.50	1.40
08/21	23:20	564.64	6.50	1.42
08/21	23:30	544.76	6.50	1.37
08/21	23:40	511.20	6.30	1.35
08/21	23:50	468.86	6.20	1.27
08/22	00:00	449.61	6.10	1.25
08/22	00:10	444.76	6.00	1.27
08/22	00:20	425.90	5.90	1.25
08/22	00:30	414.66	5.80	1.25
08/22	00:40	403.59	5.70	1.25
08/22	00:50	393.90	5.70	1.22
08/22	01:00	383.10	5.60	1.22
08/22	01:10	366.20	5.50	1.20
08/22	01:20	331.87	5.40	1.12
08/22	01:30	321.96	5.30	1.12
08/22	01:40	306.47	5.20	1.10
08/22	01:50	288.09	5.00	1.10
08/22	02:00	266.42	4.90	1.05
08/22	02:10	253.74	4.90	1.00
08/22	02:20	237.42	4.70	1.00
08/22	02:30	237.42	4.70	1.00
08/22	02:40	221.10	4.50	1.00
08/22	02:50	221.10	4.50	1.00
08/22	03:00	206.62	4.40	0.97
08/22	03:10	195.33	4.30	0.95
08/22	03:20	182.35	4.20	0.92
08/22	03:30	178.88	4.30	0.87
08/22	03:40	172.44	4.20	0.87
08/22	03:50	171.73	4.10	0.90
08/22	04:00	165.07	4.00	0.90
08/22	04:10	152.65	4.10	0.80
08/22	04:20	150.40	4.00	0.82
08/22	04:30	146.73	4.00	0.80
08/22	04:40	144.33	3.90	0.82
08/22	04:50	140.81	3.90	0.80
08/22	05:00	140.81	3.90	0.80
08/22	05:10	134.89	3.80	0.80
08/22	05:20	140.81	3.90	0.80
08/22	05:30	140.81	3.90	0.80
08/22	05:40	144.33	3.90	0.82
08/22	05:50	143.32	3.80	0.85
08/22	06:00	138.26	3.80	0.82
08/22	06:10	140.81	3.90	0.80
08/22	06:20	134.89	3.80	0.80
08/22	06:30	143.32	3.80	0.85
08/22	06:40	138.26	3.80	0.82
08/22	06:50	135.53	3.90	0.77
08/22	07:00	149.61	3.90	0.85
08/22	07:10	162.19	4.10	0.85
08/22	07:20	185.05	4.30	0.90
08/22	07:30	221.10	4.50	1.00
08/22	07:40	279.11	4.90	1.10
08/22	07:50	340.76	5.40	1.15
08/22	08:00	366.20	5.50	1.20
08/22	08:10	387.45	5.70	1.20

page 3

Codes:

K Multiply data by 1,000
M Multiply data by 1,000,000
- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

------------- A051591B.18M -- 08/22/91 -------------------------------------

Original name:A051591A.18M
Modification : B

Site Information:
Identification: LOCATION NO. 5
Description : MOONEY BLVD.
300' S/O JAMES AVE.

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/22/91 10:58
End Time : 08/26/91 07:38
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 556
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	16.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:32 File: A051591B.18M
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 5
MOONEY BLVD.
300' S/O JAMES AVE.

Metering Period:
08/22/91 10:58 - 08/26/91 07:38

Report Period:
08/22/91 10:58 - 08/26/91 07:38

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/22	12:18	83.74 *	5.20 *	0.55 *					
08/22	23:38	48.36 *	4.20 *	0.44 *					
08/23	12:58	83.74	5.20	0.55					
08/23	05:18	11.64	3.10	0.17					
08/24	13:18	74.60	5.20	0.49					
08/24	06:18	13.69	3.10	0.20					
08/25	10:38	49.60	4.40	0.42					
08/25	06:28	12.32	3.10	0.18					
08/26	07:28	34.83 *	3.80 *	0.37 *					
08/26	05:18	12.32 *	3.10 *	0.18 *					

DAILY AVERAGES

Date: 09/20/91 14:31 File: A051591B.18M
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 5
MOONEY BLVD.
300' S/O JAMES AVE.

Metering Period:
08/22/91 10:58 - 08/26/91 07:38

Report Period:
08/22/91 10:58 - 08/26/91 07:38

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/22	00:00	70.88 *	5.05 *	0.49 *
08/23	00:00	54.26	4.50	0.41
08/24	00:00	48.79	4.39	0.40
08/25	00:00	29.85	3.79	0.31
08/26	00:00	20.40 *	3.38 *	0.25 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:12 File: A051591B.18M
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 5
MOONEY BLVD.
300' S/O JAMES AVE.

Metering Period:
08/22/91 10:58 - 08/26/91 07:38

Report Period:
08/22/91 10:58 - 08/26/91 07:38

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/22 10:58	81.49	5.30	0.52	08/22 17:58	73.08	5.20	0.48
08/22 11:08	81.49	5.30	0.52	08/22 18:08	73.08	5.20	0.48
08/22 11:18	78.35	5.30	0.50	08/22 18:18	73.94	5.10	0.50
08/22 11:28	80.59	5.40	0.50	08/22 18:28	76.13	5.20	0.50
08/22 11:38	66.08	5.40	0.41	08/22 18:38	73.94	5.10	0.50
08/22 11:48	79.17	5.20	0.52	08/22 18:48	76.90	5.10	0.52
08/22 11:58	81.49	5.30	0.52	08/22 18:58	74.60	5.20	0.49
08/22 12:08	81.49	5.30	0.52	08/22 19:08	71.76	5.00	0.50
08/22 12:18	83.74	5.20	0.55	08/22 19:18	68.51	5.20	0.45
08/22 12:28	78.35	5.30	0.50	08/22 19:28	71.56	5.20	0.47
08/22 12:38	76.13	5.20	0.50	08/22 19:38	74.60	5.20	0.49
08/22 12:48	63.95	5.20	0.42	08/22 19:48	70.98	5.10	0.48
08/22 12:58	74.60	5.20	0.49	08/22 19:58	73.94	5.10	0.50
08/22 13:08	73.08	5.20	0.48	08/22 20:08	68.89	5.00	0.48
08/22 13:18	76.90	5.10	0.52	08/22 20:18	66.02	5.00	0.46
08/22 13:28	73.08	5.20	0.48	08/22 20:28	64.75	4.80	0.48
08/22 13:38	73.65	5.30	0.47	08/22 20:38	70.32	5.00	0.49
08/22 13:48	72.46	5.10	0.49	08/22 20:48	66.09	4.80	0.49
08/22 13:58	68.51	5.20	0.45	08/22 20:58	68.18	4.90	0.49
08/22 14:08	73.94	5.10	0.50	08/22 21:08	69.57	4.90	0.50
08/22 14:18	71.56	5.20	0.47	08/22 21:18	68.18	4.90	0.49
08/22 14:28	73.08	5.20	0.48	08/22 21:28	69.57	4.90	0.50
08/22 14:38	69.50	5.10	0.47	08/22 21:38	69.57	4.90	0.50
08/22 14:48	71.76	5.00	0.50	08/22 21:48	70.14	4.80	0.52
08/22 14:58	65.07	5.10	0.44	08/22 21:58	68.18	4.90	0.49
08/22 15:08	65.07	5.10	0.44	08/22 22:08	69.57	4.90	0.50
08/22 15:18	69.50	5.10	0.47	08/22 22:18	72.35	4.90	0.52
08/22 15:28	66.99	5.20	0.44	08/22 22:28	67.44	4.80	0.50
08/22 15:38	68.51	5.20	0.45	08/22 22:38	65.32	4.70	0.50
08/22 15:48	72.46	5.10	0.49	08/22 22:48	61.11	4.50	0.50
08/22 15:58	71.56	5.20	0.47	08/22 22:58	61.11	4.50	0.50
08/22 16:08	73.08	5.20	0.48	08/22 23:08	56.69	4.40	0.48
08/22 16:18	73.94	5.10	0.50	08/22 23:18	54.71	4.30	0.48
08/22 16:28	76.13	5.20	0.50	08/22 23:28	53.57	4.30	0.47
08/22 16:38	74.60	5.20	0.49	08/22 23:38	48.36	4.20	0.44
08/22 16:48	76.13	5.20	0.50	08/22 23:48	48.72	4.10	0.46
08/22 16:58	72.08	5.30	0.46	08/22 23:58	45.55	4.10	0.43
08/22 17:08	73.65	5.30	0.47	08/23 00:08	40.78	4.00	0.40
08/22 17:18	73.65	5.30	0.47	08/23 00:18	40.17	3.90	0.41
08/22 17:28	76.78	5.30	0.49	08/23 00:28	36.25	3.90	0.37
08/22 17:38	76.13	5.20	0.50	08/23 00:38	34.83	3.80	0.37
08/22 17:48	72.46	5.10	0.49	08/23 00:48	33.42	3.70	0.37

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
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08/23	00:58	30.71	3.70	0.34	08/23	10:08	79.17	5.20	0.52
08/23	01:08	27.67	3.60	0.32	08/23	10:18	78.35	5.30	0.50
08/23	01:18	26.50	3.50	0.32	08/23	10:28	81.49	5.30	0.52
08/23	01:28	25.67	3.50	0.31	08/23	10:38	80.59	5.40	0.50
08/23	01:38	24.01	3.50	0.29	08/23	10:48	59.64	5.40	0.37
08/23	01:48	23.74	3.40	0.30	08/23	10:58	75.76	5.40	0.47
08/23	01:58	23.18	3.50	0.28	08/23	11:08	80.59	5.40	0.50
08/23	02:08	21.37	3.40	0.27	08/23	11:18	75.76	5.40	0.47
08/23	02:18	20.38	3.30	0.27	08/23	11:28	81.49	5.30	0.52
08/23	02:28	20.58	3.40	0.26	08/23	11:38	76.78	5.30	0.49
08/23	02:38	19.78	3.40	0.25	08/23	11:48	79.17	5.20	0.52
08/23	02:48	18.87	3.30	0.25	08/23	11:58	78.35	5.30	0.50
08/23	02:58	17.36	3.30	0.23	08/23	12:08	78.35	5.30	0.50
08/23	03:08	17.36	3.30	0.23	08/23	12:18	80.59	5.40	0.50
08/23	03:18	17.36	3.30	0.23	08/23	12:28	80.59	5.40	0.50
08/23	03:28	17.36	3.30	0.23	08/23	12:38	80.59	5.40	0.50
08/23	03:38	16.60	3.30	0.22	08/23	12:48	81.49	5.30	0.52
08/23	03:48	15.82	3.20	0.22	08/23	12:58	83.74	5.20	0.55
08/23	03:58	15.10	3.20	0.21	08/23	13:08	78.35	5.30	0.50
08/23	04:08	13.67	3.20	0.19	08/23	13:18	79.17	5.20	0.52
08/23	04:18	13.00	3.10	0.19	08/23	13:28	78.35	5.30	0.50
08/23	04:28	12.32	3.10	0.18	08/23	13:38	79.17	5.20	0.52
08/23	04:38	12.32	3.10	0.18	08/23	13:48	81.33	5.10	0.55
08/23	04:48	13.00	3.10	0.19	08/23	13:58	79.17	5.20	0.52
08/23	04:58	12.32	3.10	0.18	08/23	14:08	78.93	5.00	0.55
08/23	05:08	12.32	3.10	0.18	08/23	14:18	70.98	5.10	0.48
08/23	05:18	11.64	3.10	0.17	08/23	14:28	63.95	5.20	0.42
08/23	05:28	12.32	3.10	0.18	08/23	14:38	73.94	5.10	0.50
08/23	05:38	12.32	3.10	0.18	08/23	14:48	69.50	5.10	0.47
08/23	05:48	13.00	3.10	0.19	08/23	14:58	72.08	5.30	0.46
08/23	05:58	13.00	3.10	0.19	08/23	15:08	76.13	5.20	0.50
08/23	06:08	13.00	3.10	0.19	08/23	15:18	73.65	5.30	0.47
08/23	06:18	13.00	3.10	0.19	08/23	15:28	71.23	5.50	0.43
08/23	06:28	13.00	3.10	0.19	08/23	15:38	74.55	5.50	0.45
08/23	06:38	13.69	3.10	0.20	08/23	15:48	76.78	5.30	0.49
08/23	06:48	14.37	3.10	0.21	08/23	15:58	75.76	5.40	0.47
08/23	06:58	15.10	3.20	0.21	08/23	16:08	80.59	5.40	0.50
08/23	07:08	18.87	3.30	0.25	08/23	16:18	74.55	5.50	0.45
08/23	07:18	24.84	3.50	0.30	08/23	16:28	76.20	5.50	0.46
08/23	07:28	29.80	3.70	0.33	08/23	16:38	79.52	5.50	0.48
08/23	07:38	34.83	3.80	0.37	08/23	16:48	77.37	5.40	0.48
08/23	07:48	41.43	3.80	0.44	08/23	16:58	70.92	5.40	0.44
08/23	07:58	43.96	4.20	0.40	08/23	17:08	78.35	5.30	0.50
08/23	08:08	46.61	4.10	0.44	08/23	17:18	74.14	5.40	0.46
08/23	08:18	48.36	4.20	0.44	08/23	17:28	73.65	5.30	0.47
08/23	08:28	55.85	4.30	0.49	08/23	17:38	74.14	5.40	0.46
08/23	08:38	57.44	4.50	0.47	08/23	17:48	75.22	5.30	0.48
08/23	08:48	61.11	4.50	0.50	08/23	17:58	73.65	5.30	0.47
08/23	08:58	65.32	4.70	0.50	08/23	18:08	71.56	5.20	0.47
08/23	09:08	66.09	4.80	0.49	08/23	18:18	73.65	5.30	0.47
08/23	09:18	66.09	4.80	0.49	08/23	18:28	73.08	5.20	0.48
08/23	09:28	68.18	4.90	0.49	08/23	18:38	70.52	5.30	0.45
08/23	09:38	70.32	5.00	0.49	08/23	18:48	68.03	5.10	0.46
08/23	09:48	72.35	4.90	0.52	08/23	18:58	73.94	5.10	0.50
08/23	09:58	73.94	5.10	0.50	08/23	19:08	65.47	5.20	0.43

page 2

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
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08/23 19:18	66.99	5.20	0.44	08/24 04:28	19.78	3.40	0.25
08/23 19:28	66.55	5.10	0.45	08/24 04:38	18.87	3.30	0.25
08/23 19:38	70.32	5.00	0.49	08/24 04:48	18.70	3.20	0.26
08/23 19:48	71.76	5.00	0.50	08/24 04:58	18.11	3.30	0.24
08/23 19:58	70.98	5.10	0.48	08/24 05:08	17.26	3.20	0.24
08/23 20:08	70.98	5.10	0.48	08/24 05:18	16.54	3.20	0.23
08/23 20:18	69.50	5.10	0.47	08/24 05:28	16.54	3.20	0.23
08/23 20:28	71.76	5.00	0.50	08/24 05:38	15.10	3.20	0.21
08/23 20:38	68.89	5.00	0.48	08/24 05:48	15.06	3.10	0.22
08/23 20:48	69.57	4.90	0.50	08/24 05:58	15.10	3.20	0.21
08/23 20:58	70.32	5.00	0.49	08/24 06:08	15.10	3.20	0.21
08/23 21:08	68.18	4.90	0.49	08/24 06:18	13.69	3.10	0.20
08/23 21:18	64.01	4.90	0.46	08/24 06:28	15.10	3.20	0.21
08/23 21:28	65.40	4.90	0.47	08/24 06:38	14.39	3.20	0.20
08/23 21:38	66.79	4.90	0.48	08/24 06:48	16.43	3.10	0.24
08/23 21:48	66.09	4.80	0.49	08/24 06:58	15.82	3.20	0.22
08/23 21:58	69.57	4.90	0.50	08/24 07:08	18.87	3.30	0.25
08/23 22:08	64.75	4.80	0.48	08/24 07:18	21.37	3.40	0.27
08/23 22:18	63.40	4.80	0.47	08/24 07:28	27.33	3.50	0.33
08/23 22:28	64.01	4.70	0.49	08/24 07:38	34.32	3.70	0.38
08/23 22:38	60.66	4.60	0.48	08/24 07:48	40.48	3.80	0.43
08/23 22:48	61.93	4.60	0.49	08/24 07:58	43.83	4.00	0.43
08/23 22:58	58.67	4.50	0.48	08/24 08:08	47.26	4.20	0.43
08/23 23:08	59.40	4.60	0.47	08/24 08:18	49.46	4.20	0.45
08/23 23:18	58.67	4.50	0.48	08/24 08:28	52.43	4.30	0.46
08/23 23:28	56.22	4.50	0.46	08/24 08:38	54.32	4.40	0.46
08/23 23:38	58.67	4.50	0.48	08/24 08:48	56.69	4.40	0.48
08/23 23:48	57.44	4.50	0.47	08/24 08:58	58.14	4.60	0.46
08/23 23:58	55.50	4.40	0.47	08/24 09:08	55.61	4.60	0.44
08/24 00:08	53.57	4.30	0.47	08/24 09:18	58.79	4.70	0.45
08/24 00:18	52.43	4.30	0.46	08/24 09:28	60.70	4.80	0.45
08/24 00:28	49.46	4.20	0.45	08/24 09:38	60.70	4.80	0.45
08/24 00:38	49.46	4.20	0.45	08/24 09:48	62.70	4.70	0.48
08/24 00:48	47.91	4.00	0.47	08/24 09:58	61.22	4.90	0.44
08/24 00:58	46.61	4.10	0.44	08/24 10:08	62.61	4.90	0.45
08/24 01:08	42.81	4.00	0.42	08/24 10:18	61.22	4.90	0.44
08/24 01:18	43.83	4.00	0.43	08/24 10:28	66.79	4.90	0.48
08/24 01:28	40.17	3.90	0.41	08/24 10:38	65.40	4.90	0.47
08/24 01:38	41.15	3.90	0.42	08/24 10:48	59.83	4.90	0.43
08/24 01:48	40.48	3.80	0.43	08/24 10:58	54.72	5.10	0.37
08/24 01:58	36.13	3.70	0.40	08/24 11:08	66.55	5.10	0.45
08/24 02:08	34.83	3.80	0.37	08/24 11:18	68.03	5.10	0.46
08/24 02:18	31.61	3.70	0.35	08/24 11:28	73.94	5.10	0.50
08/24 02:28	31.61	3.70	0.35	08/24 11:38	71.56	5.20	0.47
08/24 02:38	30.71	3.70	0.34	08/24 11:48	72.46	5.10	0.49
08/24 02:48	27.33	3.50	0.33	08/24 11:58	73.08	5.20	0.48
08/24 02:58	26.81	3.60	0.31	08/24 12:08	67.38	5.30	0.43
08/24 03:08	24.84	3.50	0.30	08/24 12:18	68.95	5.30	0.44
08/24 03:18	25.67	3.50	0.31	08/24 12:28	72.53	5.40	0.45
08/24 03:28	23.74	3.40	0.30	08/24 12:38	70.92	5.40	0.44
08/24 03:38	22.95	3.40	0.29	08/24 12:48	70.04	5.20	0.46
08/24 03:48	23.74	3.40	0.30	08/24 12:58	67.38	5.30	0.43
08/24 03:58	21.37	3.40	0.27	08/24 13:08	68.95	5.30	0.44
08/24 04:08	21.37	3.40	0.27	08/24 13:18	74.60	5.20	0.49
08/24 04:18	20.38	3.30	0.27	08/24 13:28	65.47	5.20	0.43

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
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08/24 13:38	68.95	5.30	0.44	08/24 22:48	40.17	3.90	0.41
08/24 13:48	73.08	5.20	0.48	08/24 22:58	38.74	4.00	0.38
08/24 13:58	59.55	5.30	0.38	08/24 23:08	39.76	4.00	0.39
08/24 14:08	64.47	5.40	0.40	08/24 23:18	39.76	4.00	0.39
08/24 14:18	64.25	5.30	0.41	08/24 23:28	39.19	3.90	0.40
08/24 14:28	68.95	5.30	0.44	08/24 23:38	37.23	3.90	0.38
08/24 14:38	66.99	5.20	0.44	08/24 23:48	38.74	4.00	0.38
08/24 14:48	66.99	5.20	0.44	08/24 23:58	39.76	4.00	0.39
08/24 14:58	72.08	5.30	0.46	08/25 00:08	38.21	3.90	0.39
08/24 15:08	72.08	5.30	0.46	08/25 00:18	38.74	4.00	0.38
08/24 15:18	67.38	5.30	0.43	08/25 00:28	36.25	3.90	0.37
08/24 15:28	65.82	5.30	0.42	08/25 00:38	36.25	3.90	0.37
08/24 15:38	67.38	5.30	0.43	08/25 00:48	36.72	3.80	0.39
08/24 15:48	70.04	5.20	0.46	08/25 00:58	34.83	3.80	0.37
08/24 15:58	70.04	5.20	0.46	08/25 01:08	34.83	3.80	0.37
08/24 16:08	62.42	5.20	0.41	08/25 01:18	31.61	3.70	0.35
08/24 16:18	63.59	5.10	0.43	08/25 01:28	32.51	3.70	0.36
08/24 16:28	66.02	5.00	0.46	08/25 01:38	30.71	3.70	0.34
08/24 16:38	57.98	5.30	0.37	08/25 01:48	30.27	3.60	0.35
08/24 16:48	65.07	5.10	0.44	08/25 01:58	26.81	3.60	0.31
08/24 16:58	65.07	5.10	0.44	08/25 02:08	27.67	3.60	0.32
08/24 17:08	64.58	5.00	0.45	08/25 02:18	26.81	3.60	0.31
08/24 17:18	65.07	5.10	0.44	08/25 02:28	24.84	3.50	0.30
08/24 17:28	63.59	5.10	0.43	08/25 02:38	23.74	3.40	0.30
08/24 17:38	60.27	5.00	0.42	08/25 02:48	22.16	3.40	0.28
08/24 17:48	65.40	4.90	0.47	08/25 02:58	20.58	3.40	0.26
08/24 17:58	67.45	5.00	0.47	08/25 03:08	20.58	3.40	0.26
08/24 18:08	63.59	5.10	0.43	08/25 03:18	18.11	3.30	0.24
08/24 18:18	63.59	5.10	0.43	08/25 03:28	18.11	3.30	0.24
08/24 18:28	68.03	5.10	0.46	08/25 03:38	18.11	3.30	0.24
08/24 18:38	64.58	5.00	0.45	08/25 03:48	16.54	3.20	0.23
08/24 18:48	61.22	4.90	0.44	08/25 03:58	16.54	3.20	0.23
08/24 18:58	64.58	5.00	0.45	08/25 04:08	16.54	3.20	0.23
08/24 19:08	64.01	4.90	0.46	08/25 04:18	15.10	3.20	0.21
08/24 19:18	61.22	4.90	0.44	08/25 04:28	14.39	3.20	0.20
08/24 19:28	59.83	4.90	0.43	08/25 04:38	15.10	3.20	0.21
08/24 19:38	61.22	4.90	0.44	08/25 04:48	14.37	3.10	0.21
08/24 19:48	61.40	4.70	0.47	08/25 04:58	14.39	3.20	0.20
08/24 19:58	53.56	4.70	0.41	08/25 05:08	14.39	3.20	0.20
08/24 20:08	56.17	4.70	0.43	08/25 05:18	13.00	3.10	0.19
08/24 20:18	54.34	4.60	0.43	08/25 05:28	13.00	3.10	0.19
08/24 20:28	52.55	4.50	0.43	08/25 05:38	14.39	3.20	0.20
08/24 20:38	49.60	4.40	0.42	08/25 05:48	13.69	3.10	0.20
08/24 20:48	49.01	4.30	0.43	08/25 05:58	13.00	3.10	0.19
08/24 20:58	46.73	4.30	0.41	08/25 06:08	13.00	3.10	0.19
08/24 21:08	43.96	4.20	0.40	08/25 06:18	13.00	3.10	0.19
08/24 21:18	42.86	4.20	0.39	08/25 06:28	12.32	3.10	0.18
08/24 21:28	40.25	4.10	0.38	08/25 06:38	12.32	3.10	0.18
08/24 21:38	40.25	4.10	0.38	08/25 06:48	12.34	3.00	0.19
08/24 21:48	39.19	3.90	0.40	08/25 06:58	12.32	3.10	0.18
08/24 21:58	38.74	4.00	0.38	08/25 07:08	12.32	3.10	0.18
08/24 22:08	39.76	4.00	0.39	08/25 07:18	12.32	3.10	0.18
08/24 22:18	39.76	4.00	0.39	08/25 07:28	12.32	3.10	0.18
08/24 22:28	38.74	4.00	0.38	08/25 07:38	12.32	3.10	0.18
08/24 22:38	37.72	4.00	0.37	08/25 07:48	13.69	3.10	0.20

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/25 07:58	15.10	3.20	0.21	08/25 17:08	31.35	3.90	0.32
08/25 08:08	15.10	3.20	0.21	08/25 17:18	31.07	3.80	0.33
08/25 08:18	17.36	3.30	0.23	08/25 17:28	33.31	3.90	0.34
08/25 08:28	18.99	3.40	0.24	08/25 17:38	30.37	3.90	0.31
08/25 08:38	24.01	3.50	0.29	08/25 17:48	28.41	3.90	0.29
08/25 08:48	31.13	3.60	0.36	08/25 17:58	30.37	3.90	0.31
08/25 08:58	35.27	3.90	0.36	08/25 18:08	32.33	3.90	0.33
08/25 09:08	37.72	4.00	0.37	08/25 18:18	30.58	4.00	0.30
08/25 09:18	40.25	4.10	0.38	08/25 18:28	30.37	3.90	0.31
08/25 09:28	37.37	4.20	0.34	08/25 18:38	31.35	3.90	0.32
08/25 09:38	44.45	4.30	0.39	08/25 18:48	31.35	3.90	0.32
08/25 09:48	49.01	4.30	0.43	08/25 18:58	32.33	3.90	0.33
08/25 09:58	40.15	4.40	0.34	08/25 19:08	31.07	3.80	0.33
08/25 10:08	47.87	4.30	0.42	08/25 19:18	32.33	3.90	0.33
08/25 10:18	43.70	4.40	0.37	08/25 19:28	33.31	3.90	0.34
08/25 10:28	48.42	4.40	0.41	08/25 19:38	32.95	3.80	0.35
08/25 10:38	49.60	4.40	0.42	08/25 19:48	33.89	3.80	0.36
08/25 10:48	49.01	4.30	0.43	08/25 19:58	32.33	3.90	0.33
08/25 10:58	47.24	4.40	0.40	08/25 20:08	32.33	3.90	0.33
08/25 11:08	33.07	4.40	0.28	08/25 20:18	32.01	3.80	0.34
08/25 11:18	43.31	4.30	0.38	08/25 20:28	31.07	3.80	0.33
08/25 11:28	40.15	4.40	0.34	08/25 20:38	32.01	3.80	0.34
08/25 11:38	41.33	4.40	0.35	08/25 20:48	31.61	3.70	0.35
08/25 11:48	38.97	4.40	0.33	08/25 20:58	31.07	3.80	0.33
08/25 11:58	41.33	4.40	0.35	08/25 21:08	32.01	3.80	0.34
08/25 12:08	39.11	4.50	0.32	08/25 21:18	32.01	3.80	0.34
08/25 12:18	42.86	4.20	0.39	08/25 21:28	32.95	3.80	0.35
08/25 12:28	42.86	4.20	0.39	08/25 21:38	32.95	3.80	0.35
08/25 12:38	37.61	4.30	0.33	08/25 21:48	32.51	3.70	0.36
08/25 12:48	37.07	4.10	0.35	08/25 21:58	33.31	3.90	0.34
08/25 12:58	40.67	4.20	0.37	08/25 22:08	31.07	3.80	0.33
08/25 13:08	26.38	4.20	0.24	08/25 22:18	35.27	3.90	0.36
08/25 13:18	33.90	4.10	0.32	08/25 22:28	33.31	3.90	0.34
08/25 13:28	28.60	4.10	0.27	08/25 22:38	34.29	3.90	0.35
08/25 13:38	29.56	4.00	0.29	08/25 22:48	35.78	3.80	0.38
08/25 13:48	36.01	4.10	0.34	08/25 22:58	34.29	3.90	0.35
08/25 13:58	38.13	4.10	0.36	08/25 23:08	35.27	3.90	0.36
08/25 14:08	35.17	4.20	0.32	08/25 23:18	34.29	3.90	0.35
08/25 14:18	34.07	4.20	0.31	08/25 23:28	34.29	3.90	0.35
08/25 14:28	35.17	4.20	0.32	08/25 23:38	33.31	3.90	0.34
08/25 14:38	39.57	4.20	0.36	08/25 23:48	32.33	3.90	0.33
08/25 14:48	36.01	4.10	0.34	08/25 23:58	32.33	3.90	0.33
08/25 14:58	36.27	4.20	0.33	08/26 00:08	31.35	3.90	0.32
08/25 15:08	37.07	4.10	0.35	08/26 00:18	32.01	3.80	0.34
08/25 15:18	34.95	4.10	0.33	08/26 00:28	32.51	3.70	0.36
08/25 15:28	25.28	4.20	0.23	08/26 00:38	31.07	3.80	0.33
08/25 15:38	31.78	4.10	0.30	08/26 00:48	30.71	3.70	0.34
08/25 15:48	32.62	4.00	0.32	08/26 00:58	29.19	3.80	0.31
08/25 15:58	30.72	4.10	0.29	08/26 01:08	31.07	3.80	0.33
08/25 16:08	32.62	4.00	0.32	08/26 01:18	28.00	3.70	0.31
08/25 16:18	30.58	4.00	0.30	08/26 01:28	28.90	3.70	0.32
08/25 16:28	33.64	4.00	0.33	08/26 01:38	28.00	3.70	0.31
08/25 16:38	28.54	4.00	0.28	08/26 01:48	26.50	3.50	0.32
08/25 16:48	31.60	4.00	0.31	08/26 01:58	25.08	3.60	0.29
08/25 16:58	31.35	3.90	0.32	08/26 02:08	23.18	3.50	0.28

page 5

START Date	Time	FLO GPM	LEV in.	VEL FPS
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08/26	02:18	23.18	3.50	0.28
08/26	02:28	21.37	3.40	0.27
08/26	02:38	20.58	3.40	0.26
08/26	02:48	20.38	3.30	0.27
08/26	02:58	19.78	3.40	0.25
08/26	03:08	18.11	3.30	0.24
08/26	03:18	18.11	3.30	0.24
08/26	03:28	17.36	3.30	0.23
08/26	03:38	15.82	3.20	0.22
08/26	03:48	15.82	3.20	0.22
08/26	03:58	15.10	3.20	0.21
08/26	04:08	14.39	3.20	0.20
08/26	04:18	14.39	3.20	0.20
08/26	04:28	14.39	3.20	0.20
08/26	04:38	13.69	3.10	0.20
08/26	04:48	13.69	3.10	0.20
08/26	04:58	13.00	3.10	0.19
08/26	05:08	13.00	3.10	0.19
08/26	05:18	12.32	3.10	0.18
08/26	05:28	12.32	3.10	0.18
08/26	05:38	13.69	3.10	0.20
08/26	05:48	13.00	3.10	0.19
08/26	05:58	12.32	3.10	0.18
08/26	06:08	12.32	3.10	0.18
08/26	06:18	13.00	3.10	0.19
08/26	06:28	13.00	3.10	0.19
08/26	06:38	13.69	3.10	0.20
08/26	06:48	14.37	3.10	0.21
08/26	06:58	15.10	3.20	0.21
08/26	07:08	18.99	3.40	0.24
08/26	07:18	29.80	3.70	0.33
08/26	07:28	34.83	3.80	0.37

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

------------- A051605B.18Q -- 08/26/91 ------------------------------------

Original name:A051605A.18Q
Modification : B

Site Information:
Identification: LOCATION NO. 6
Description : CALDWELL AVE.
AT DOLLNER ST.

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/26/91 08:29
End Time : 08/29/91 07:29
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 426
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	24.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:33 File: A051605B.18Q
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 6
CALDWELL AVE.
AT DOLLNER ST.

Metering Period:
08/26/91 08:29 - 08/29/91 07:29

Report Period:
08/26/91 08:29 - 08/29/91 07:29

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/26	12:19	429.38 *	6.90 *	1.35 *					
08/26	23:49	53.11 *	3.00 *	0.62 *					
08/27	09:49	216.15	5.00	1.12					
08/27	05:09	14.73	2.00	0.33					
08/28	10:59	223.58	5.60	0.97					
08/28	04:39	15.50	2.10	0.32					
08/29	00:09	68.50 *	3.20 *	0.72 *					
08/29	03:09	17.93 *	2.10 *	0.37 *					

DAILY AVERAGES

Date: 09/20/91 14:33 File: A051605B.18Q
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 6
CALDWELL AVE.
AT DOLLNER ST.

Metering Period:
08/26/91 08:29 - 08/29/91 07:29

Report Period:
08/26/91 08:29 - 08/29/91 07:29

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/26	00:00	122.16 *	3.97 *	0.85 *
08/27	00:00	72.88	3.34	0.65
08/28	00:00	83.54	3.62	0.65
08/29	00:00	33.97 *	2.57 *	0.48 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:15 File: A051605B.18Q
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51605
LOCATION NO. 6
CALDWELL AVE.
AT DOLLNER ST.

Metering Period:
08/26/91 08:29 - 08/29/91 07:29

Report Period:
08/26/91 08:29 - 08/29/91 07:29

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/26 08:29	103.29	3.60	0.90	08/26 15:29	239.39	5.40	1.10
08/26 08:39	103.29	3.60	0.90	08/26 15:39	262.15	5.50	1.17
08/26 08:49	103.29	3.60	0.90	08/26 15:49	226.24	5.30	1.07
08/26 08:59	97.55	3.60	0.85	08/26 15:59	226.24	5.30	1.07
08/26 09:09	139.29	3.90	1.07	08/26 16:09	219.05	5.10	1.10
08/26 09:19	147.57	4.30	0.97	08/26 16:19	209.10	5.10	1.05
08/26 09:29	132.36	4.30	0.87	08/26 16:29	180.99	4.80	1.00
08/26 09:39	111.21	4.00	0.82	08/26 16:39	166.39	4.70	0.95
08/26 09:49	102.54	3.80	0.82	08/26 16:49	127.57	4.20	0.87
08/26 09:59	117.99	4.00	0.87	08/26 16:59	104.14	3.90	0.80
08/26 10:09	183.90	4.70	1.05	08/26 17:09	90.03	3.80	0.72
08/26 10:19	160.84	4.60	0.95	08/26 17:19	87.53	3.80	0.70
08/26 10:29	139.30	4.20	0.95	08/26 17:29	78.93	3.50	0.72
08/26 10:39	131.97	4.20	0.90	08/26 17:39	67.99	3.40	0.65
08/26 10:49	127.01	4.10	0.90	08/26 17:49	66.91	3.30	0.67
08/26 10:59	106.75	3.90	0.82	08/26 17:59	64.86	3.40	0.62
08/26 11:09	97.64	3.90	0.75	08/26 18:09	67.97	3.50	0.62
08/26 11:19	98.32	3.70	0.82	08/26 18:19	111.21	4.00	0.82
08/26 11:29	113.26	3.90	0.87	08/26 18:29	104.43	4.00	0.77
08/26 11:39	110.65	3.90	0.85	08/26 18:39	83.93	3.70	0.70
08/26 11:49	106.29	3.80	0.85	08/26 18:49	67.99	3.40	0.65
08/26 11:59	86.08	3.60	0.75	08/26 18:59	64.92	3.30	0.65
08/26 12:09	367.23	5.70	1.55	08/26 19:09	64.86	3.40	0.62
08/26 12:19	429.38	6.90	1.35	08/26 19:19	70.09	3.40	0.67
08/26 12:29	368.66	6.50	1.27	08/26 19:29	66.91	3.30	0.67
08/26 12:39	284.31	5.70	1.20	08/26 19:39	74.90	3.30	0.75
08/26 12:49	212.29	5.00	1.10	08/26 19:49	67.99	3.40	0.65
08/26 12:59	171.63	4.50	1.05	08/26 19:59	64.92	3.30	0.65
08/26 13:09	152.14	4.30	1.00	08/26 20:09	64.86	3.40	0.62
08/26 13:19	148.18	4.10	1.05	08/26 20:19	70.09	3.40	0.67
08/26 13:29	123.67	3.90	0.95	08/26 20:29	67.99	3.40	0.65
08/26 13:39	110.31	3.70	0.92	08/26 20:39	67.97	3.50	0.62
08/26 13:49	93.19	3.50	0.85	08/26 20:49	71.26	3.50	0.65
08/26 13:59	96.24	3.40	0.92	08/26 20:59	74.60	3.60	0.65
08/26 14:09	80.87	3.20	0.85	08/26 21:09	83.93	3.70	0.70
08/26 14:19	72.32	3.10	0.80	08/26 21:19	93.78	3.80	0.75
08/26 14:29	76.11	3.20	0.80	08/26 21:29	89.93	3.70	0.75
08/26 14:39	128.84	4.00	0.95	08/26 21:39	96.28	3.80	0.77
08/26 14:49	173.41	4.40	1.10	08/26 21:49	91.81	3.60	0.80
08/26 14:59	190.04	4.80	1.05	08/26 21:59	82.63	3.60	0.72
08/26 15:09	199.92	4.90	1.07	08/26 22:09	78.93	3.50	0.72
08/26 15:19	236.82	5.30	1.12	08/26 22:19	78.93	3.50	0.72

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/26 22:29	73.23	3.40	0.70	08/27 07:39	70.09	3.40	0.67
08/26 22:39	70.09	3.40	0.67	08/27 07:49	80.34	3.70	0.67
08/26 22:49	66.91	3.30	0.67	08/27 07:59	95.92	3.70	0.80
08/26 22:59	66.60	3.20	0.70	08/27 08:09	106.29	3.80	0.85
08/26 23:09	69.91	3.30	0.70	08/27 08:19	119.96	4.10	0.85
08/26 23:19	66.60	3.20	0.70	08/27 08:29	111.21	4.00	0.82
08/26 23:29	66.60	3.20	0.70	08/27 08:39	108.50	4.00	0.80
08/26 23:39	58.76	3.10	0.65	08/27 08:49	97.64	3.90	0.75
08/26 23:49	53.11	3.00	0.62	08/27 08:59	90.03	3.80	0.72
08/26 23:59	51.40	3.00	0.60	08/27 09:09	82.63	3.60	0.72
08/27 00:09	53.11	3.00	0.62	08/27 09:19	115.28	4.00	0.85
08/27 00:19	51.40	3.00	0.60	08/27 09:29	121.71	4.30	0.80
08/27 00:29	48.66	2.90	0.60	08/27 09:39	161.13	4.70	0.92
08/27 00:39	43.51	2.70	0.60	08/27 09:49	216.15	5.00	1.12
08/27 00:49	43.51	2.70	0.60	08/27 09:59	186.84	4.90	1.00
08/27 00:59	46.09	2.80	0.60	08/27 10:09	145.03	4.40	0.92
08/27 01:09	43.51	2.70	0.60	08/27 10:19	127.01	4.10	0.90
08/27 01:19	38.36	2.50	0.60	08/27 10:29	117.99	4.00	0.87
08/27 01:29	36.44	2.50	0.57	08/27 10:39	110.65	3.90	0.85
08/27 01:39	34.13	2.40	0.57	08/27 10:49	101.92	3.70	0.85
08/27 01:49	32.93	2.40	0.55	08/27 10:59	89.90	3.50	0.82
08/27 01:59	28.74	2.20	0.55	08/27 11:09	80.55	3.40	0.77
08/27 02:09	25.19	2.10	0.52	08/27 11:19	73.23	3.40	0.70
08/27 02:19	26.13	2.20	0.50	08/27 11:29	69.91	3.30	0.70
08/27 02:29	24.22	2.10	0.50	08/27 11:39	79.90	3.30	0.80
08/27 02:39	24.56	2.20	0.47	08/27 11:49	97.55	3.60	0.85
08/27 02:49	22.29	2.10	0.46	08/27 11:59	95.92	3.70	0.80
08/27 02:59	20.53	2.00	0.46	08/27 12:09	89.93	3.70	0.75
08/27 03:09	20.53	2.00	0.46	08/27 12:19	76.74	3.50	0.70
08/27 03:19	18.93	1.90	0.46	08/27 12:29	71.91	3.30	0.72
08/27 03:29	20.53	2.00	0.46	08/27 12:39	128.84	4.00	0.95
08/27 03:39	19.75	1.90	0.48	08/27 12:49	139.97	4.30	0.92
08/27 03:49	18.75	2.00	0.42	08/27 12:59	64.92	4.10	0.46
08/27 03:59	17.28	1.90	0.42	08/27 13:09	50.36	3.70	0.42
08/27 04:09	16.87	1.90	0.41	08/27 13:19	28.76	3.80	0.23
08/27 04:19	15.91	1.80	0.42	08/27 13:29	106.75	3.90	0.82
08/27 04:29	16.67	1.80	0.44	08/27 13:39	91.81	3.60	0.80
08/27 04:39	16.67	1.80	0.44	08/27 13:49	76.74	3.50	0.70
08/27 04:49	16.87	1.90	0.41	08/27 13:59	69.91	3.30	0.70
08/27 04:59	17.41	2.00	0.39	08/27 14:09	69.91	3.30	0.70
08/27 05:09	14.73	2.00	0.33	08/27 14:19	69.91	3.30	0.70
08/27 05:19	16.07	2.00	0.36	08/27 14:29	69.91	3.30	0.70
08/27 05:29	17.41	2.00	0.39	08/27 14:39	82.22	3.50	0.75
08/27 05:39	25.23	2.30	0.45	08/27 14:49	108.79	3.80	0.87
08/27 05:49	28.74	2.40	0.48	08/27 14:59	164.22	4.60	0.97
08/27 05:59	28.03	2.30	0.50	08/27 15:09	160.84	4.60	0.95
08/27 06:09	25.15	2.40	0.42	08/27 15:19	145.03	4.40	0.92
08/27 06:19	21.15	2.60	0.31	08/27 15:29	136.92	4.30	0.90
08/27 06:29	25.38	2.70	0.35	08/27 15:39	115.28	4.00	0.85
08/27 06:39	31.18	2.70	0.43	08/27 15:49	96.28	3.80	0.77
08/27 06:49	32.63	2.70	0.45	08/27 15:59	97.64	3.90	0.75
08/27 06:59	37.31	2.90	0.46	08/27 16:09	100.24	3.90	0.77
08/27 07:09	47.12	3.00	0.55	08/27 16:19	90.03	3.80	0.72
08/27 07:19	45.20	3.10	0.50	08/27 16:29	77.94	3.70	0.65
08/27 07:29	57.08	3.20	0.60	08/27 16:39	93.78	3.80	0.75

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/27 16:49	145.03	4.40	0.92	08/28 01:59	25.23	2.30	0.45
08/27 16:59	163.46	4.50	1.00	08/28 02:09	22.99	2.30	0.41
08/27 17:09	152.37	4.60	0.90	08/28 02:19	21.30	2.30	0.38
08/27 17:19	121.71	4.30	0.80	08/28 02:29	33.36	2.70	0.46
08/27 17:29	105.84	4.10	0.75	08/28 02:39	36.26	2.70	0.50
08/27 17:39	96.28	3.80	0.77	08/28 02:49	31.91	2.70	0.44
08/27 17:49	77.94	3.70	0.65	08/28 02:59	31.33	2.50	0.49
08/27 17:59	80.34	3.70	0.67	08/28 03:09	28.14	2.40	0.47
08/27 18:09	75.03	3.80	0.60	08/28 03:19	25.75	2.40	0.43
08/27 18:19	74.60	3.60	0.65	08/28 03:29	23.95	2.40	0.40
08/27 18:29	68.35	3.70	0.57	08/28 03:39	21.95	2.20	0.42
08/27 18:39	73.45	3.50	0.67	08/28 03:49	20.18	2.30	0.36
08/27 18:49	67.97	3.50	0.62	08/28 03:59	18.81	2.20	0.36
08/27 18:59	71.16	3.60	0.62	08/28 04:09	19.38	2.10	0.40
08/27 19:09	74.60	3.60	0.65	08/28 04:19	16.96	2.10	0.35
08/27 19:19	74.34	3.70	0.62	08/28 04:29	17.93	2.10	0.37
08/27 19:29	77.94	3.70	0.65	08/28 04:39	15.50	2.10	0.32
08/27 19:39	74.34	3.70	0.62	08/28 04:49	16.47	2.10	0.34
08/27 19:49	87.22	3.90	0.67	08/28 04:59	16.07	2.00	0.36
08/27 19:59	97.64	3.90	0.75	08/28 05:09	17.93	2.10	0.37
08/27 20:09	87.22	3.90	0.67	08/28 05:19	16.82	2.30	0.30
08/27 20:19	77.53	3.80	0.62	08/28 05:29	25.15	2.40	0.42
08/27 20:29	74.34	3.70	0.62	08/28 05:39	30.46	2.70	0.42
08/27 20:39	68.86	3.60	0.60	08/28 05:49	29.96	2.80	0.39
08/27 20:49	68.86	3.60	0.60	08/28 05:59	28.65	2.60	0.42
08/27 20:59	71.16	3.60	0.62	08/28 06:09	26.85	2.50	0.42
08/27 21:09	65.42	3.60	0.57	08/28 06:19	25.24	2.60	0.37
08/27 21:19	71.16	3.60	0.62	08/28 06:29	24.56	2.60	0.36
08/27 21:29	71.94	3.70	0.60	08/28 06:39	21.42	3.00	0.25
08/27 21:39	68.35	3.70	0.57	08/28 06:49	31.64	3.10	0.35
08/27 21:49	62.35	3.70	0.52	08/28 06:59	39.78	3.10	0.44
08/27 21:59	74.60	3.60	0.65	08/28 07:09	47.94	3.30	0.48
08/27 22:09	71.16	3.60	0.62	08/28 07:19	56.24	3.60	0.49
08/27 22:19	65.42	3.60	0.57	08/28 07:29	59.68	3.60	0.52
08/27 22:29	65.78	3.50	0.60	08/28 07:39	87.53	3.80	0.70
08/27 22:39	62.76	3.40	0.60	08/28 07:49	129.27	4.40	0.82
08/27 22:49	59.63	3.40	0.57	08/28 07:59	135.44	4.60	0.80
08/27 22:59	77.94	3.70	0.65	08/28 08:09	140.12	4.70	0.80
08/27 23:09	97.64	3.90	0.75	08/28 08:19	126.98	4.60	0.75
08/27 23:19	90.03	3.80	0.72	08/28 08:29	113.50	4.40	0.72
08/27 23:29	71.16	3.60	0.62	08/28 08:39	114.42	4.50	0.70
08/27 23:39	62.49	3.50	0.57	08/28 08:49	110.35	4.40	0.70
08/27 23:49	57.08	3.20	0.60	08/28 08:59	195.03	5.20	0.95
08/27 23:59	52.33	3.20	0.55	08/28 09:09	179.73	5.30	0.85
08/28 00:09	51.53	3.10	0.57	08/28 09:19	164.23	5.20	0.80
08/28 00:19	51.40	3.00	0.60	08/28 09:29	153.34	5.10	0.77
08/28 00:29	49.72	3.10	0.55	08/28 09:39	164.23	5.20	0.80
08/28 00:39	44.55	3.00	0.52	08/28 09:49	179.73	5.30	0.85
08/28 00:49	44.55	3.00	0.52	08/28 09:59	190.30	5.30	0.90
08/28 00:59	42.17	2.90	0.52	08/28 10:09	153.97	5.20	0.75
08/28 01:09	36.10	2.80	0.47	08/28 10:19	144.74	5.00	0.75
08/28 01:19	35.53	2.70	0.49	08/28 10:29	131.36	4.70	0.75
08/28 01:29	32.75	2.60	0.48	08/28 10:39	122.60	4.70	0.70
08/28 01:39	28.13	2.50	0.44	08/28 10:49	140.13	4.90	0.75
08/28 01:49	26.21	2.50	0.41	08/28 10:59	223.58	5.60	0.97

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
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08/28 11:09	213.23	5.70	0.90	08/28 20:19	76.89	3.60	0.67
08/28 11:19	195.92	5.60	0.85	08/28 20:29	100.03	3.80	0.80
08/28 11:29	169.15	5.30	0.80	08/28 20:39	96.28	3.80	0.77
08/28 11:39	140.13	4.90	0.75	08/28 20:49	95.92	3.70	0.80
08/28 11:49	113.43	4.60	0.67	08/28 20:59	86.08	3.60	0.75
08/28 11:59	94.33	4.30	0.62	08/28 21:09	80.34	3.60	0.70
08/28 12:09	118.51	4.60	0.70	08/28 21:19	82.22	3.50	0.75
08/28 12:19	113.85	4.70	0.65	08/28 21:29	86.08	3.60	0.75
08/28 12:29	109.52	4.50	0.67	08/28 21:39	87.70	3.50	0.80
08/28 12:39	89.86	4.40	0.57	08/28 21:49	80.34	3.60	0.70
08/28 12:49	94.59	4.40	0.60	08/28 21:59	86.08	3.60	0.75
08/28 12:59	102.47	4.40	0.65	08/28 22:09	82.22	3.50	0.75
08/28 13:09	94.59	4.40	0.60	08/28 22:19	82.22	3.50	0.75
08/28 13:19	102.47	4.40	0.65	08/28 22:29	78.46	3.40	0.75
08/28 13:29	106.25	4.50	0.65	08/28 22:39	78.46	3.40	0.75
08/28 13:39	105.62	4.40	0.67	08/28 22:49	76.74	3.50	0.70
08/28 13:49	91.28	4.30	0.60	08/28 22:59	73.23	3.40	0.70
08/28 13:59	81.37	4.00	0.60	08/28 23:09	75.32	3.40	0.72
08/28 14:09	67.81	4.00	0.50	08/28 23:19	71.91	3.30	0.72
08/28 14:19	77.30	4.00	0.57	08/28 23:29	71.91	3.30	0.72
08/28 14:29	106.25	4.50	0.65	08/28 23:39	73.23	3.40	0.70
08/28 14:39	201.65	5.50	0.90	08/28 23:49	78.46	3.40	0.75
08/28 14:49	199.92	4.90	1.07	08/28 23:59	74.90	3.30	0.75
08/28 14:59	163.46	4.50	1.00	08/29 00:09	68.50	3.20	0.72
08/28 15:09	142.23	4.20	0.97	08/29 00:19	58.76	3.10	0.65
08/28 15:19	141.13	4.10	1.00	08/29 00:29	53.11	3.00	0.62
08/28 15:29	124.77	4.00	0.92	08/29 00:39	52.72	2.90	0.65
08/28 15:39	106.75	3.90	0.82	08/29 00:49	48.66	2.90	0.60
08/28 15:49	92.33	3.70	0.77	08/29 00:59	46.23	2.90	0.57
08/28 15:59	106.29	3.80	0.85	08/29 01:09	39.94	2.80	0.52
08/28 16:09	104.32	3.70	0.87	08/29 01:19	37.71	2.70	0.52
08/28 16:19	97.55	3.60	0.85	08/29 01:29	36.26	2.70	0.50
08/28 16:29	91.81	3.60	0.80	08/29 01:39	35.16	2.50	0.55
08/28 16:39	82.22	3.50	0.75	08/29 01:49	31.97	2.50	0.50
08/28 16:49	70.09	3.40	0.67	08/29 01:59	30.05	2.50	0.47
08/28 16:59	69.91	3.30	0.70	08/29 02:09	28.14	2.40	0.47
08/28 17:09	78.46	3.40	0.75	08/29 02:19	25.79	2.30	0.46
08/28 17:19	91.81	3.60	0.80	08/29 02:29	24.11	2.30	0.43
08/28 17:29	98.32	3.70	0.82	08/29 02:39	21.95	2.20	0.42
08/28 17:39	94.11	3.60	0.82	08/29 02:49	21.95	2.20	0.42
08/28 17:49	89.93	3.70	0.75	08/29 02:59	19.33	2.20	0.37
08/28 17:59	82.22	3.50	0.75	08/29 03:09	17.93	2.10	0.37
08/28 18:09	78.46	3.40	0.75	08/29 03:19	25.75	2.40	0.43
08/28 18:19	71.91	3.30	0.72	08/29 03:29	34.11	2.60	0.50
08/28 18:29	69.91	3.30	0.70	08/29 03:39	35.16	2.50	0.55
08/28 18:39	73.23	3.40	0.70	08/29 03:49	30.69	2.50	0.48
08/28 18:49	76.74	3.50	0.70	08/29 03:59	29.94	2.40	0.50
08/28 18:59	74.90	3.30	0.75	08/29 04:09	26.34	2.40	0.44
08/28 19:09	73.23	3.40	0.70	08/29 04:19	26.35	2.30	0.47
08/28 19:19	71.91	3.30	0.72	08/29 04:29	26.34	2.40	0.44
08/28 19:29	74.90	3.30	0.75	08/29 04:39	22.75	2.40	0.38
08/28 19:39	75.32	3.40	0.72	08/29 04:49	21.87	2.30	0.39
08/28 19:49	78.46	3.40	0.75	08/29 04:59	21.95	2.20	0.42
08/28 19:59	87.70	3.50	0.80	08/29 05:09	22.43	2.30	0.40
08/28 20:09	82.22	3.50	0.75	08/29 05:19	22.43	2.30	0.40

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/29	05:29	22.99	2.30	0.41
08/29	05:39	21.87	2.30	0.39
08/29	05:49	22.99	2.20	0.44
08/29	05:59	20.90	2.20	0.40
08/29	06:09	20.38	2.20	0.39
08/29	06:19	22.15	2.40	0.37
08/29	06:29	24.93	2.50	0.39
08/29	06:39	41.12	3.00	0.48
08/29	06:49	47.12	3.00	0.55
08/29	06:59	49.94	3.30	0.50
08/29	07:09	54.40	3.40	0.52
08/29	07:19	64.86	3.40	0.62

Codes:

K Multiply data by 1,000
M Multiply data by 1,000,000
- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

------------- A051591B.18Q -- 08/26/91 ---------------------------------------

Original name:A051591A.18Q
Modification : B

Site Information:
Identification: LOCATION NO. 7
Description : TULARE AVE.
480' E/O LINWOOD AVE

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/26/91 10:02
End Time : 08/29/91 08:12
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 421
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	33.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:35 File: A051591B.18Q
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 7
TULARE AVE.
480' E/O LINWOOD AVE

Metering Period:
08/26/91 10:02 - 08/29/91 08:12

Report Period:
08/26/91 10:02 - 08/29/91 08:12

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/26	20:12	1.76K*	13.80 *	1.50 *					
08/26	10:42	1.06K*	13.90 *	0.90 *					
08/27	21:52	1.74K	13.70	1.50					
08/27	05:12	626.21	7.60	1.32					
08/28	09:52	1.71K	13.90	1.45					
08/28	05:42	617.57	7.80	1.25					
08/29	08:02	1.44K*	12.50 *	1.42 *					
08/29	05:42	557.48 *	7.50 *	1.20 *					

DAILY AVERAGES

Date: 09/20/91 14:34 File: A051591B.18Q
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 7
TULARE AVE.
480' E/O LINWOOD AVE

Metering Period:
08/26/91 10:02 - 08/29/91 08:12

Report Period:
08/26/91 10:02 - 08/29/91 08:12

START Date	START Time	FLO GPM	LEV in.	VEL FPS
08/26	00:00	1.59K*	13.37 *	1.42 *
08/27	00:00	1.36K	11.96	1.42
08/28	00:00	1.36K	12.04	1.40
08/29	00:00	918.56 *	9.49 *	1.35 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

page 1

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:18 File: A051591B.18Q
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 7
TULARE AVE.
480' E/O LINWOOD AVE

Metering Period:
08/26/91 10:02 - 08/29/91 08:12

Report Period:
08/26/91 10:02 - 08/29/91 08:12

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/26 10:02	1.64K	13.80	1.40	08/26 17:02	1.47K	12.70	1.42
08/26 10:12	1.68K	13.60	1.47	08/26 17:12	1.45K	12.70	1.40
08/26 10:22	1.24K	13.70	1.07	08/26 17:22	1.49K	12.80	1.42
08/26 10:32	1.10K	13.70	0.95	08/26 17:32	1.56K	13.00	1.45
08/26 10:42	1.06K	13.90	0.90	08/26 17:42	1.52K	13.10	1.40
08/26 10:52	1.68K	13.70	1.45	08/26 17:52	1.63K	13.30	1.47
08/26 11:02	1.58K	13.80	1.35	08/26 18:02	1.59K	13.40	1.42
08/26 11:12	1.64K	13.80	1.40	08/26 18:12	1.57K	13.40	1.40
08/26 11:22	1.70K	13.70	1.47	08/26 18:22	1.61K	13.50	1.42
08/26 11:32	1.62K	13.70	1.40	08/26 18:32	1.63K	13.40	1.45
08/26 11:42	1.63K	13.60	1.42	08/26 18:42	1.61K	13.50	1.42
08/26 11:52	1.66K	13.60	1.45	08/26 18:52	1.68K	13.40	1.50
08/26 12:02	1.64K	13.50	1.45	08/26 19:02	1.64K	13.50	1.45
08/26 12:12	1.60K	13.60	1.40	08/26 19:12	1.64K	13.50	1.45
08/26 12:22	1.61K	13.50	1.42	08/26 19:22	1.64K	13.50	1.45
08/26 12:32	1.59K	13.50	1.40	08/26 19:32	1.63K	13.60	1.42
08/26 12:42	1.51K	13.40	1.35	08/26 19:42	1.60K	13.60	1.40
08/26 12:52	1.57K	13.40	1.40	08/26 19:52	1.72K	13.60	1.50
08/26 13:02	1.63K	13.40	1.45	08/26 20:02	1.74K	13.70	1.50
08/26 13:12	1.57K	13.30	1.42	08/26 20:12	1.76K	13.80	1.50
08/26 13:22	1.54K	13.10	1.42	08/26 20:22	1.66K	13.80	1.42
08/26 13:32	1.52K	13.10	1.40	08/26 20:32	1.68K	13.90	1.42
08/26 13:42	1.59K	12.90	1.50	08/26 20:42	1.71K	13.90	1.45
08/26 13:52	1.59K	12.90	1.50	08/26 20:52	1.76K	13.80	1.50
08/26 14:02	1.54K	12.90	1.45	08/26 21:02	1.71K	13.90	1.45
08/26 14:12	1.48K	12.90	1.40	08/26 21:12	1.73K	14.00	1.45
08/26 14:22	1.47K	12.80	1.40	08/26 21:22	1.73K	14.00	1.45
08/26 14:32	1.47K	12.70	1.42	08/26 21:32	1.71K	14.10	1.42
08/26 14:42	1.49K	12.60	1.45	08/26 21:42	1.73K	14.00	1.45
08/26 14:52	1.45K	12.60	1.42	08/26 21:52	1.74K	13.90	1.47
08/26 15:02	1.47K	12.70	1.42	08/26 22:02	1.70K	14.00	1.42
08/26 15:12	1.49K	12.80	1.42	08/26 22:12	1.70K	14.00	1.42
08/26 15:22	1.54K	12.90	1.45	08/26 22:22	1.71K	13.90	1.45
08/26 15:32	1.51K	12.90	1.42	08/26 22:32	1.68K	13.90	1.42
08/26 15:42	1.52K	12.80	1.45	08/26 22:42	1.71K	13.90	1.45
08/26 15:52	1.50K	12.70	1.45	08/26 22:52	1.66K	13.80	1.42
08/26 16:02	1.45K	12.70	1.40	08/26 23:02	1.70K	13.70	1.47
08/26 16:12	1.50K	12.70	1.45	08/26 23:12	1.66K	13.60	1.45
08/26 16:22	1.45K	12.70	1.40	08/26 23:22	1.63K	13.40	1.45
08/26 16:32	1.50K	12.70	1.45	08/26 23:32	1.57K	13.10	1.45
08/26 16:42	1.51K	12.60	1.47	08/26 23:42	1.54K	12.90	1.45
08/26 16:52	1.54K	12.60	1.50	08/26 23:52	1.50K	12.70	1.45

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
08/27	00:02	1.47K	12.50	1.45	08/27	09:12	1.66K	13.60	1.45
08/27	00:12	1.43K	12.30	1.45	08/27	09:22	1.63K	13.60	1.42
08/27	00:22	1.35K	12.10	1.40	08/27	09:32	1.66K	13.60	1.45
08/27	00:32	1.35K	11.80	1.45	08/27	09:42	1.68K	13.70	1.45
08/27	00:42	1.25K	11.40	1.42	08/27	09:52	1.62K	13.70	1.40
08/27	00:52	1.25K	11.20	1.45	08/27	10:02	1.70K	13.80	1.45
08/27	01:02	1.21K	11.00	1.45	08/27	10:12	1.70K	13.80	1.45
08/27	01:12	1.16K	10.70	1.45	08/27	10:22	1.68K	13.60	1.47
08/27	01:22	1.13K	10.50	1.45	08/27	10:32	1.70K	13.80	1.45
08/27	01:32	1.09K	10.40	1.42	08/27	10:42	1.68K	13.70	1.45
08/27	01:42	1.06K	10.20	1.42	08/27	10:52	1.66K	13.60	1.45
08/27	01:52	1.05K	10.00	1.45	08/27	11:02	1.63K	13.60	1.42
08/27	02:02	1.01K	9.90	1.42	08/27	11:12	1.66K	13.60	1.45
08/27	02:12	981.84	9.70	1.42	08/27	11:22	1.66K	13.60	1.45
08/27	02:22	966.35	9.60	1.42	08/27	11:32	1.60K	13.60	1.40
08/27	02:32	920.49	9.30	1.42	08/27	11:42	1.63K	13.60	1.42
08/27	02:42	907.52	9.30	1.40	08/27	11:52	1.68K	13.60	1.47
08/27	02:52	893.91	9.00	1.45	08/27	12:02	1.57K	13.60	1.37
08/27	03:02	863.09	9.00	1.40	08/27	12:12	1.63K	13.60	1.42
08/27	03:12	848.27	8.90	1.40	08/27	12:22	1.66K	13.60	1.45
08/27	03:22	815.60	8.80	1.37	08/27	12:32	1.66K	13.60	1.45
08/27	03:32	804.62	8.60	1.40	08/27	12:42	1.57K	13.60	1.37
08/27	03:42	762.08	8.50	1.35	08/27	12:52	1.70K	13.50	1.50
08/27	03:52	731.36	8.20	1.37	08/27	13:02	1.59K	13.40	1.42
08/27	04:02	706.88	8.10	1.35	08/27	13:12	1.63K	13.40	1.45
08/27	04:12	667.83	8.00	1.30	08/27	13:22	1.61K	13.30	1.45
08/27	04:22	665.13	7.90	1.32	08/27	13:32	1.59K	13.20	1.45
08/27	04:32	676.86	7.80	1.37	08/27	13:42	1.59K	13.20	1.45
08/27	04:42	652.16	7.80	1.32	08/27	13:52	1.63K	13.10	1.50
08/27	04:52	653.71	7.70	1.35	08/27	14:02	1.58K	13.00	1.47
08/27	05:02	639.18	7.70	1.32	08/27	14:12	1.54K	13.10	1.42
08/27	05:12	626.21	7.60	1.32	08/27	14:22	1.54K	13.10	1.42
08/27	05:22	653.71	7.70	1.35	08/27	14:32	1.54K	12.90	1.45
08/27	05:32	653.71	7.70	1.35	08/27	14:42	1.49K	12.80	1.42
08/27	05:42	642.27	7.80	1.30	08/27	14:52	1.51K	12.60	1.47
08/27	05:52	652.16	7.80	1.32	08/27	15:02	1.52K	12.70	1.47
08/27	06:02	678.11	8.00	1.32	08/27	15:12	1.50K	12.70	1.45
08/27	06:12	680.70	8.10	1.30	08/27	15:22	1.49K	12.60	1.45
08/27	06:22	693.99	8.20	1.30	08/27	15:32	1.43K	12.60	1.40
08/27	06:32	776.00	8.40	1.40	08/27	15:42	1.45K	12.60	1.42
08/27	06:42	801.38	8.70	1.37	08/27	15:52	1.47K	12.50	1.45
08/27	06:52	844.59	9.00	1.37	08/27	16:02	1.42K	12.50	1.40
08/27	07:02	950.86	9.50	1.42	08/27	16:12	1.45K	12.40	1.45
08/27	07:12	1.03K	10.00	1.42	08/27	16:22	1.45K	12.40	1.45
08/27	07:22	1.11K	10.50	1.42	08/27	16:32	1.45K	12.40	1.45
08/27	07:32	1.21K	11.00	1.45	08/27	16:42	1.43K	12.30	1.45
08/27	07:42	1.25K	11.40	1.42	08/27	16:52	1.42K	12.20	1.45
08/27	07:52	1.36K	11.90	1.45	08/27	17:02	1.45K	12.40	1.45
08/27	08:02	1.43K	12.30	1.45	08/27	17:12	1.43K	12.30	1.45
08/27	08:12	1.42K	12.50	1.40	08/27	17:22	1.40K	12.30	1.42
08/27	08:22	1.54K	12.80	1.47	08/27	17:32	1.42K	12.40	1.42
08/27	08:32	1.50K	13.00	1.40	08/27	17:42	1.47K	12.50	1.45
08/27	08:42	1.54K	13.20	1.40	08/27	17:52	1.49K	12.60	1.45
08/27	08:52	1.61K	13.30	1.45	08/27	18:02	1.49K	12.80	1.42
08/27	09:02	1.64K	13.50	1.45	08/27	18:12	1.56K	12.90	1.47

page 2

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
08/27	18:22	1.50K	13.00	1.40	08/28	03:32	775.88	8.60	1.35
08/27	18:32	1.56K	13.00	1.45	08/28	03:42	762.08	8.50	1.35
08/27	18:42	1.54K	13.10	1.42	08/28	03:52	776.00	8.40	1.40
08/27	18:52	1.63K	13.10	1.50	08/28	04:02	762.08	8.50	1.35
08/27	19:02	1.63K	13.40	1.45	08/28	04:12	748.28	8.40	1.35
08/27	19:12	1.63K	13.40	1.45	08/28	04:22	748.28	8.40	1.35
08/27	19:22	1.68K	13.70	1.45	08/28	04:32	734.48	8.30	1.35
08/27	19:32	1.70K	13.80	1.45	08/28	04:42	720.68	8.20	1.35
08/27	19:42	1.60K	13.80	1.37	08/28	04:52	693.52	8.00	1.35
08/27	19:52	1.70K	13.80	1.45	08/28	05:02	665.13	7.90	1.32
08/27	20:02	1.64K	13.80	1.40	08/28	05:12	655.05	7.90	1.30
08/27	20:12	1.66K	13.80	1.42	08/28	05:22	642.27	7.80	1.30
08/27	20:22	1.64K	13.80	1.40	08/28	05:32	627.45	7.80	1.27
08/27	20:32	1.66K	13.90	1.40	08/28	05:42	617.57	7.80	1.25
08/27	20:42	1.66K	13.90	1.40	08/28	05:52	642.27	7.80	1.30
08/27	20:52	1.64K	13.80	1.40	08/28	06:02	642.27	7.80	1.30
08/27	21:02	1.64K	13.80	1.40	08/28	06:12	639.94	7.90	1.27
08/27	21:12	1.62K	13.90	1.37	08/28	06:22	667.83	8.00	1.30
08/27	21:22	1.66K	13.90	1.40	08/28	06:32	731.65	8.40	1.32
08/27	21:32	1.68K	13.90	1.42	08/28	06:42	818.93	8.70	1.40
08/27	21:42	1.68K	13.70	1.45	08/28	06:52	863.09	9.00	1.40
08/27	21:52	1.74K	13.70	1.50	08/28	07:02	952.74	9.60	1.40
08/27	22:02	1.70K	13.70	1.47	08/28	07:12	1.01K	9.90	1.42
08/27	22:12	1.68K	13.70	1.45	08/28	07:22	1.09K	10.40	1.42
08/27	22:22	1.68K	13.70	1.45	08/28	07:32	1.20K	10.90	1.45
08/27	22:32	1.68K	13.70	1.45	08/28	07:42	1.26K	11.30	1.45
08/27	22:42	1.64K	13.70	1.42	08/28	07:52	1.35K	11.80	1.45
08/27	22:52	1.64K	13.50	1.45	08/28	08:02	1.43K	12.30	1.45
08/27	23:02	1.63K	13.40	1.45	08/28	08:12	1.44K	12.50	1.42
08/27	23:12	1.61K	13.30	1.45	08/28	08:22	1.54K	12.80	1.47
08/27	23:22	1.52K	13.10	1.40	08/28	08:32	1.54K	13.10	1.42
08/27	23:32	1.54K	12.90	1.45	08/28	08:42	1.65K	13.40	1.47
08/27	23:42	1.43K	12.60	1.40	08/28	08:52	1.63K	13.40	1.45
08/27	23:52	1.35K	12.40	1.35	08/28	09:02	1.62K	13.70	1.40
08/28	00:02	1.39K	12.20	1.42	08/28	09:12	1.70K	13.80	1.45
08/28	00:12	1.32K	12.10	1.37	08/28	09:22	1.66K	13.80	1.42
08/28	00:22	1.32K	11.80	1.42	08/28	09:32	1.68K	13.90	1.42
08/28	00:32	1.28K	11.40	1.45	08/28	09:42	1.68K	13.90	1.42
08/28	00:42	1.22K	11.20	1.42	08/28	09:52	1.71K	13.90	1.45
08/28	00:52	1.23K	11.00	1.47	08/28	10:02	1.71K	13.90	1.45
08/28	01:02	1.16K	10.80	1.42	08/28	10:12	1.66K	13.90	1.40
08/28	01:12	1.12K	10.60	1.42	08/28	10:22	1.66K	13.90	1.40
08/28	01:22	1.06K	10.30	1.40	08/28	10:32	1.60K	13.80	1.37
08/28	01:32	1.03K	10.10	1.40	08/28	10:42	1.56K	13.70	1.35
08/28	01:42	998.55	9.90	1.40	08/28	10:52	1.66K	13.60	1.45
08/28	01:52	986.77	9.60	1.45	08/28	11:02	1.51K	13.70	1.30
08/28	02:02	952.74	9.60	1.40	08/28	11:12	1.60K	13.60	1.40
08/28	02:12	935.51	9.40	1.42	08/28	11:22	1.60K	13.60	1.40
08/28	02:22	907.52	9.30	1.40	08/28	11:32	1.66K	13.60	1.45
08/28	02:32	888.07	9.30	1.37	08/28	11:42	1.63K	13.60	1.42
08/28	02:42	877.90	9.10	1.40	08/28	11:52	1.59K	13.50	1.40
08/28	02:52	844.59	9.00	1.37	08/28	12:02	1.59K	13.50	1.40
08/28	03:02	830.10	8.90	1.37	08/28	12:12	1.59K	13.40	1.42
08/28	03:12	815.60	8.80	1.37	08/28	12:22	1.63K	13.30	1.47
08/28	03:22	801.38	8.70	1.37	08/28	12:32	1.54K	13.40	1.37

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/28 12:42	1.61K	13.50	1.42	08/28 21:52	1.62K	13.70	1.40
08/28 12:52	1.67K	13.50	1.47	08/28 22:02	1.64K	13.80	1.40
08/28 13:02	1.66K	13.60	1.45	08/28 22:12	1.62K	13.70	1.40
08/28 13:12	1.60K	13.60	1.40	08/28 22:22	1.59K	13.70	1.37
08/28 13:22	1.59K	13.40	1.42	08/28 22:32	1.60K	13.60	1.40
08/28 13:32	1.57K	13.40	1.40	08/28 22:42	1.57K	13.60	1.37
08/28 13:42	1.57K	13.30	1.42	08/28 22:52	1.63K	13.40	1.45
08/28 13:52	1.61K	13.20	1.47	08/28 23:02	1.59K	13.40	1.42
08/28 14:02	1.50K	13.20	1.37	08/28 23:12	1.63K	13.30	1.47
08/28 14:12	1.54K	13.20	1.40	08/28 23:22	1.59K	13.20	1.45
08/28 14:22	1.59K	13.20	1.45	08/28 23:32	1.56K	13.00	1.45
08/28 14:32	1.52K	13.10	1.40	08/28 23:42	1.54K	12.90	1.45
08/28 14:42	1.52K	13.00	1.42	08/28 23:52	1.45K	12.70	1.40
08/28 14:52	1.57K	13.10	1.45	08/29 00:02	1.40K	12.60	1.37
08/28 15:02	1.57K	13.10	1.45	08/29 00:12	1.42K	12.50	1.40
08/28 15:12	1.54K	13.20	1.40	08/29 00:22	1.38K	12.30	1.40
08/28 15:22	1.52K	13.10	1.40	08/29 00:32	1.35K	12.10	1.40
08/28 15:32	1.52K	13.00	1.42	08/29 00:42	1.32K	11.80	1.42
08/28 15:42	1.48K	12.90	1.40	08/29 00:52	1.30K	11.50	1.45
08/28 15:52	1.50K	12.70	1.45	08/29 01:02	1.20K	11.20	1.40
08/28 16:02	1.50K	12.70	1.45	08/29 01:12	1.21K	11.00	1.45
08/28 16:12	1.50K	12.70	1.45	08/29 01:22	1.07K	10.80	1.32
08/28 16:22	1.50K	12.70	1.45	08/29 01:32	1.09K	10.50	1.40
08/28 16:32	1.54K	12.80	1.47	08/29 01:42	1.04K	10.20	1.40
08/28 16:42	1.52K	12.80	1.45	08/29 01:52	998.55	9.90	1.40
08/28 16:52	1.57K	12.80	1.50	08/29 02:02	947.27	9.70	1.37
08/28 17:02	1.52K	12.80	1.45	08/29 02:12	917.38	9.50	1.37
08/28 17:12	1.54K	12.90	1.45	08/29 02:22	922.33	9.40	1.40
08/28 17:22	1.52K	13.00	1.42	08/29 02:32	875.11	9.30	1.35
08/28 17:32	1.57K	13.10	1.45	08/29 02:42	860.83	9.20	1.35
08/28 17:42	1.61K	13.20	1.47	08/29 02:52	832.26	9.00	1.35
08/28 17:52	1.65K	13.20	1.50	08/29 03:02	832.26	9.00	1.35
08/28 18:02	1.57K	13.40	1.40	08/29 03:12	785.84	8.80	1.32
08/28 18:12	1.57K	13.40	1.40	08/29 03:22	775.88	8.60	1.35
08/28 18:22	1.59K	13.40	1.42	08/29 03:32	731.65	8.40	1.32
08/28 18:32	1.53K	13.50	1.35	08/29 03:42	707.28	8.30	1.30
08/28 18:42	1.59K	13.50	1.40	08/29 03:52	720.68	8.20	1.35
08/28 18:52	1.63K	13.40	1.45	08/29 04:02	704.67	8.20	1.32
08/28 19:02	1.61K	13.50	1.42	08/29 04:12	680.70	8.10	1.30
08/28 19:12	1.55K	13.50	1.37	08/29 04:22	680.70	8.10	1.30
08/28 19:22	1.60K	13.60	1.40	08/29 04:32	665.00	8.10	1.27
08/28 19:32	1.60K	13.60	1.40	08/29 04:42	667.83	8.00	1.30
08/28 19:42	1.62K	13.70	1.40	08/29 04:52	655.05	7.90	1.30
08/28 19:52	1.64K	13.70	1.42	08/29 05:02	627.45	7.80	1.27
08/28 20:02	1.62K	13.70	1.40	08/29 05:12	605.28	7.70	1.25
08/28 20:12	1.62K	13.70	1.40	08/29 05:22	602.49	7.60	1.27
08/28 20:22	1.64K	13.70	1.42	08/29 05:32	580.71	7.50	1.25
08/28 20:32	1.64K	13.70	1.42	08/29 05:42	557.48	7.50	1.20
08/28 20:42	1.59K	13.70	1.37	08/29 05:52	580.71	7.50	1.25
08/28 20:52	1.60K	13.60	1.40	08/29 06:02	629.50	7.70	1.30
08/28 21:02	1.55K	13.60	1.35	08/29 06:12	642.27	7.80	1.30
08/28 21:12	1.62K	13.70	1.40	08/29 06:22	667.83	8.00	1.30
08/28 21:22	1.60K	13.60	1.40	08/29 06:32	677.98	8.20	1.27
08/28 21:32	1.56K	13.70	1.35	08/29 06:42	745.15	8.50	1.32
08/28 21:42	1.62K	13.70	1.40	08/29 06:52	803.70	8.80	1.35

page 4

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/29	07:02	966.35	9.60	1.42
08/29	07:12	1.03K	10.10	1.40
08/29	07:22	1.09K	10.50	1.40
08/29	07:32	1.19K	11.00	1.42
08/29	07:42	1.31K	11.60	1.45
08/29	07:52	1.40K	12.10	1.45
08/29	08:02	1.44K	12.50	1.42

Codes:
K Multiply data by 1,000
M Multiply data by 1,000,000
- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

------------- A051591B.18T -- 08/29/91 --

Original name:A051591A.18T
Modification : B

Site Information:
Identification: LOCATION NO. 8
Description : HOUSTON AVE.
1700' W/O MOONEY BLV

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 08/29/91 11:36
End Time : 09/03/91 07:36
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 696
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	18.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:36 File: A051591B.18T
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 8
HOUSTON AVE.
1700' W/O MOONEY BLV

Metering Period:
08/29/91 11:36 - 09/03/91 07:36

Report Period:
08/29/91 11:36 - 09/03/91 07:36

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
08/29	21:26	488.63 *	13.50 *	0.77 *					
08/29	14:46	367.08 *	11.30 *	0.72 *					
08/30	08:36	494.65	13.20	0.80					
08/30	05:06	121.16	7.40	0.43					
08/31	11:56	524.79	13.60	0.82					
08/31	04:06	113.46	7.70	0.38					
09/01	11:16	543.99	13.60	0.85					
09/01	04:26	123.98	7.90	0.40					
09/02	13:56	548.50	13.70	0.85					
09/02	05:26	90.83	7.60	0.31					
09/03	00:06	345.54 *	11.40 *	0.67 *					
09/03	04:06	111.33 *	7.60 *	0.38 *					

DAILY AVERAGES

Date: 09/20/91 14:37 File: A051591B.18T
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 8
HOUSTON AVE.
1700' W/O MOONEY BLV

Metering Period:
08/29/91 11:36 - 09/03/91 07:36

Report Period:
08/29/91 11:36 - 09/03/91 07:36

START Date	Time	FLO GPM	LEV in.	VEL FPS
08/29	00:00	414.98 *	12.26 *	0.74 *
08/30	00:00	341.24	11.19	0.66
08/31	00:00	320.01	11.15	0.61
09/01	00:00	327.36	11.05	0.63
09/02	00:00	346.23	11.60	0.62
09/03	00:00	179.47 *	8.70 *	0.49 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:21 File: A051591B.18T
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 8
HOUSTON AVE.
1700' W/O MOONEY BLV

Metering Period:
08/29/91 11:36 - 09/03/91 07:36

Report Period:
08/29/91 11:36 - 09/03/91 07:36

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
08/29 11:36	404.77	12.20	0.72	08/29 18:36	434.47	12.50	0.75
08/29 11:46	417.34	12.10	0.75	08/29 18:46	405.51	12.50	0.70
08/29 11:56	428.47	12.10	0.77	08/29 18:56	412.99	12.40	0.72
08/29 12:06	404.77	12.20	0.72	08/29 19:06	401.52	12.40	0.70
08/29 12:16	428.47	12.10	0.77	08/29 19:16	409.44	12.60	0.70
08/29 12:26	417.34	12.10	0.75	08/29 19:26	409.44	12.60	0.70
08/29 12:36	421.63	12.20	0.75	08/29 19:36	442.90	12.70	0.75
08/29 12:46	454.31	12.30	0.80	08/29 19:46	447.12	12.80	0.75
08/29 12:56	425.92	12.30	0.75	08/29 19:56	454.72	12.70	0.77
08/29 13:06	437.27	12.30	0.77	08/29 20:06	454.72	12.70	0.77
08/29 13:16	445.16	12.10	0.80	08/29 20:16	425.19	12.70	0.72
08/29 13:26	419.56	11.90	0.77	08/29 20:26	417.31	12.80	0.70
08/29 13:36	410.62	11.70	0.77	08/29 20:36	421.22	12.90	0.70
08/29 13:46	399.95	11.70	0.75	08/29 20:46	406.87	13.00	0.67
08/29 13:56	415.10	11.80	0.77	08/29 20:56	441.21	13.10	0.72
08/29 14:06	419.56	11.90	0.77	08/29 21:06	484.46	13.40	0.77
08/29 14:16	404.32	11.80	0.75	08/29 21:16	447.99	13.60	0.70
08/29 14:26	399.95	11.70	0.75	08/29 21:26	488.63	13.50	0.77
08/29 14:36	391.18	11.50	0.75	08/29 21:36	456.90	13.50	0.72
08/29 14:46	367.08	11.30	0.72	08/29 21:46	456.90	13.50	0.72
08/29 14:56	392.57	11.30	0.77	08/29 21:56	449.10	13.30	0.72
08/29 15:06	388.03	11.20	0.77	08/29 22:06	449.10	13.30	0.72
08/29 15:16	377.95	11.20	0.75	08/29 22:16	453.00	13.40	0.72
08/29 15:26	392.57	11.30	0.77	08/29 22:26	453.00	13.40	0.72
08/29 15:36	386.79	11.40	0.75	08/29 22:36	445.18	13.20	0.72
08/29 15:46	367.08	11.30	0.72	08/29 22:46	455.45	13.00	0.75
08/29 15:56	397.11	11.40	0.77	08/29 22:56	417.31	12.80	0.70
08/29 16:06	386.79	11.40	0.75	08/29 23:06	421.14	12.60	0.72
08/29 16:16	386.79	11.40	0.75	08/29 23:16	384.31	12.40	0.67
08/29 16:26	371.32	11.40	0.72	08/29 23:26	376.66	12.20	0.67
08/29 16:36	391.18	11.50	0.75	08/29 23:36	392.31	11.90	0.72
08/29 16:46	399.95	11.70	0.75	08/29 23:46	373.29	11.70	0.70
08/29 16:56	383.96	11.70	0.72	08/29 23:56	361.01	11.40	0.70
08/29 17:06	399.95	11.70	0.75	08/30 00:06	319.89	11.00	0.65
08/29 17:16	379.75	11.60	0.72	08/30 00:16	312.18	10.80	0.65
08/29 17:26	373.29	11.70	0.70	08/30 00:26	283.04	10.40	0.62
08/29 17:36	421.63	12.20	0.75	08/30 00:36	285.13	10.10	0.65
08/29 17:46	425.92	12.30	0.75	08/30 00:46	268.29	10.00	0.62
08/29 17:56	397.52	12.30	0.70	08/30 00:56	257.24	9.70	0.62
08/29 18:06	397.52	12.30	0.70	08/30 01:06	241.83	9.50	0.60
08/29 18:16	408.88	12.30	0.72	08/30 01:16	249.89	9.50	0.62
08/29 18:26	401.52	12.40	0.70	08/30 01:26	231.19	9.20	0.60

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
08/30	01:36	209.59	8.90	0.57	08/30	10:46	417.31	12.80	0.70
08/30	01:46	195.81	8.70	0.55	08/30	10:56	425.19	12.70	0.72
08/30	01:56	186.23	8.40	0.55	08/30	11:06	442.90	12.70	0.75
08/30	02:06	183.06	8.30	0.55	08/30	11:16	447.12	12.80	0.75
08/30	02:16	170.08	8.20	0.52	08/30	11:26	417.31	12.80	0.70
08/30	02:26	167.09	8.10	0.52	08/30	11:36	395.66	12.70	0.67
08/30	02:36	160.66	8.10	0.50	08/30	11:46	409.44	12.60	0.70
08/30	02:46	157.82	8.00	0.50	08/30	11:56	405.51	12.50	0.70
08/30	02:56	154.97	7.90	0.50	08/30	12:06	405.51	12.50	0.70
08/30	03:06	158.22	7.80	0.52	08/30	12:16	430.20	12.40	0.75
08/30	03:16	152.13	7.80	0.50	08/30	12:26	437.27	12.30	0.77
08/30	03:26	152.13	7.80	0.50	08/30	12:36	393.52	12.20	0.70
08/30	03:36	158.22	7.80	0.52	08/30	12:46	397.52	12.30	0.70
08/30	03:46	154.97	7.90	0.50	08/30	12:56	430.20	12.40	0.75
08/30	03:56	152.13	7.80	0.50	08/30	13:06	405.51	12.50	0.70
08/30	04:06	149.29	7.70	0.50	08/30	13:16	430.20	12.40	0.75
08/30	04:16	140.63	7.60	0.48	08/30	13:26	401.52	12.40	0.70
08/30	04:26	132.20	7.50	0.46	08/30	13:36	397.52	12.30	0.70
08/30	04:36	138.07	7.40	0.49	08/30	13:46	397.52	12.30	0.70
08/30	04:46	137.94	7.50	0.48	08/30	13:56	404.77	12.20	0.72
08/30	04:56	137.94	7.50	0.48	08/30	14:06	397.52	12.30	0.70
08/30	05:06	121.16	7.40	0.43	08/30	14:16	369.13	12.30	0.65
08/30	05:16	143.69	7.50	0.50	08/30	14:26	393.52	12.20	0.70
08/30	05:26	143.69	7.50	0.50	08/30	14:36	400.64	12.10	0.72
08/30	05:36	146.49	7.60	0.50	08/30	14:46	389.52	12.10	0.70
08/30	05:46	149.29	7.70	0.50	08/30	14:56	400.64	12.10	0.72
08/30	05:56	152.13	7.80	0.50	08/30	15:06	408.88	12.30	0.72
08/30	06:06	173.60	8.00	0.55	08/30	15:16	404.77	12.20	0.72
08/30	06:16	179.90	8.20	0.55	08/30	15:26	393.52	12.20	0.70
08/30	06:26	189.72	8.30	0.57	08/30	15:36	396.48	12.00	0.72
08/30	06:36	206.63	8.50	0.60	08/30	15:46	381.42	11.90	0.70
08/30	06:46	210.12	8.60	0.60	08/30	15:56	342.83	11.60	0.65
08/30	06:56	235.19	8.80	0.65	08/30	16:06	375.53	11.50	0.72
08/30	07:06	231.19	9.20	0.60	08/30	16:16	369.20	11.60	0.70
08/30	07:16	269.68	9.70	0.65	08/30	16:26	392.31	11.90	0.72
08/30	07:26	296.73	10.40	0.65	08/30	16:36	400.64	12.10	0.72
08/30	07:36	388.03	11.20	0.77	08/30	16:46	400.64	12.10	0.72
08/30	07:46	392.31	11.90	0.72	08/30	16:56	417.34	12.10	0.75
08/30	07:56	454.31	12.30	0.80	08/30	17:06	376.66	12.20	0.67
08/30	08:06	476.93	12.80	0.80	08/30	17:16	393.52	12.20	0.70
08/30	08:16	455.45	13.00	0.75	08/30	17:26	408.88	12.30	0.72
08/30	08:26	463.73	13.20	0.75	08/30	17:36	408.88	12.30	0.72
08/30	08:36	494.65	13.20	0.80	08/30	17:46	412.99	12.40	0.72
08/30	08:46	445.18	13.20	0.72	08/30	17:56	417.09	12.50	0.72
08/30	08:56	459.59	13.10	0.75	08/30	18:06	421.14	12.60	0.72
08/30	09:06	410.57	13.10	0.67	08/30	18:16	409.44	12.60	0.70
08/30	09:16	410.57	13.10	0.67	08/30	18:26	417.09	12.50	0.72
08/30	09:26	394.72	13.00	0.65	08/30	18:36	405.51	12.50	0.70
08/30	09:36	421.22	12.90	0.70	08/30	18:46	388.13	12.50	0.67
08/30	09:46	391.13	12.90	0.65	08/30	18:56	446.06	12.50	0.77
08/30	09:56	417.31	12.80	0.70	08/30	19:06	413.38	12.70	0.70
08/30	10:06	417.31	12.80	0.70	08/30	19:16	413.38	12.70	0.70
08/30	10:16	417.31	12.80	0.70	08/30	19:26	425.19	12.70	0.72
08/30	10:26	429.24	12.80	0.72	08/30	19:36	425.19	12.70	0.72
08/30	10:36	399.43	12.80	0.67	08/30	19:46	417.09	12.50	0.72

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
08/30	19:56	430.20	12.40	0.75	08/31	05:06	119.44	7.70	0.40
08/30	20:06	417.09	12.50	0.72	08/31	05:16	124.75	7.80	0.41
08/30	20:16	421.14	12.60	0.72	08/31	05:26	138.88	8.00	0.44
08/30	20:26	442.90	12.70	0.75	08/31	05:36	134.96	8.10	0.42
08/30	20:36	421.14	12.60	0.72	08/31	05:46	134.96	8.10	0.42
08/30	20:46	421.14	12.60	0.72	08/31	05:56	142.03	8.00	0.45
08/30	20:56	417.09	12.50	0.72	08/31	06:06	134.96	8.10	0.42
08/30	21:06	409.44	12.60	0.70	08/31	06:16	131.74	8.10	0.41
08/30	21:16	429.24	12.80	0.72	08/31	06:26	138.17	8.10	0.43
08/30	21:26	451.30	12.90	0.75	08/31	06:36	137.38	8.20	0.42
08/30	21:36	429.24	12.80	0.72	08/31	06:46	147.19	8.20	0.45
08/30	21:46	413.38	12.70	0.70	08/31	06:56	156.43	8.30	0.47
08/30	21:56	438.69	12.60	0.75	08/31	07:06	158.42	8.50	0.46
08/30	22:06	409.44	12.60	0.70	08/31	07:16	180.92	8.80	0.50
08/30	22:16	409.44	12.60	0.70	08/31	07:26	186.78	9.00	0.50
08/30	22:26	409.44	12.60	0.70	08/31	07:36	211.92	9.20	0.55
08/30	22:36	417.09	12.50	0.72	08/31	07:46	203.44	9.30	0.52
08/30	22:46	397.52	12.30	0.70	08/31	07:56	223.00	9.30	0.57
08/30	22:56	368.95	12.00	0.67	08/31	08:06	248.94	9.70	0.60
08/30	23:06	354.17	11.90	0.65	08/31	08:16	238.00	10.00	0.55
08/30	23:16	357.29	11.70	0.67	08/31	08:26	270.34	10.30	0.60
08/30	23:26	342.83	11.60	0.65	08/31	08:36	294.09	10.70	0.62
08/30	23:36	345.54	11.40	0.67	08/31	08:46	319.89	11.00	0.65
08/30	23:46	337.64	11.20	0.67	08/31	08:56	327.56	11.20	0.65
08/30	23:56	295.28	11.00	0.60	08/31	09:06	349.46	11.50	0.67
08/31	00:06	270.38	10.70	0.57	08/31	09:16	400.64	12.10	0.72
08/31	00:16	277.48	10.50	0.60	08/31	09:26	384.31	12.40	0.67
08/31	00:26	270.34	10.30	0.60	08/31	09:36	409.44	12.60	0.70
08/31	00:36	250.04	10.10	0.57	08/31	09:46	425.19	12.70	0.72
08/31	00:46	259.63	10.00	0.60	08/31	09:56	395.66	12.70	0.67
08/31	00:56	252.50	9.80	0.60	08/31	10:06	447.12	12.80	0.75
08/31	01:06	236.49	9.70	0.57	08/31	10:16	463.73	13.20	0.75
08/31	01:16	224.93	9.60	0.55	08/31	10:26	467.81	13.30	0.75
08/31	01:26	206.51	9.40	0.52	08/31	10:36	471.88	13.40	0.75
08/31	01:36	189.72	9.10	0.50	08/31	10:46	475.94	13.50	0.75
08/31	01:46	183.85	8.90	0.50	08/31	10:56	480.29	13.30	0.77
08/31	01:56	178.01	8.70	0.50	08/31	11:06	488.63	13.50	0.77
08/31	02:06	168.10	8.60	0.48	08/31	11:16	511.99	13.60	0.80
08/31	02:16	164.60	8.60	0.47	08/31	11:26	492.79	13.60	0.77
08/31	02:26	168.10	8.60	0.48	08/31	11:36	496.88	13.70	0.77
08/31	02:36	164.60	8.60	0.47	08/31	11:46	496.88	13.70	0.77
08/31	02:46	148.98	8.40	0.44	08/31	11:56	524.79	13.60	0.82
08/31	02:56	134.10	8.20	0.41	08/31	12:06	511.99	13.60	0.80
08/31	03:06	131.74	8.10	0.41	08/31	12:16	496.88	13.70	0.77
08/31	03:16	126.25	8.00	0.40	08/31	12:26	483.97	13.70	0.75
08/31	03:26	129.41	8.00	0.41	08/31	12:36	483.97	13.70	0.75
08/31	03:36	123.98	7.90	0.40	08/31	12:46	479.99	13.60	0.75
08/31	03:46	123.98	7.90	0.40	08/31	12:56	475.94	13.50	0.75
08/31	03:56	121.70	7.80	0.40	08/31	13:06	440.42	13.40	0.70
08/31	04:06	113.46	7.70	0.38	08/31	13:16	436.63	13.30	0.70
08/31	04:16	113.46	7.70	0.38	08/31	13:26	449.10	13.30	0.72
08/31	04:26	116.45	7.70	0.39	08/31	13:36	441.21	13.10	0.72
08/31	04:36	113.46	7.70	0.38	08/31	13:46	432.82	13.20	0.70
08/31	04:46	116.45	7.70	0.39	08/31	13:56	437.23	13.00	0.72
08/31	04:56	119.44	7.70	0.40	08/31	14:06	437.23	13.00	0.72

page 3

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
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08/31 14:16	417.31	12.80	0.70	08/31 23:26	339.02	11.50	0.65
08/31 14:26	399.43	12.80	0.67	08/31 23:36	316.10	11.30	0.62
08/31 14:36	413.38	12.70	0.70	08/31 23:46	298.82	11.10	0.60
08/31 14:46	409.44	12.60	0.70	08/31 23:56	295.28	11.00	0.60
08/31 14:56	401.52	12.40	0.70	09/01 00:06	273.76	10.80	0.57
08/31 15:06	372.84	12.40	0.65	09/01 00:16	284.61	10.70	0.60
08/31 15:16	395.66	12.70	0.67	09/01 00:26	270.38	10.70	0.57
08/31 15:26	425.19	12.70	0.72	09/01 00:36	277.48	10.50	0.60
08/31 15:36	409.44	12.60	0.70	09/01 00:46	247.81	10.30	0.55
08/31 15:46	391.90	12.60	0.67	09/01 00:56	234.72	9.90	0.55
08/31 15:56	384.31	12.40	0.67	09/01 01:06	215.75	9.70	0.52
08/31 16:06	405.51	12.50	0.70	09/01 01:16	221.67	9.50	0.55
08/31 16:16	401.52	12.40	0.70	09/01 01:26	218.42	9.40	0.55
08/31 16:26	401.52	12.40	0.70	09/01 01:36	194.26	9.00	0.52
08/31 16:36	388.13	12.50	0.67	09/01 01:46	183.05	9.00	0.49
08/31 16:46	384.31	12.40	0.67	09/01 01:56	177.30	8.80	0.49
08/31 16:56	393.52	12.20	0.70	09/01 02:06	178.01	8.70	0.50
08/31 17:06	361.69	12.10	0.65	09/01 02:16	171.60	8.60	0.49
08/31 17:16	372.82	12.10	0.67	09/01 02:26	171.60	8.60	0.49
08/31 17:26	397.52	12.30	0.70	09/01 02:36	167.33	8.70	0.47
08/31 17:36	405.51	12.50	0.70	09/01 02:46	161.09	8.60	0.46
08/31 17:46	405.51	12.50	0.70	09/01 02:56	159.14	8.40	0.47
08/31 17:56	401.52	12.40	0.70	09/01 03:06	146.45	8.30	0.44
08/31 18:06	384.31	12.40	0.67	09/01 03:16	140.65	8.20	0.43
08/31 18:16	380.48	12.30	0.67	09/01 03:26	149.78	8.30	0.45
08/31 18:26	397.52	12.30	0.70	09/01 03:36	147.81	8.10	0.46
08/31 18:36	405.51	12.50	0.70	09/01 03:46	134.96	8.10	0.42
08/31 18:46	372.84	12.40	0.65	09/01 03:56	135.72	8.00	0.43
08/31 18:56	397.52	12.30	0.70	09/01 04:06	132.56	8.00	0.42
08/31 19:06	380.48	12.30	0.67	09/01 04:16	136.38	7.90	0.44
08/31 19:16	369.13	12.30	0.65	09/01 04:26	123.98	7.90	0.40
08/31 19:26	369.13	12.30	0.65	09/01 04:36	142.58	7.90	0.46
08/31 19:36	348.55	12.20	0.62	09/01 04:46	130.18	7.90	0.42
08/31 19:46	348.55	12.20	0.62	09/01 04:56	139.48	7.90	0.45
08/31 19:56	361.69	12.10	0.65	09/01 05:06	135.72	8.00	0.43
08/31 20:06	361.69	12.10	0.65	09/01 05:16	132.56	8.00	0.42
08/31 20:16	341.41	12.00	0.62	09/01 05:26	129.41	8.00	0.41
08/31 20:26	337.83	11.90	0.62	09/01 05:36	130.18	7.90	0.42
08/31 20:36	354.17	11.90	0.65	09/01 05:46	123.98	7.90	0.40
08/31 20:46	365.07	11.90	0.67	09/01 05:56	130.83	7.80	0.43
08/31 20:56	361.69	12.10	0.65	09/01 06:06	127.08	7.90	0.41
08/31 21:06	380.48	12.30	0.67	09/01 06:16	123.98	7.90	0.40
08/31 21:16	365.42	12.20	0.65	09/01 06:26	130.18	7.90	0.42
08/31 21:26	397.52	12.30	0.70	09/01 06:36	136.38	7.90	0.44
08/31 21:36	404.77	12.20	0.72	09/01 06:46	129.41	8.00	0.41
08/31 21:46	380.48	12.30	0.67	09/01 06:56	142.03	8.00	0.45
08/31 21:56	393.52	12.20	0.70	09/01 07:06	153.73	8.20	0.47
08/31 22:06	365.42	12.20	0.65	09/01 07:16	155.75	8.40	0.46
08/31 22:16	376.66	12.20	0.67	09/01 07:26	178.01	8.70	0.50
08/31 22:26	365.42	12.20	0.65	09/01 07:36	202.23	8.90	0.55
08/31 22:36	357.93	12.00	0.65	09/01 07:46	208.69	9.10	0.55
08/31 22:46	354.17	11.90	0.65	09/01 07:56	219.63	9.20	0.57
08/31 22:56	346.63	11.70	0.65	09/01 08:06	229.73	9.50	0.57
08/31 23:06	327.00	11.60	0.62	09/01 08:16	248.94	9.70	0.60
08/31 23:16	346.63	11.70	0.65	09/01 08:26	263.20	10.10	0.60

page 4

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
09/01	08:36	283.04	10.40	0.62	09/01	17:46	346.63	11.70	0.65
09/01	08:46	308.33	10.70	0.65	09/01	17:56	399.95	11.70	0.75
09/01	08:56	358.59	11.10	0.72	09/01	18:06	383.96	11.70	0.72
09/01	09:06	406.12	11.60	0.77	09/01	18:16	377.37	11.80	0.70
09/01	09:16	385.47	12.00	0.70	09/01	18:26	413.00	12.00	0.75
09/01	09:26	400.64	12.10	0.72	09/01	18:36	393.52	12.20	0.70
09/01	09:36	401.52	12.40	0.70	09/01	18:46	417.34	12.10	0.75
09/01	09:46	421.14	12.60	0.72	09/01	18:56	424.01	12.00	0.77
09/01	09:56	481.39	12.90	0.80	09/01	19:06	385.47	12.00	0.70
09/01	10:06	453.00	13.40	0.72	09/01	19:16	408.66	11.90	0.75
09/01	10:16	511.99	13.60	0.80	09/01	19:26	385.47	12.00	0.70
09/01	10:26	507.67	13.50	0.80	09/01	19:36	381.42	11.90	0.70
09/01	10:36	507.67	13.50	0.80	09/01	19:46	346.63	11.70	0.65
09/01	10:46	507.67	13.50	0.80	09/01	19:56	357.29	11.70	0.67
09/01	10:56	534.79	13.40	0.85	09/01	20:06	377.37	11.80	0.70
09/01	11:06	507.67	13.50	0.80	09/01	20:16	377.37	11.80	0.70
09/01	11:16	543.99	13.60	0.85	09/01	20:26	381.42	11.90	0.70
09/01	11:26	483.97	13.70	0.75	09/01	20:36	381.42	11.90	0.70
09/01	11:36	524.79	13.60	0.82	09/01	20:46	368.95	12.00	0.67
09/01	11:46	520.36	13.50	0.82	09/01	20:56	400.64	12.10	0.72
09/01	11:56	507.67	13.50	0.80	09/01	21:06	408.88	12.30	0.72
09/01	12:06	511.99	13.60	0.80	09/01	21:16	397.52	12.30	0.70
09/01	12:16	488.63	13.50	0.77	09/01	21:26	408.88	12.30	0.72
09/01	12:26	492.79	13.60	0.77	09/01	21:36	380.48	12.30	0.67
09/01	12:36	475.94	13.50	0.75	09/01	21:46	401.52	12.40	0.70
09/01	12:46	449.10	13.30	0.72	09/01	21:56	397.52	12.30	0.70
09/01	12:56	467.59	13.00	0.77	09/01	22:06	430.20	12.40	0.75
09/01	13:06	433.25	12.90	0.72	09/01	22:16	397.52	12.30	0.70
09/01	13:16	437.23	13.00	0.72	09/01	22:26	408.88	12.30	0.72
09/01	13:26	417.31	12.80	0.70	09/01	22:36	372.82	12.10	0.67
09/01	13:36	421.22	12.90	0.70	09/01	22:46	365.07	11.90	0.67
09/01	13:46	413.38	12.70	0.70	09/01	22:56	365.07	11.90	0.67
09/01	13:56	405.51	12.50	0.70	09/01	23:06	381.42	11.90	0.70
09/01	14:06	384.31	12.40	0.67	09/01	23:16	346.63	11.70	0.65
09/01	14:16	369.13	12.30	0.65	09/01	23:26	349.46	11.50	0.67
09/01	14:26	397.52	12.30	0.70	09/01	23:36	316.10	11.30	0.62
09/01	14:36	384.31	12.40	0.67	09/01	23:46	327.56	11.20	0.65
09/01	14:46	425.92	12.30	0.75	09/01	23:56	308.79	11.10	0.62
09/01	14:56	446.06	12.50	0.77	09/02	00:06	305.12	11.00	0.62
09/01	15:06	405.51	12.50	0.70	09/02	00:16	288.17	10.80	0.60
09/01	15:16	412.99	12.40	0.72	09/02	00:26	254.35	10.50	0.55
09/01	15:26	425.92	12.30	0.75	09/02	00:36	253.43	10.20	0.57
09/01	15:36	404.77	12.20	0.72	09/02	00:46	238.00	10.00	0.55
09/01	15:46	408.88	12.30	0.72	09/02	00:56	236.49	9.70	0.57
09/01	15:56	384.31	12.40	0.67	09/02	01:06	204.48	9.60	0.50
09/01	16:06	384.31	12.40	0.67	09/02	01:16	201.52	9.50	0.50
09/01	16:16	401.52	12.40	0.70	09/02	01:26	198.57	9.40	0.50
09/01	16:26	397.52	12.30	0.70	09/02	01:36	192.66	9.20	0.50
09/01	16:36	400.64	12.10	0.72	09/02	01:46	174.54	9.10	0.46
09/01	16:46	385.47	12.00	0.70	09/02	01:56	169.14	8.90	0.46
09/01	16:56	413.00	12.00	0.75	09/02	02:06	158.11	8.90	0.43
09/01	17:06	396.48	12.00	0.72	09/02	02:16	149.53	8.70	0.42
09/01	17:16	400.64	12.10	0.72	09/02	02:26	153.09	8.70	0.43
09/01	17:26	389.52	12.10	0.70	09/02	02:36	137.75	8.50	0.40
09/01	17:36	385.47	12.00	0.70	09/02	02:46	126.48	8.30	0.38

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/02 02:56	134.10	8.20	0.41	09/02 12:06	487.95	13.80	0.75
09/02 03:06	121.02	8.20	0.37	09/02 12:16	496.88	13.70	0.77
09/02 03:16	121.02	8.20	0.37	09/02 12:26	516.23	13.70	0.80
09/02 03:26	123.15	8.30	0.37	09/02 12:36	520.48	13.80	0.80
09/02 03:36	121.02	8.20	0.37	09/02 12:46	487.95	13.80	0.75
09/02 03:46	115.68	8.10	0.36	09/02 12:56	505.04	13.90	0.77
09/02 03:56	111.58	7.90	0.36	09/02 13:06	491.92	13.90	0.75
09/02 04:06	108.48	7.90	0.35	09/02 13:16	505.04	13.90	0.77
09/02 04:16	100.41	7.80	0.33	09/02 13:26	509.09	14.00	0.77
09/02 04:26	98.53	7.70	0.33	09/02 13:36	505.04	13.90	0.77
09/02 04:36	98.53	7.70	0.33	09/02 13:46	500.96	13.80	0.77
09/02 04:46	95.55	7.70	0.32	09/02 13:56	548.50	13.70	0.85
09/02 04:56	96.69	7.60	0.33	09/02 14:06	529.14	13.70	0.82
09/02 05:06	91.96	7.50	0.32	09/02 14:16	520.48	13.80	0.80
09/02 05:16	96.69	7.60	0.33	09/02 14:26	520.48	13.80	0.80
09/02 05:26	90.83	7.60	0.31	09/02 14:36	520.48	13.80	0.80
09/02 05:36	96.69	7.60	0.33	09/02 14:46	492.79	13.60	0.77
09/02 05:46	98.53	7.70	0.33	09/02 14:56	503.33	13.40	0.80
09/02 05:56	107.49	7.70	0.36	09/02 15:06	484.46	13.40	0.77
09/02 06:06	108.48	7.90	0.35	09/02 15:16	488.63	13.50	0.77
09/02 06:16	113.63	8.00	0.36	09/02 15:26	488.63	13.50	0.77
09/02 06:26	113.63	8.00	0.36	09/02 15:36	503.33	13.40	0.80
09/02 06:36	113.63	8.00	0.36	09/02 15:46	467.81	13.30	0.75
09/02 06:46	110.47	8.00	0.35	09/02 15:56	463.73	13.20	0.75
09/02 06:56	116.78	8.00	0.37	09/02 16:06	436.63	13.30	0.70
09/02 07:06	137.38	8.20	0.42	09/02 16:16	467.81	13.30	0.75
09/02 07:16	138.82	8.40	0.41	09/02 16:26	480.29	13.30	0.77
09/02 07:26	137.75	8.50	0.40	09/02 16:36	445.18	13.20	0.72
09/02 07:36	140.08	8.60	0.40	09/02 16:46	441.21	13.10	0.72
09/02 07:46	148.35	8.80	0.41	09/02 16:56	455.45	13.00	0.75
09/02 07:56	175.58	9.00	0.47	09/02 17:06	441.21	13.10	0.72
09/02 08:06	197.49	9.50	0.49	09/02 17:16	428.95	13.10	0.70
09/02 08:16	225.01	10.00	0.52	09/02 17:26	449.10	13.30	0.72
09/02 08:26	256.82	10.30	0.57	09/02 17:36	480.29	13.30	0.77
09/02 08:36	251.08	10.40	0.55	09/02 17:46	476.10	13.20	0.77
09/02 08:46	257.62	10.60	0.55	09/02 17:56	476.10	13.20	0.77
09/02 08:56	297.77	10.80	0.62	09/02 18:06	463.73	13.20	0.75
09/02 09:06	308.79	11.10	0.62	09/02 18:16	445.18	13.20	0.72
09/02 09:16	331.39	11.30	0.65	09/02 18:26	432.82	13.20	0.70
09/02 09:26	361.19	11.80	0.67	09/02 18:36	410.57	13.10	0.67
09/02 09:36	380.48	12.30	0.67	09/02 18:46	406.87	13.00	0.67
09/02 09:46	405.51	12.50	0.70	09/02 18:56	417.31	12.80	0.70
09/02 09:56	413.38	12.70	0.70	09/02 19:06	417.31	12.80	0.70
09/02 10:06	428.95	13.10	0.70	09/02 19:16	433.25	12.90	0.72
09/02 10:16	444.21	13.50	0.70	09/02 19:26	451.30	12.90	0.75
09/02 10:26	460.79	13.60	0.72	09/02 19:36	421.22	12.90	0.70
09/02 10:36	460.79	13.60	0.72	09/02 19:46	403.17	12.90	0.67
09/02 10:46	432.35	13.70	0.67	09/02 19:56	447.12	12.80	0.75
09/02 10:56	447.99	13.60	0.70	09/02 20:06	433.25	12.90	0.72
09/02 11:06	415.99	13.60	0.65	09/02 20:16	459.59	13.10	0.75
09/02 11:16	432.35	13.70	0.67	09/02 20:26	475.94	13.50	0.75
09/02 11:26	468.43	13.80	0.72	09/02 20:36	492.79	13.60	0.77
09/02 11:36	439.45	13.90	0.67	09/02 20:46	471.88	13.40	0.75
09/02 11:46	459.13	13.90	0.70	09/02 20:56	471.88	13.40	0.75
09/02 11:56	533.49	13.80	0.82	09/02 21:06	460.79	13.60	0.72

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/02	21:16	516.23	13.70	0.80
09/02	21:26	533.49	13.80	0.82
09/02	21:36	499.75	14.10	0.75
09/02	21:46	524.72	13.90	0.80
09/02	21:56	505.04	13.90	0.77
09/02	22:06	495.87	14.00	0.75
09/02	22:16	472.25	13.90	0.72
09/02	22:26	464.61	13.70	0.72
09/02	22:36	483.97	13.70	0.75
09/02	22:46	447.99	13.60	0.70
09/02	22:56	453.00	13.40	0.72
09/02	23:06	453.00	13.40	0.72
09/02	23:16	432.82	13.20	0.70
09/02	23:26	421.22	12.90	0.70
09/02	23:36	391.90	12.60	0.67
09/02	23:46	348.55	12.20	0.62
09/02	23:56	350.41	11.80	0.65
09/03	00:06	345.54	11.40	0.67
09/03	00:16	337.64	11.20	0.67
09/03	00:26	297.77	10.80	0.62
09/03	00:36	277.48	10.50	0.60
09/03	00:46	263.20	10.10	0.60
09/03	00:56	248.94	9.70	0.60
09/03	01:06	233.11	9.60	0.57
09/03	01:16	218.42	9.40	0.55
09/03	01:26	212.93	9.00	0.57
09/03	01:36	194.26	9.00	0.52
09/03	01:46	183.85	8.90	0.50
09/03	01:56	178.01	8.70	0.50
09/03	02:06	174.45	8.70	0.49
09/03	02:16	178.01	8.70	0.50
09/03	02:26	157.59	8.60	0.45
09/03	02:36	148.09	8.50	0.43
09/03	02:46	143.12	8.30	0.43
09/03	02:56	141.38	8.10	0.44
09/03	03:06	138.17	8.10	0.43
09/03	03:16	126.25	8.00	0.40
09/03	03:26	123.98	7.90	0.40
09/03	03:36	127.08	7.90	0.41
09/03	03:46	124.75	7.80	0.41
09/03	03:56	122.42	7.70	0.41
09/03	04:06	111.33	7.60	0.38
09/03	04:16	120.12	7.60	0.41

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/03	04:26	113.46	7.70	0.38
09/03	04:36	120.12	7.60	0.41
09/03	04:46	114.95	7.50	0.40
09/03	04:56	120.70	7.50	0.42
09/03	05:06	114.95	7.50	0.40
09/03	05:16	114.95	7.50	0.40
09/03	05:26	114.26	7.60	0.39
09/03	05:36	122.42	7.70	0.41
09/03	05:46	138.88	8.00	0.44
09/03	05:56	151.02	8.10	0.47
09/03	06:06	140.65	8.20	0.43
09/03	06:16	134.96	8.10	0.42
09/03	06:26	153.11	8.30	0.46
09/03	06:36	158.42	8.50	0.46
09/03	06:46	170.06	8.80	0.47
09/03	06:56	235.25	9.10	0.62
09/03	07:06	229.73	9.50	0.57
09/03	07:16	256.06	9.90	0.60
09/03	07:26	341.53	10.70	0.72

Codes:

K Multiply data by 1,000
M Multiply data by 1,000,000
- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

------------- A051591A.193 -- 09/03/91 --------------------------------------

Original name:A051591A.193			
Modification : A		File Type	: Binary
Site Information:		Instrument Name	: FLO-TOTE
Identification:	LOCATION NO. 9	Instrument Model	: 260
Description	: HOUSTON AVE.		
	1600' W/O MOONEY BLV	Start Time	: 09/03/91 08:13
		End Time	: 09/05/91 07:43
Application Name:		Start Type	: Immediate
CITY OF VISALIA - FLOWMETERING PROGRAM		Memory Mode	: Fixed
		Cycle Time	: 10 min.
		Sample 'On' Time	: 1 min.
		Data Cycles	: 285
		Data Channels	: 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	15.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:38 File: A051591B.193
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 9
HOUSTON AVE.
1600' W/O MOONEY BLV

Metering Period:
09/03/91 08:13 - 09/05/91 07:43

Report Period:
09/03/91 08:13 - 09/05/91 07:43

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
09/03	21:43	290.65 *	6.00 *	1.62 *					
09/03	16:23	56.36 *	2.70 *	1.07 *					
09/04	08:13	282.78	5.70	1.70					
09/04	04:53	20.69	1.70	0.82					
09/05	02:23	186.92 *	4.70 *	1.50 *					
09/05	04:53	18.30 *	1.60 *	0.80 *					

DAILY AVERAGES

Date: 09/20/91 14:38 File: A051591B.193
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 9
HOUSTON AVE.
1600' W/O MOONEY BLV

Metering Period:
09/03/91 08:13 - 09/05/91 07:43

Report Period:
09/03/91 08:13 - 09/05/91 07:43

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/03	00:00	134.00 *	3.97 *	1.32 *
09/04	00:00	107.08	3.48	1.22
09/05	00:00	51.84 *	2.50 *	1.01 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- - No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:25 File: A051591A.193
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 9
HOUSTON AVE.
1600' W/O MOONEY BLV

Metering Period:
09/03/91 08:13 - 09/05/91 07:43

Report Period:
09/03/91 08:13 - 09/05/91 07:43

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/03 08:13	237.94	5.40	1.55	09/03 15:13	78.58	3.10	1.20
09/03 08:23	220.51	5.20	1.52	09/03 15:23	76.61	3.10	1.17
09/03 08:33	192.38	4.90	1.45	09/03 15:33	66.07	2.90	1.12
09/03 08:43	159.81	4.50	1.37	09/03 15:43	69.67	3.00	1.12
09/03 08:53	133.56	4.10	1.32	09/03 15:53	70.79	2.90	1.20
09/03 09:03	118.96	3.90	1.27	09/03 16:03	71.53	3.00	1.15
09/03 09:13	103.43	3.60	1.25	09/03 16:13	61.36	2.80	1.10
09/03 09:23	90.81	3.40	1.20	09/03 16:23	56.36	2.70	1.07
09/03 09:33	90.81	3.40	1.20	09/03 16:33	276.04	5.50	1.75
09/03 09:43	90.30	3.30	1.25	09/03 16:43	245.62	5.40	1.60
09/03 09:53	256.37	5.40	1.67	09/03 16:53	205.65	4.90	1.55
09/03 10:03	259.26	5.60	1.60	09/03 17:03	174.84	4.60	1.45
09/03 10:13	224.86	5.20	1.55	09/03 17:13	152.33	4.30	1.40
09/03 10:23	192.38	4.90	1.45	09/03 17:23	126.59	4.00	1.30
09/03 10:33	168.82	4.60	1.40	09/03 17:33	121.77	3.90	1.30
09/03 10:43	154.44	4.40	1.37	09/03 17:43	131.45	4.00	1.35
09/03 10:53	143.83	4.20	1.37	09/03 17:53	118.79	3.80	1.32
09/03 11:03	131.53	4.10	1.30	09/03 18:03	112.21	3.70	1.30
09/03 11:13	116.99	3.80	1.30	09/03 18:13	99.01	3.50	1.25
09/03 11:23	107.90	3.70	1.25	09/03 18:23	92.32	3.40	1.22
09/03 11:33	100.95	3.60	1.22	09/03 18:33	90.81	3.40	1.20
09/03 11:43	90.81	3.40	1.20	09/03 18:43	88.14	3.30	1.22
09/03 11:53	86.08	3.20	1.25	09/03 18:53	75.89	3.00	1.22
09/03 12:03	82.63	3.20	1.20	09/03 19:03	79.89	3.10	1.22
09/03 12:13	76.61	3.10	1.17	09/03 19:13	78.58	3.10	1.20
09/03 12:23	71.53	3.00	1.15	09/03 19:23	238.86	5.30	1.60
09/03 12:33	63.12	2.90	1.07	09/03 19:33	274.47	5.70	1.65
09/03 12:43	59.68	2.80	1.07	09/03 19:43	231.40	5.30	1.55
09/03 12:53	90.90	3.20	1.32	09/03 19:53	199.02	4.90	1.50
09/03 13:03	259.26	5.60	1.60	09/03 20:03	192.38	4.90	1.45
09/03 13:13	227.76	5.20	1.57	09/03 20:13	182.67	4.80	1.42
09/03 13:23	180.69	4.70	1.45	09/03 20:23	154.44	4.40	1.37
09/03 13:33	149.06	4.30	1.37	09/03 20:33	133.56	4.10	1.32
09/03 13:43	128.53	4.00	1.32	09/03 20:43	112.49	3.80	1.25
09/03 13:53	121.49	3.80	1.35	09/03 20:53	95.05	3.50	1.20
09/03 14:03	121.77	3.90	1.30	09/03 21:03	90.81	3.40	1.20
09/03 14:13	116.99	3.80	1.30	09/03 21:13	86.69	3.30	1.20
09/03 14:23	99.01	3.50	1.25	09/03 21:23	86.69	3.30	1.20
09/03 14:33	86.69	3.30	1.20	09/03 21:33	107.57	3.60	1.30
09/03 14:43	78.58	3.10	1.20	09/03 21:43	290.65	6.00	1.62
09/03 14:53	81.85	3.10	1.25	09/03 21:53	255.53	5.50	1.62
09/03 15:03	78.58	3.10	1.20	09/03 22:03	207.18	5.10	1.47

page 1

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/03	22:13	180.10	4.80	1.40
09/03	22:23	174.46	4.70	1.40
09/03	22:33	157.48	4.50	1.35
09/03	22:43	143.62	4.30	1.32
09/03	22:53	126.59	4.00	1.30
09/03	23:03	112.49	3.80	1.25
09/03	23:13	94.59	3.40	1.25
09/03	23:23	84.53	3.30	1.17
09/03	23:33	82.63	3.20	1.20
09/03	23:43	75.30	3.10	1.15
09/03	23:53	71.53	3.00	1.15
09/04	00:03	64.89	2.90	1.10
09/04	00:13	61.36	2.80	1.10
09/04	00:23	49.88	2.50	1.07
09/04	00:33	44.56	2.40	1.02
09/04	00:43	169.09	4.40	1.50
09/04	00:53	214.79	5.00	1.57
09/04	01:03	176.95	4.70	1.42
09/04	01:13	149.06	4.30	1.37
09/04	01:23	126.59	4.00	1.30
09/04	01:33	95.05	3.50	1.20
09/04	01:43	75.30	3.10	1.15
09/04	01:53	57.94	2.70	1.10
09/04	02:03	50.64	2.60	1.02
09/04	02:13	42.38	2.40	0.97
09/04	02:23	36.14	2.20	0.95
09/04	02:33	35.00	2.20	0.92
09/04	02:43	68.42	3.00	1.10
09/04	02:53	67.84	2.90	1.15
09/04	03:03	64.89	2.90	1.10
09/04	03:13	55.30	2.70	1.05
09/04	03:23	47.55	2.50	1.02
09/04	03:33	43.69	2.40	1.00
09/04	03:43	36.90	2.20	0.97
09/04	03:53	31.07	2.00	0.95
09/04	04:03	32.49	2.10	0.92
09/04	04:13	29.44	2.00	0.90
09/04	04:23	26.19	1.90	0.87
09/04	04:33	25.59	1.90	0.85
09/04	04:43	22.63	1.80	0.82
09/04	04:53	20.69	1.70	0.82
09/04	05:03	22.08	1.80	0.80
09/04	05:13	22.63	1.80	0.82
09/04	05:23	25.59	1.90	0.85
09/04	05:33	25.59	1.90	0.85
09/04	05:43	23.46	1.80	0.85
09/04	05:53	24.84	1.80	0.90
09/04	06:03	29.44	2.00	0.90
09/04	06:13	29.44	2.00	0.90
09/04	06:23	33.55	2.10	0.95
09/04	06:33	36.90	2.20	0.97
09/04	06:43	39.64	2.30	0.97
09/04	06:53	35.31	2.10	1.00
09/04	07:03	43.69	2.40	1.00
09/04	07:13	61.36	2.80	1.10
09/04	07:23	72.78	3.00	1.17
09/04	07:33	78.58	3.10	1.20
09/04	07:43	82.63	3.20	1.20
09/04	07:53	81.85	3.10	1.25
09/04	08:03	261.26	5.30	1.75
09/04	08:13	282.78	5.70	1.70
09/04	08:23	253.30	5.40	1.65
09/04	08:33	224.86	5.20	1.55
09/04	08:43	205.21	5.00	1.50
09/04	08:53	174.98	4.50	1.50
09/04	09:03	146.89	4.30	1.35
09/04	09:13	131.45	4.00	1.35
09/04	09:23	107.90	3.70	1.25
09/04	09:33	99.30	3.60	1.20
09/04	09:43	90.81	3.40	1.20
09/04	09:53	88.14	3.30	1.22
09/04	10:03	88.14	3.30	1.22
09/04	10:13	80.57	3.20	1.17
09/04	10:23	76.61	3.10	1.17
09/04	10:33	75.30	3.10	1.15
09/04	10:43	268.15	5.50	1.70
09/04	10:53	232.11	5.20	1.60
09/04	11:03	195.04	4.90	1.47
09/04	11:13	163.31	4.50	1.40
09/04	11:23	138.58	4.20	1.32
09/04	11:33	138.61	4.10	1.37
09/04	11:43	133.56	4.10	1.32
09/04	11:53	123.65	3.90	1.32
09/04	12:03	109.63	3.70	1.27
09/04	12:13	95.05	3.50	1.20
09/04	12:23	84.53	3.30	1.17
09/04	12:33	75.30	3.10	1.15
09/04	12:43	66.07	2.90	1.12
09/04	12:53	62.47	2.80	1.12
09/04	13:03	59.68	2.80	1.07
09/04	13:13	54.61	2.60	1.10
09/04	13:23	61.36	2.80	1.10
09/04	13:33	57.94	2.70	1.10
09/04	13:43	55.30	2.70	1.05
09/04	13:53	57.94	2.70	1.10
09/04	14:03	246.33	5.30	1.65
09/04	14:13	238.86	5.30	1.60
09/04	14:23	199.02	4.90	1.50
09/04	14:33	159.81	4.50	1.37
09/04	14:43	141.73	4.20	1.35
09/04	14:53	126.46	3.90	1.35
09/04	15:03	131.45	4.00	1.35
09/04	15:13	121.77	3.90	1.30
09/04	15:23	105.31	3.70	1.22
09/04	15:33	92.32	3.40	1.22
09/04	15:43	82.63	3.20	1.20
09/04	15:53	72.78	3.00	1.17
09/04	16:03	68.42	3.00	1.10
09/04	16:13	66.07	2.90	1.12
09/04	16:23	64.89	2.90	1.10

page 2

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/04	16:33	64.89	2.90	1.10
09/04	16:43	57.94	2.70	1.10
09/04	16:53	54.61	2.60	1.10
09/04	17:03	59.68	2.80	1.07
09/04	17:13	71.53	3.00	1.15
09/04	17:23	69.67	3.00	1.12
09/04	17:33	228.32	5.10	1.62
09/04	17:43	245.62	5.40	1.60
09/04	17:53	205.65	4.90	1.55
09/04	18:03	171.23	4.60	1.42
09/04	18:13	159.81	4.50	1.37
09/04	18:23	159.81	4.50	1.37
09/04	18:33	146.89	4.30	1.35
09/04	18:43	131.53	4.10	1.30
09/04	18:53	112.49	3.80	1.25
09/04	19:03	99.01	3.50	1.25
09/04	19:13	90.81	3.40	1.20
09/04	19:23	88.14	3.30	1.22
09/04	19:33	84.53	3.30	1.17
09/04	19:43	78.58	3.10	1.20
09/04	19:53	82.63	3.20	1.20
09/04	20:03	263.42	5.50	1.67
09/04	20:13	237.94	5.40	1.55
09/04	20:23	207.18	5.10	1.47
09/04	20:33	186.53	4.80	1.45
09/04	20:43	174.46	4.70	1.40
09/04	20:53	152.18	4.40	1.35
09/04	21:03	136.48	4.20	1.30
09/04	21:13	126.59	4.00	1.30
09/04	21:23	105.31	3.70	1.22
09/04	21:33	99.30	3.60	1.20
09/04	21:43	88.54	3.40	1.17
09/04	21:53	82.63	3.20	1.20
09/04	22:03	80.57	3.20	1.17
09/04	22:13	259.26	5.60	1.60
09/04	22:23	237.94	5.40	1.55
09/04	22:33	201.11	5.00	1.47
09/04	22:43	186.53	4.80	1.45
09/04	22:53	171.23	4.60	1.42
09/04	23:03	152.18	4.40	1.35
09/04	23:13	131.53	4.10	1.30
09/04	23:23	112.49	3.80	1.25
09/04	23:33	90.81	3.40	1.20
09/04	23:43	75.30	3.10	1.15
09/04	23:53	64.89	2.90	1.10
09/05	00:03	57.94	2.70	1.10
09/05	00:13	55.30	2.70	1.05
09/05	00:23	52.12	2.60	1.05
09/05	00:33	52.12	2.60	1.05
09/05	00:43	43.69	2.40	1.00
09/05	00:53	38.04	2.20	1.00
09/05	01:03	32.49	2.10	0.92
09/05	01:13	29.44	2.00	0.90
09/05	01:23	28.46	2.00	0.87
09/05	01:33	27.80	2.00	0.85

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/05	01:43	25.59	1.90	0.85
09/05	01:53	24.01	1.80	0.87
09/05	02:03	24.69	1.90	0.82
09/05	02:13	25.59	1.90	0.85
09/05	02:23	186.92	4.70	1.50
09/05	02:33	171.48	4.50	1.47
09/05	02:43	146.98	4.20	1.40
09/05	02:53	118.79	3.80	1.32
09/05	03:03	91.09	3.50	1.15
09/05	03:13	71.53	3.00	1.15
09/05	03:23	56.90	2.80	1.02
09/05	03:33	47.55	2.50	1.02
09/05	03:43	38.82	2.30	0.95
09/05	03:53	31.73	2.00	0.97
09/05	04:03	31.78	2.10	0.90
09/05	04:13	27.10	1.90	0.90
09/05	04:23	26.19	1.90	0.87
09/05	04:33	24.69	1.90	0.82
09/05	04:43	22.08	1.80	0.80
09/05	04:53	18.30	1.60	0.80
09/05	05:03	21.25	1.80	0.77
09/05	05:13	47.55	2.50	1.02
09/05	05:23	64.89	2.90	1.10
09/05	05:33	63.12	2.90	1.07
09/05	05:43	55.30	2.70	1.05
09/05	05:53	46.62	2.50	1.00
09/05	06:03	43.69	2.40	1.00
09/05	06:13	38.82	2.30	0.95
09/05	06:23	40.86	2.30	1.00
09/05	06:33	43.69	2.40	1.00
09/05	06:43	43.69	2.40	1.00
09/05	06:53	38.04	2.20	1.00
09/05	07:03	36.90	2.20	0.97
09/05	07:13	47.55	2.50	1.02
09/05	07:23	53.12	2.60	1.07
09/05	07:33	66.56	3.00	1.07

Codes:

- K Multiply data by 1,000
- M Multiply data by 1,000,000
- - No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

------------- A090182B.193 -- 09/03/91 ---------------------------------------

Original name:A090182B.193
Modification : B

Site Information:
Identification: LOCATION NO. 10
Description : MINERAL KING AVE.
980' E/O AKERS RD.

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 09/03/91 09:17
End Time : 09/05/91 08:17
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 282
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	21.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:39 File: A090182B.193
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 10
MINERAL KING AVE.
980' E/O AKERS RD.

Metering Period:
09/03/91 09:17 - 09/05/91 08:17

Report Period:
09/03/91 09:17 - 09/05/91 08:17

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
09/03	21:57	424.23 *	5.10 *	2.35 *					
09/03	18:07	188.08 *	3.60 *	1.80 *					
09/04	22:07	394.00	5.00	2.25					
09/04	05:07	83.82	2.60	1.35					
09/05	00:27	326.83 *	4.50 *	2.20 *					
09/05	04:37	73.93 *	2.40 *	1.35 *					

DAILY AVERAGES

Date: 09/20/91 14:40 File: A090182B.193
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 10
MINERAL KING AVE.
980' E/O AKERS RD.

Metering Period:
09/03/91 09:17 - 09/05/91 08:17

Report Period:
09/03/91 09:17 - 09/05/91 08:17

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/03	00:00	297.59 *	4.31 *	2.13 *
09/04	00:00	258.90	3.96	2.06
09/05	00:00	177.54 *	3.33 *	1.81 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- - No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:30 File: A090182B.193
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 10
MINERAL KING AVE.
980' E/O AKERS RD.

Metering Period:
09/03/91 09:17 - 09/05/91 08:17

Report Period:
09/03/91 09:17 - 09/05/91 08:17

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/03 09:17	274.00	4.00	2.22	09/03 16:17	251.24	3.90	2.12
09/03 09:27	267.83	4.00	2.17	09/03 16:27	259.19	4.00	2.10
09/03 09:37	299.83	4.20	2.25	09/03 16:37	263.10	4.10	2.05
09/03 09:47	317.82	4.70	2.00	09/03 16:47	245.31	3.90	2.07
09/03 09:57	364.85	4.90	2.15	09/03 16:57	248.87	3.90	2.10
09/03 10:07	382.71	5.10	2.12	09/03 17:07	223.70	3.70	2.05
09/03 10:17	367.73	5.00	2.10	09/03 17:17	238.89	3.80	2.10
09/03 10:27	358.98	5.00	2.05	09/03 17:27	229.78	3.80	2.02
09/03 10:37	373.34	4.90	2.20	09/03 17:37	227.51	3.80	2.00
09/03 10:47	348.29	4.80	2.12	09/03 17:47	231.34	3.70	2.12
09/03 10:57	341.29	4.60	2.22	09/03 17:57	195.40	3.60	1.87
09/03 11:07	330.53	4.60	2.15	09/03 18:07	188.08	3.60	1.80
09/03 11:17	303.98	4.40	2.12	09/03 18:17	225.88	3.70	2.07
09/03 11:27	286.50	4.20	2.15	09/03 18:27	282.51	4.20	2.12
09/03 11:37	297.15	4.30	2.15	09/03 18:37	338.22	4.60	2.20
09/03 11:47	330.53	4.60	2.15	09/03 18:47	353.22	4.80	2.15
09/03 11:57	328.95	4.70	2.07	09/03 18:57	307.47	4.60	2.00
09/03 12:07	341.66	4.70	2.15	09/03 19:07	318.23	4.60	2.07
09/03 12:17	314.95	4.50	2.12	09/03 19:17	297.12	4.50	2.00
09/03 12:27	308.28	4.40	2.15	09/03 19:27	319.41	4.50	2.15
09/03 12:37	296.81	4.40	2.07	09/03 19:37	308.28	4.40	2.15
09/03 12:47	286.10	4.30	2.07	09/03 19:47	308.28	4.40	2.15
09/03 12:57	272.08	4.10	2.12	09/03 19:57	304.06	4.30	2.20
09/03 13:07	251.24	3.90	2.12	09/03 20:07	315.45	4.40	2.20
09/03 13:17	269.52	4.10	2.10	09/03 20:17	283.33	4.30	2.05
09/03 13:27	261.66	4.00	2.12	09/03 20:27	318.32	4.40	2.22
09/03 13:37	245.31	3.90	2.07	09/03 20:37	258.45	4.30	1.87
09/03 13:47	244.57	3.80	2.15	09/03 20:47	283.33	4.30	2.05
09/03 13:57	214.20	3.60	2.05	09/03 20:57	299.83	4.20	2.25
09/03 14:07	231.34	3.70	2.12	09/03 21:07	334.26	4.50	2.25
09/03 14:17	229.16	3.70	2.10	09/03 21:17	361.43	4.80	2.20
09/03 14:27	216.29	3.60	2.07	09/03 21:27	376.49	5.00	2.15
09/03 14:37	216.29	3.60	2.07	09/03 21:37	422.35	5.20	2.27
09/03 14:47	214.20	3.60	2.05	09/03 21:47	409.32	5.20	2.20
09/03 14:57	274.00	4.00	2.22	09/03 21:57	424.23	5.10	2.35
09/03 15:07	303.98	4.40	2.12	09/03 22:07	390.31	4.90	2.30
09/03 15:17	308.28	4.40	2.15	09/03 22:17	356.51	4.80	2.17
09/03 15:27	297.15	4.30	2.15	09/03 22:27	360.73	4.70	2.27
09/03 15:37	269.52	4.10	2.10	09/03 22:37	318.32	4.40	2.22
09/03 15:47	269.52	4.10	2.10	09/03 22:47	313.74	4.30	2.27
09/03 15:57	235.47	3.80	2.07	09/03 22:57	293.17	4.20	2.20
09/03 16:07	238.89	3.80	2.10	09/03 23:07	286.50	4.20	2.15

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
09/03	23:17	299.83	4.20	2.25	09/04	08:27	346.99	4.40	2.42
09/03	23:27	345.91	4.60	2.25	09/04	08:37	327.56	4.30	2.37
09/03	23:37	372.93	4.80	2.27	09/04	08:47	313.16	4.20	2.35
09/03	23:47	398.79	4.90	2.35	09/04	08:57	309.16	4.20	2.32
09/03	23:57	345.01	4.80	2.10	09/04	09:07	299.83	4.20	2.25
09/04	00:07	322.85	4.60	2.10	09/04	09:17	291.33	4.10	2.27
09/04	00:17	314.95	4.50	2.12	09/04	09:27	288.77	4.10	2.25
09/04	00:27	297.15	4.30	2.15	09/04	09:37	291.33	4.10	2.27
09/04	00:37	275.93	4.10	2.15	09/04	09:47	331.71	4.30	2.40
09/04	00:47	265.36	4.00	2.15	09/04	09:57	357.55	4.70	2.25
09/04	00:57	238.89	3.80	2.10	09/04	10:07	390.72	5.20	2.10
09/04	01:07	218.24	3.70	2.00	09/04	10:17	367.73	5.00	2.10
09/04	01:17	208.98	3.60	2.00	09/04	10:27	382.71	5.10	2.12
09/04	01:27	168.33	3.30	1.85	09/04	10:37	388.12	5.10	2.15
09/04	01:37	162.03	3.40	1.70	09/04	10:47	376.73	4.90	2.22
09/04	01:47	147.40	3.30	1.62	09/04	10:57	361.28	4.60	2.35
09/04	01:57	140.40	3.20	1.62	09/04	11:07	345.91	4.60	2.25
09/04	02:07	140.40	3.20	1.62	09/04	11:17	322.38	4.50	2.17
09/04	02:17	135.87	3.10	1.65	09/04	11:27	306.83	4.30	2.22
09/04	02:27	128.74	3.00	1.65	09/04	11:37	295.83	4.20	2.22
09/04	02:37	113.49	2.80	1.62	09/04	11:47	284.92	4.10	2.22
09/04	02:47	122.17	2.90	1.65	09/04	11:57	266.65	3.90	2.25
09/04	02:57	159.23	3.30	1.75	09/04	12:07	283.88	4.00	2.30
09/04	03:07	201.71	3.50	2.02	09/04	12:17	261.64	3.80	2.30
09/04	03:17	199.71	3.50	2.00	09/04	12:27	274.00	4.00	2.22
09/04	03:27	176.33	3.40	1.85	09/04	12:37	317.88	4.30	2.30
09/04	03:37	162.03	3.40	1.70	09/04	12:47	348.98	4.60	2.27
09/04	03:47	151.95	3.30	1.67	09/04	12:57	314.95	4.50	2.12
09/04	03:57	139.99	3.10	1.70	09/04	13:07	318.23	4.60	2.07
09/04	04:07	139.99	3.10	1.70	09/04	13:17	315.45	4.40	2.20
09/04	04:17	123.65	2.90	1.67	09/04	13:27	320.65	4.30	2.32
09/04	04:27	119.94	2.90	1.62	09/04	13:37	286.35	4.00	2.32
09/04	04:37	112.09	2.80	1.60	09/04	13:47	290.05	4.00	2.35
09/04	04:47	105.08	2.80	1.50	09/04	13:57	254.79	3.90	2.15
09/04	04:57	88.17	2.60	1.42	09/04	14:07	277.71	4.00	2.25
09/04	05:07	83.82	2.60	1.35	09/04	14:17	252.54	3.80	2.22
09/04	05:17	89.20	2.70	1.35	09/04	14:27	240.07	3.70	2.20
09/04	05:27	85.06	2.60	1.37	09/04	14:37	240.07	3.70	2.20
09/04	05:37	101.58	2.80	1.45	09/04	14:47	229.16	3.70	2.10
09/04	05:47	115.59	2.80	1.65	09/04	14:57	202.06	3.40	2.12
09/04	05:57	125.87	2.90	1.70	09/04	15:07	206.70	3.50	2.07
09/04	06:07	130.30	3.00	1.67	09/04	15:17	204.71	3.50	2.05
09/04	06:17	143.00	3.20	1.65	09/04	15:27	201.71	3.50	2.02
09/04	06:27	132.64	3.00	1.70	09/04	15:37	204.71	3.50	2.05
09/04	06:37	134.20	3.00	1.72	09/04	15:47	209.70	3.50	2.10
09/04	06:47	154.68	3.30	1.70	09/04	15:57	236.80	3.70	2.17
09/04	06:57	171.56	3.40	1.80	09/04	16:07	299.83	4.20	2.25
09/04	07:07	211.07	3.60	2.02	09/04	16:17	308.28	4.40	2.15
09/04	07:17	238.89	3.80	2.10	09/04	16:27	315.45	4.40	2.20
09/04	07:27	260.72	3.90	2.20	09/04	16:37	304.06	4.30	2.20
09/04	07:37	286.50	4.20	2.15	09/04	16:47	293.17	4.20	2.20
09/04	07:47	322.62	4.40	2.25	09/04	16:57	278.50	4.10	2.17
09/04	07:57	337.23	4.50	2.27	09/04	17:07	284.92	4.10	2.22
09/04	08:07	332.66	4.40	2.32	09/04	17:17	286.50	4.20	2.15
09/04	08:17	336.96	4.40	2.35	09/04	17:27	275.93	4.10	2.15

page 2

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/04	17:37	265.36	4.00	2.15
09/04	17:47	246.85	3.80	2.17
09/04	17:57	236.80	3.70	2.17
09/04	18:07	229.16	3.70	2.10
09/04	18:17	244.57	3.80	2.15
09/04	18:27	248.87	3.90	2.10
09/04	18:37	238.89	3.80	2.10
09/04	18:47	244.57	3.80	2.15
09/04	18:57	236.80	3.70	2.17
09/04	19:07	265.36	4.00	2.15
09/04	19:17	265.36	4.00	2.15
09/04	19:27	311.15	4.40	2.17
09/04	19:37	353.22	4.80	2.15
09/04	19:47	353.22	4.80	2.15
09/04	19:57	333.61	4.60	2.17
09/04	20:07	328.95	4.70	2.07
09/04	20:17	344.84	4.70	2.17
09/04	20:27	352.78	4.70	2.22
09/04	20:37	341.66	4.70	2.15
09/04	20:47	334.26	4.50	2.25
09/04	20:57	334.26	4.50	2.25
09/04	21:07	313.74	4.30	2.27
09/04	21:17	310.97	4.30	2.25
09/04	21:27	297.15	4.30	2.15
09/04	21:37	299.92	4.30	2.17
09/04	21:47	311.98	4.50	2.10
09/04	21:57	357.55	4.70	2.25
09/04	22:07	394.00	5.00	2.25
09/04	22:17	371.23	5.00	2.12
09/04	22:27	379.99	5.00	2.17
09/04	22:37	364.85	4.90	2.15
09/04	22:47	333.61	4.60	2.17
09/04	22:57	330.53	4.60	2.15
09/04	23:07	322.38	4.50	2.17
09/04	23:17	326.83	4.50	2.20
09/04	23:27	295.83	4.20	2.22
09/04	23:37	286.50	4.20	2.15
09/04	23:47	282.35	4.10	2.20
09/04	23:57	295.83	4.20	2.22
09/05	00:07	322.38	4.50	2.17
09/05	00:17	322.38	4.50	2.17
09/05	00:27	326.83	4.50	2.20
09/05	00:37	318.32	4.40	2.22
09/05	00:47	289.17	4.20	2.17
09/05	00:57	260.72	3.90	2.20
09/05	01:07	252.54	3.80	2.22
09/05	01:17	240.07	3.70	2.20
09/05	01:27	224.65	3.60	2.15
09/05	01:37	201.71	3.50	2.02
09/05	01:47	168.33	3.30	1.85
09/05	01:57	151.67	3.20	1.75
09/05	02:07	143.00	3.20	1.65
09/05	02:17	131.75	3.10	1.60
09/05	02:27	126.40	3.00	1.62
09/05	02:37	119.94	2.90	1.62

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/05	02:47	112.09	2.80	1.60
09/05	02:57	97.48	2.60	1.57
09/05	03:07	102.41	2.70	1.55
09/05	03:17	102.41	2.70	1.55
09/05	03:27	99.11	2.70	1.50
09/05	03:37	91.27	2.60	1.47
09/05	03:47	88.17	2.60	1.42
09/05	03:57	76.66	2.40	1.40
09/05	04:07	79.97	2.50	1.37
09/05	04:17	81.72	2.50	1.40
09/05	04:27	79.97	2.50	1.37
09/05	04:37	73.93	2.40	1.35
09/05	04:47	128.74	3.00	1.65
09/05	04:57	159.23	3.30	1.75
09/05	05:07	156.50	3.30	1.72
09/05	05:17	144.74	3.20	1.67
09/05	05:27	143.00	3.20	1.65
09/05	05:37	144.74	3.20	1.67
09/05	05:47	137.52	3.10	1.67
09/05	05:57	128.74	3.00	1.65
09/05	06:07	135.87	3.10	1.65
09/05	06:17	135.87	3.10	1.65
09/05	06:27	135.87	3.10	1.65
09/05	06:37	143.00	3.20	1.65
09/05	06:47	156.50	3.30	1.72
09/05	06:57	172.88	3.30	1.90
09/05	07:07	216.29	3.60	2.07
09/05	07:17	234.61	3.70	2.15
09/05	07:27	263.09	3.90	2.22
09/05	07:37	277.71	4.00	2.25
09/05	07:47	284.92	4.10	2.22
09/05	07:57	309.16	4.20	2.32
09/05	08:07	322.62	4.40	2.25

Codes:

- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

------------- A090182B.195 -- 09/05/91 ------------------------------------

Original name:A090182A.195
Modification : B

Site Information:
 Identification: LOCATION NO. 11
 Description : KELSEY ST.
 N/O CROWLEY AVE.

Application Name:
 CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 09/05/91 09:58
End Time : 09/10/91 08:28
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 711
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	21.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:41 File: A090182B.195

CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 11
KELSEY ST.
N/O CROWLEY AVE.

Metering Period:
09/05/91 09:58 - 09/10/91 08:28

Report Period:
09/05/91 09:58 - 09/10/91 08:28

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
09/05	14:48	40.35 *	3.10 *	0.49 *					
09/05	22:28	-45.52 *	20.90 *	-0.04 *					
09/06	08:48	590.62	22.60 ^	0.52					
09/06	06:08	-56.79	32.20 ^	-0.05					
09/07	08:48	556.55	27.30 ^	0.49					
09/07	17:48	-56.90	20.90	-0.05					
09/08	08:48	545.19	30.10 ^	0.48					
09/08	17:18	-56.91	20.20	-0.05					
09/09	08:48	567.90	29.10 ^	0.50					
09/09	17:48	-68.15	22.10 ^	-0.06					
09/10	01:18	-34.07 *	38.00 ^	-0.03 *					
09/10	07:48	-68.15 *	53.40 ^	-0.06 *					

page 1

DAILY AVERAGES

Date: 09/20/91 14:40 File: A090182B.195
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 11
KELSEY ST.
N/O CROWLEY AVE.

Metering Period:
09/05/91 09:58 - 09/10/91 08:28

Report Period:
09/05/91 09:58 - 09/10/91 08:28

START Date Time	FLO GPM		LEV in.		VEL FPS	
09/05 00:00	1.96	*	9.68	*	0.15	*
09/06 00:00	-8.56		18.55		0.07	
09/07 00:00	-17.33		26.16	^	0.02	
09/08 00:00	-19.46		28.89	^	0.00	
09/09 00:00	-19.33		27.78	^	0.00	
09/10 00:00	-45.88	*	43.65	^	-0.04	*

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/20/91 11:18 File: A090182B.195
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 11
KELSEY ST.
N/O CROWLEY AVE.

Metering Period:
09/05/91 09:58 - 09/10/91 08:28

Report Period:
09/05/91 09:58 - 09/10/91 08:28

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/05 09:58	27.32	2.80	0.39	09/05 16:58	0.00	8.20	0.00
09/05 10:08	26.85	2.50	0.46	09/05 17:08	0.00	8.50	0.00
09/05 10:18	26.70	2.60	0.43	09/05 17:18	0.00	8.80	0.00
09/05 10:28	26.08	2.60	0.42	09/05 17:28	0.00	9.10	0.00
09/05 10:38	24.64	2.40	0.45	09/05 17:38	0.00	9.50	0.00
09/05 10:48	24.52	2.50	0.42	09/05 17:48	0.00	9.80	0.00
09/05 10:58	21.48	2.30	0.42	09/05 17:58	0.00	10.20	0.00
09/05 11:08	20.46	2.30	0.40	09/05 18:08	0.00	10.60	0.00
09/05 11:18	19.71	2.40	0.36	09/05 18:18	0.00	11.10	0.00
09/05 11:28	20.81	2.40	0.38	09/05 18:28	0.00	11.60	0.00
09/05 11:38	20.26	2.40	0.37	09/05 18:38	-6.45	12.10	0.00
09/05 11:48	22.45	2.40	0.41	09/05 18:48	0.00	12.40	0.00
09/05 11:58	22.45	2.40	0.41	09/05 18:58	0.00	12.70	0.00
09/05 12:08	22.18	2.50	0.38	09/05 19:08	0.00	13.20	0.00
09/05 12:18	21.60	2.50	0.37	09/05 19:18	0.00	13.60	0.00
09/05 12:28	22.18	2.50	0.38	09/05 19:28	0.00	13.90	0.00
09/05 12:38	23.35	2.50	0.40	09/05 19:38	0.00	14.20	0.00
09/05 12:48	22.76	2.50	0.39	09/05 19:48	0.00	14.50	0.00
09/05 12:58	22.76	2.50	0.39	09/05 19:58	0.00	14.70	0.00
09/05 13:08	20.81	2.40	0.38	09/05 20:08	0.00	15.00	0.00
09/05 13:18	20.26	2.40	0.37	09/05 20:18	-8.97	15.70	0.00
09/05 13:28	18.41	2.30	0.36	09/05 20:28	0.00	16.00	0.00
09/05 13:38	18.41	2.30	0.36	09/05 20:38	-28.25	16.40	-0.03
09/05 13:48	17.90	2.30	0.35	09/05 20:48	-28.82	16.70	-0.03
09/05 13:58	18.92	2.30	0.37	09/05 20:58	-29.55	17.10	-0.03
09/05 14:08	29.42	2.80	0.42	09/05 21:08	-40.36	17.50	-0.04
09/05 14:18	36.67	3.00	0.47	09/05 21:18	-30.96	17.90	-0.03
09/05 14:28	39.01	3.00	0.50	09/05 21:28	-31.63	18.30	-0.03
09/05 14:38	39.01	3.00	0.50	09/05 21:38	-32.58	18.90	-0.03
09/05 14:48	40.35	3.10	0.49	09/05 21:48	-33.28	19.40	-0.03
09/05 14:58	38.70	3.10	0.47	09/05 21:58	-33.87	19.90	-0.03
09/05 15:08	40.03	3.40	0.42	09/05 22:08	-34.20	20.30	-0.03
09/05 15:18	36.01	3.70	0.33	09/05 22:18	-34.34	20.60	-0.03
09/05 15:28	15.77	4.40	0.11	09/05 22:28	-45.52	20.90	-0.04
09/05 15:38	14.01	5.00	0.08	09/05 22:38	-34.07	21.20 ^	-0.03
09/05 15:48	8.12	5.50	0.04	09/05 22:48	-34.07	21.50 ^	-0.03
09/05 15:58	2.32	6.00	0.01	09/05 22:58	-34.07	21.90 ^	-0.03
09/05 16:08	-2.62	6.50	0.00	09/05 23:08	-45.43	22.10 ^	-0.04
09/05 16:18	-2.93	7.00	0.00	09/05 23:18	-34.07	22.40 ^	-0.03
09/05 16:28	-3.12	7.30	0.00	09/05 23:28	-45.43	22.60 ^	-0.04
09/05 16:38	0.00	7.50	0.00	09/05 23:38	-34.07	22.90 ^	-0.03
09/05 16:48	0.00	7.90	0.00	09/05 23:48	-34.07	23.20 ^	-0.03

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/05 23:58	-22.72	23.40 ^	-0.02	09/06 09:08	313.90	10.40	0.60
09/06 00:08	-22.72	23.60 ^	-0.02	09/06 09:18	107.93	5.80	0.49
09/06 00:18	-34.07	23.80 ^	-0.03	09/06 09:28	59.25	3.90	0.50
09/06 00:28	-45.43	24.10 ^	-0.04	09/06 09:38	44.59	3.30	0.49
09/06 00:38	-34.07	24.30 ^	-0.03	09/06 09:48	35.11	3.00	0.45
09/06 00:48	-45.43	24.50 ^	-0.04	09/06 09:58	29.07	2.70	0.44
09/06 00:58	-45.43	24.80 ^	-0.04	09/06 10:08	27.75	2.70	0.42
09/06 01:08	-22.72	25.00 ^	-0.02	09/06 10:18	27.75	2.70	0.42
09/06 01:18	-22.72	25.20 ^	-0.02	09/06 10:28	29.42	2.80	0.42
09/06 01:28	-34.07	25.40 ^	-0.03	09/06 10:38	28.41	2.70	0.43
09/06 01:38	-34.07	25.60 ^	-0.03	09/06 10:48	26.08	2.60	0.42
09/06 01:48	-34.07	25.70 ^	-0.03	09/06 10:58	24.52	2.50	0.42
09/06 01:58	-45.43	25.90 ^	-0.04	09/06 11:08	24.84	2.60	0.40
09/06 02:08	-45.43	26.20 ^	-0.04	09/06 11:18	23.59	2.60	0.38
09/06 02:18	-45.43	26.50 ^	-0.04	09/06 11:28	25.46	2.60	0.41
09/06 02:28	-22.72	26.80 ^	-0.02	09/06 11:38	26.43	2.70	0.40
09/06 02:38	-34.07	27.00 ^	-0.03	09/06 11:48	26.43	2.70	0.40
09/06 02:48	-22.72	27.30 ^	-0.02	09/06 11:58	23.93	2.50	0.41
09/06 02:58	-45.43	27.40 ^	-0.04	09/06 12:08	24.84	2.60	0.40
09/06 03:08	-45.43	27.60 ^	-0.04	09/06 12:18	26.43	2.70	0.40
09/06 03:18	-34.07	27.80 ^	-0.03	09/06 12:28	26.43	2.70	0.40
09/06 03:28	-45.43	28.10 ^	-0.04	09/06 12:38	28.72	2.80	0.41
09/06 03:38	-34.07	28.40 ^	-0.03	09/06 12:48	26.70	2.60	0.43
09/06 03:48	-45.43	28.50 ^	-0.04	09/06 12:58	26.70	2.60	0.43
09/06 03:58	-34.07	28.70 ^	-0.03	09/06 13:08	26.43	2.70	0.40
09/06 04:08	-45.43	28.90 ^	-0.04	09/06 13:18	22.76	2.50	0.39
09/06 04:18	-34.07	29.00 ^	-0.03	09/06 13:28	21.11	2.60	0.34
09/06 04:28	-45.43	29.20 ^	-0.04	09/06 13:38	18.92	2.80	0.27
09/06 04:38	-45.43	29.50 ^	-0.04	09/06 13:48	14.04	3.00	0.18
09/06 04:48	-34.07	29.70 ^	-0.03	09/06 13:58	10.01	3.30	0.11
09/06 04:58	-34.07	29.90 ^	-0.03	09/06 14:08	7.64	3.70	0.07
09/06 05:08	-45.43	30.20 ^	-0.04	09/06 14:18	3.56	3.90	0.03
09/06 05:18	-45.43	30.60 ^	-0.04	09/06 14:28	0.00	4.40	0.00
09/06 05:28	-34.07	30.90 ^	-0.03	09/06 14:38	1.59	4.70	0.01
09/06 05:38	-34.07	31.30 ^	-0.03	09/06 14:48	-3.61	5.10	-0.02
09/06 05:48	-45.43	31.60 ^	-0.04	09/06 14:58	-2.09	5.60	0.00
09/06 05:58	-45.43	31.80 ^	-0.04	09/06 15:08	-9.04	5.90	-0.04
09/06 06:08	-56.79	32.20 ^	-0.05	09/06 15:18	-10.48	6.50	-0.04
09/06 06:18	-45.43	32.70 ^	-0.04	09/06 15:28	-14.34	6.90	-0.05
09/06 06:28	-45.43	33.10 ^	-0.04	09/06 15:38	-6.24	7.30	-0.02
09/06 06:38	-34.07	33.60 ^	-0.03	09/06 15:48	-9.94	7.60	-0.03
09/06 06:48	-45.43	34.10 ^	-0.04	09/06 15:58	-7.42	8.20	-0.02
09/06 06:58	-34.07	34.50 ^	-0.03	09/06 16:08	-11.73	8.50	-0.03
09/06 07:08	-45.43	35.10 ^	-0.04	09/06 16:18	-12.55	8.90	-0.03
09/06 07:18	-45.43	35.70 ^	-0.04	09/06 16:28	-17.56	9.20	-0.04
09/06 07:28	-45.43	36.40 ^	-0.04	09/06 16:38	-18.67	9.60	-0.04
09/06 07:38	-45.43	37.10 ^	-0.04	09/06 16:48	-19.51	9.90	-0.04
09/06 07:48	-45.43	37.70 ^	-0.04	09/06 16:58	-25.45	10.20	-0.05
09/06 07:58	-45.43	38.60 ^	-0.04	09/06 17:08	-21.21	10.50	-0.04
09/06 08:08	-56.79	39.10 ^	-0.05	09/06 17:18	-16.34	10.70	-0.03
09/06 08:18	-34.07	39.70 ^	-0.03	09/06 17:28	-22.64	11.00	-0.04
09/06 08:28	-45.43	40.50 ^	-0.04	09/06 17:38	-23.51	11.30	-0.04
09/06 08:38	340.74	25.40 ^	0.30	09/06 17:48	-18.28	11.60	-0.03
09/06 08:48	590.62	22.60 ^	0.52	09/06 17:58	-18.71	11.80	-0.03
09/06 08:58	400.81	16.60	0.42	09/06 18:08	-19.58	12.20	-0.03

page 2

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
09/06	18:18	-33.72	12.50	-0.05	09/07	03:28	-56.79	39.00 ^	-0.05
09/06	18:28	-28.12	12.90	-0.04	09/07	03:38	-45.43	39.30 ^	-0.04
09/06	18:38	-22.17	13.40	-0.03	09/07	03:48	-45.43	39.70 ^	-0.04
09/06	18:48	-31.25	14.00	-0.04	09/07	03:58	-34.07	39.90 ^	-0.03
09/06	18:58	-24.48	14.50	-0.03	09/07	04:08	-45.43	40.20 ^	-0.04
09/06	19:08	-42.84	15.10	-0.05	09/07	04:18	-34.07	40.60 ^	-0.03
09/06	19:18	-35.87	15.70	-0.04	09/07	04:28	-34.07	40.80 ^	-0.03
09/06	19:28	-37.42	16.30	-0.04	09/07	04:38	-45.43	41.30 ^	-0.04
09/06	19:38	-29.19	16.90	-0.03	09/07	04:48	-45.43	41.60 ^	-0.04
09/06	19:48	-50.45	17.50	-0.05	09/07	04:58	-45.43	42.00 ^	-0.04
09/06	19:58	-31.30	18.10	-0.03	09/07	05:08	-45.43	42.40 ^	-0.04
09/06	20:08	-43.03	18.70	-0.04	09/07	05:18	-45.43	42.60 ^	-0.04
09/06	20:18	-44.55	19.50	-0.04	09/07	05:28	-45.43	43.10 ^	-0.04
09/06	20:28	-45.68	20.40	-0.04	09/07	05:38	-45.43	43.40 ^	-0.04
09/06	20:38	-45.43	21.00	-0.04	09/07	05:48	-45.43	43.90 ^	-0.04
09/06	20:48	-45.43	21.60 ^	-0.04	09/07	05:58	-45.43	44.20 ^	-0.04
09/06	20:58	-45.43	22.10 ^	-0.04	09/07	06:08	-45.43	44.60 ^	-0.04
09/06	21:08	-45.43	22.70 ^	-0.04	09/07	06:18	-56.79	45.00 ^	-0.05
09/06	21:18	-45.43	23.40 ^	-0.04	09/07	06:28	-45.43	45.50 ^	-0.04
09/06	21:28	-45.43	24.00 ^	-0.04	09/07	06:38	-45.43	45.90 ^	-0.04
09/06	21:38	-45.43	24.70 ^	-0.04	09/07	06:48	-45.43	46.40 ^	-0.04
09/06	21:48	-45.43	25.30 ^	-0.04	09/07	06:58	-34.07	47.00 ^	-0.03
09/06	21:58	-45.43	25.90 ^	-0.04	09/07	07:08	-45.43	47.70 ^	-0.04
09/06	22:08	-45.43	26.40 ^	-0.04	09/07	07:18	-45.43	48.30 ^	-0.04
09/06	22:18	-56.79	27.00 ^	-0.05	09/07	07:28	-45.43	49.00 ^	-0.04
09/06	22:28	-45.43	27.50 ^	-0.04	09/07	07:38	-45.43	49.80 ^	-0.04
09/06	22:38	-34.07	27.90 ^	-0.03	09/07	07:48	-45.43	50.30 ^	-0.04
09/06	22:48	-45.43	28.30 ^	-0.04	09/07	07:58	-45.43	50.80 ^	-0.04
09/06	22:58	-34.07	28.60 ^	-0.03	09/07	08:08	-45.43	51.30 ^	-0.04
09/06	23:08	-45.43	29.00 ^	-0.04	09/07	08:18	-45.43	52.00 ^	-0.04
09/06	23:18	-45.43	29.40 ^	-0.04	09/07	08:28	-56.79	52.80 ^	-0.05
09/06	23:28	-45.43	29.90 ^	-0.04	09/07	08:38	318.03	33.90 ^	0.28
09/06	23:38	-34.07	30.40 ^	-0.03	09/07	08:48	556.55	27.30 ^	0.49
09/06	23:48	-45.43	30.90 ^	-0.04	09/07	08:58	533.83	21.70 ^	0.47
09/06	23:58	-45.43	31.30 ^	-0.04	09/07	09:08	408.79	16.20	0.44
09/07	00:08	-34.07	31.70 ^	-0.03	09/07	09:18	282.04	10.00	0.57
09/07	00:18	-45.43	32.10 ^	-0.04	09/07	09:28	107.22	5.70	0.50
09/07	00:28	-34.07	32.70 ^	-0.03	09/07	09:38	62.57	3.80	0.55
09/07	00:38	-45.43	33.30 ^	-0.04	09/07	09:48	45.07	3.20	0.52
09/07	00:48	-45.43	33.70 ^	-0.04	09/07	09:58	34.80	2.90	0.47
09/07	00:58	-45.43	34.10 ^	-0.04	09/07	10:08	27.75	2.70	0.42
09/07	01:08	-45.43	34.40 ^	-0.04	09/07	10:18	25.46	2.60	0.41
09/07	01:18	-45.43	34.70 ^	-0.04	09/07	10:28	24.22	2.60	0.39
09/07	01:28	-45.43	35.10 ^	-0.04	09/07	10:38	23.93	2.50	0.41
09/07	01:38	-45.43	35.50 ^	-0.04	09/07	10:48	23.79	2.70	0.36
09/07	01:48	-34.07	35.80 ^	-0.03	09/07	10:58	21.11	2.60	0.34
09/07	01:58	-45.43	36.10 ^	-0.04	09/07	11:08	17.95	3.00	0.23
09/07	02:08	-45.43	36.50 ^	-0.04	09/07	11:18	12.74	3.30	0.14
09/07	02:18	-45.43	36.80 ^	-0.04	09/07	11:28	5.69	3.80	0.05
09/07	02:28	-45.43	37.10 ^	-0.04	09/07	11:38	5.13	4.10	0.04
09/07	02:38	-45.43	37.30 ^	-0.04	09/07	11:48	2.87	4.40	0.02
09/07	02:48	-45.43	37.60 ^	-0.04	09/07	11:58	1.64	4.80	0.01
09/07	02:58	-45.43	38.00 ^	-0.04	09/07	12:08	0.00	5.10	0.00
09/07	03:08	-34.07	38.40 ^	-0.03	09/07	12:18	0.00	5.60	0.00
09/07	03:18	-45.43	38.70 ^	-0.04	09/07	12:28	-2.38	6.10	0.00

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/07 12:38	-10.98	6.70	-0.04	09/07 21:48	-45.43	29.40 ^	-0.04
09/07 12:48	-12.23	7.20	-0.04	09/07 21:58	-45.43	29.90 ^	-0.04
09/07 12:58	-10.14	7.70	-0.03	09/07 22:08	-45.43	30.40 ^	-0.04
09/07 13:08	-18.55	8.20	-0.05	09/07 22:18	-45.43	30.80 ^	-0.04
09/07 13:18	-15.91	8.60	-0.04	09/07 22:28	-45.43	31.40 ^	-0.04
09/07 13:28	-17.28	9.10	-0.04	09/07 22:38	-56.79	31.90 ^	-0.05
09/07 13:38	-23.69	9.70	-0.05	09/07 22:48	-45.43	32.50 ^	-0.04
09/07 13:48	-25.09	10.10	-0.05	09/07 22:58	-56.79	33.20 ^	-0.05
09/07 13:58	-26.52	10.50	-0.05	09/07 23:08	-45.43	33.70 ^	-0.04
09/07 14:08	-22.36	10.90	-0.04	09/07 23:18	-56.79	34.20 ^	-0.05
09/07 14:18	-23.51	11.30	-0.04	09/07 23:28	-45.43	34.70 ^	-0.04
09/07 14:28	-30.83	11.70	-0.05	09/07 23:38	-45.43	35.30 ^	-0.04
09/07 14:38	-19.58	12.20	-0.03	09/07 23:48	-45.43	35.70 ^	-0.04
09/07 14:48	-27.55	12.70	-0.04	09/07 23:58	-45.43	36.30 ^	-0.04
09/07 14:58	-21.95	13.30	-0.03	09/08 00:08	-45.43	36.80 ^	-0.04
09/07 15:08	-30.69	13.80	-0.04	09/08 00:18	-45.43	37.20 ^	-0.04
09/07 15:18	-32.09	14.30	-0.04	09/08 00:28	-45.43	37.50 ^	-0.04
09/07 15:28	-24.89	14.70	-0.03	09/08 00:38	-45.43	38.00 ^	-0.04
09/07 15:38	-34.54	15.20	-0.04	09/08 00:48	-45.43	38.60 ^	-0.04
09/07 15:48	-44.51	15.60	-0.05	09/08 00:58	-56.79	39.00 ^	-0.05
09/07 15:58	-36.65	16.00	-0.04	09/08 01:08	-56.79	39.40 ^	-0.05
09/07 16:08	-38.17	16.60	-0.04	09/08 01:18	-45.43	39.80 ^	-0.04
09/07 16:18	-39.40	17.10	-0.04	09/08 01:28	-34.07	40.10 ^	-0.03
09/07 16:28	-40.36	17.50	-0.04	09/08 01:38	-34.07	40.60 ^	-0.03
09/07 16:38	-51.61	17.90	-0.05	09/08 01:48	-45.43	40.90 ^	-0.04
09/07 16:48	-53.00	18.40	-0.05	09/08 01:58	-45.43	41.30 ^	-0.04
09/07 16:58	-43.44	18.90	-0.04	09/08 02:08	-45.43	41.80 ^	-0.04
09/07 17:08	-44.21	19.30	-0.04	09/08 02:18	-45.43	42.30 ^	-0.04
09/07 17:18	-56.28	19.80	-0.05	09/08 02:28	-34.07	42.60 ^	-0.03
09/07 17:28	-45.53	20.20	-0.04	09/08 02:38	-56.79	43.00 ^	-0.05
09/07 17:38	-45.79	20.60	-0.04	09/08 02:48	-45.43	43.70 ^	-0.04
09/07 17:48	-56.90	20.90	-0.05	09/08 02:58	-34.07	44.10 ^	-0.03
09/07 17:58	-45.43	21.20 ^	-0.04	09/08 03:08	-34.07	44.40 ^	-0.03
09/07 18:08	-45.43	21.70 ^	-0.04	09/08 03:18	-45.43	44.70 ^	-0.04
09/07 18:18	-34.07	22.10 ^	-0.03	09/08 03:28	-56.79	45.30 ^	-0.05
09/07 18:28	-45.43	22.60 ^	-0.04	09/08 03:38	-45.43	45.50 ^	-0.04
09/07 18:38	-56.79	23.00 ^	-0.05	09/08 03:48	-45.43	46.00 ^	-0.04
09/07 18:48	-45.43	23.50 ^	-0.04	09/08 03:58	-34.07	46.40 ^	-0.03
09/07 18:58	-34.07	23.90 ^	-0.03	09/08 04:08	-45.43	46.80 ^	-0.04
09/07 19:08	-45.43	24.30 ^	-0.04	09/08 04:18	-45.43	47.20 ^	-0.04
09/07 19:18	-45.43	24.70 ^	-0.04	09/08 04:28	-34.07	47.50 ^	-0.03
09/07 19:28	-56.79	25.00 ^	-0.05	09/08 04:38	-45.43	47.90 ^	-0.04
09/07 19:38	-45.43	25.30 ^	-0.04	09/08 04:48	-34.07	48.30 ^	-0.03
09/07 19:48	-45.43	25.70 ^	-0.04	09/08 04:58	-34.07	48.70 ^	-0.03
09/07 19:58	-45.43	26.00 ^	-0.04	09/08 05:08	-45.43	49.20 ^	-0.04
09/07 20:08	-45.43	26.30 ^	-0.04	09/08 05:18	-45.43	49.50 ^	-0.04
09/07 20:18	-45.43	26.50 ^	-0.04	09/08 05:28	-45.43	49.80 ^	-0.04
09/07 20:28	-56.79	26.80 ^	-0.05	09/08 05:38	-45.43	50.20 ^	-0.04
09/07 20:38	-56.79	27.10 ^	-0.05	09/08 05:48	-34.07	50.50 ^	-0.03
09/07 20:48	-56.79	27.40 ^	-0.05	09/08 05:58	-45.43	50.80 ^	-0.04
09/07 20:58	-45.43	27.70 ^	-0.04	09/08 06:08	-34.07	51.10 ^	-0.03
09/07 21:08	-56.79	28.00 ^	-0.05	09/08 06:18	-56.79	51.50 ^	-0.05
09/07 21:18	-45.43	28.30 ^	-0.04	09/08 06:28	-45.43	52.00 ^	-0.04
09/07 21:28	-34.07	28.60 ^	-0.03	09/08 06:38	-45.43	52.20 ^	-0.04
09/07 21:38	-45.43	29.00 ^	-0.04	09/08 06:48	-56.79	52.80 ^	-0.05

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/08 06:58	-34.07	53.20 ^	-0.03	09/08 16:08	-51.32	17.80	-0.05
09/08 07:08	-45.43	53.60 ^	-0.04	09/08 16:18	-52.17	18.10	-0.05
09/08 07:18	-45.43	54.00 ^	-0.04	09/08 16:28	-53.00	18.40	-0.05
09/08 07:28	-45.43	54.60 ^	-0.04	09/08 16:38	-43.24	18.80	-0.04
09/08 07:38	-45.43	55.00 ^	-0.04	09/08 16:48	-43.83	19.10	-0.04
09/08 07:48	-45.43	55.40 ^	-0.04	09/08 16:58	-44.55	19.50	-0.04
09/08 07:58	-45.43	55.80 ^	-0.04	09/08 17:08	-56.45	19.90	-0.05
09/08 08:08	-45.43	56.20 ^	-0.04	09/08 17:18	-56.91	20.20	-0.05
09/08 08:18	-45.43	56.40 ^	-0.04	09/08 17:28	-45.79	20.60	-0.04
09/08 08:28	-56.79	57.00 ^	-0.05	09/08 17:38	-56.79	21.00	-0.05
09/08 08:38	249.88	39.20 ^	0.22	09/08 17:48	-45.43	21.40 ^	-0.04
09/08 08:48	545.19	30.10 ^	0.48	09/08 17:58	-45.43	21.80 ^	-0.04
09/08 08:58	533.83	24.30 ^	0.47	09/08 18:08	-45.43	22.20 ^	-0.04
09/08 09:08	514.97	19.10	0.47	09/08 18:18	-45.43	22.60 ^	-0.04
09/08 09:18	362.29	13.20	0.50	09/08 18:28	-56.79	23.00 ^	-0.05
09/08 09:28	178.76	7.50	0.55	09/08 18:38	-56.79	23.40 ^	-0.05
09/08 09:38	74.28	4.50	0.50	09/08 18:48	-56.79	23.80 ^	-0.05
09/08 09:48	49.93	3.50	0.50	09/08 18:58	-45.43	24.10 ^	-0.04
09/08 09:58	37.88	3.10	0.46	09/08 19:08	-56.79	24.50 ^	-0.05
09/08 10:08	25.91	2.90	0.35	09/08 19:18	-34.07	24.70 ^	-0.03
09/08 10:18	16.47	3.10	0.20	09/08 19:28	-45.43	25.00 ^	-0.04
09/08 10:28	9.99	3.50	0.10	09/08 19:38	-45.43	25.30 ^	-0.04
09/08 10:38	4.55	3.80	0.04	09/08 19:48	-45.43	25.70 ^	-0.04
09/08 10:48	1.33	4.20	0.01	09/08 19:58	-45.43	26.10 ^	-0.04
09/08 10:58	-1.49	4.50	0.00	09/08 20:08	-45.43	26.30 ^	-0.04
09/08 11:08	-5.09	4.90	-0.03	09/08 20:18	-56.79	26.60 ^	-0.05
09/08 11:18	-9.87	5.40	-0.05	09/08 20:28	-45.43	27.00 ^	-0.04
09/08 11:28	-9.52	6.10	-0.04	09/08 20:38	-56.79	27.20 ^	-0.05
09/08 11:38	-5.49	6.70	-0.02	09/08 20:48	-45.43	27.60 ^	-0.04
09/08 11:48	-18.35	7.20	-0.06	09/08 20:58	-45.43	27.80 ^	-0.04
09/08 11:58	-17.23	7.80	-0.05	09/08 21:08	-56.79	28.20 ^	-0.05
09/08 12:08	-18.21	8.10	-0.05	09/08 21:18	-45.43	28.50 ^	-0.04
09/08 12:18	-19.55	8.50	-0.05	09/08 21:28	-45.43	28.80 ^	-0.04
09/08 12:28	-25.92	9.10	-0.06	09/08 21:38	-56.79	29.10 ^	-0.05
09/08 12:38	-27.58	9.50	-0.06	09/08 21:48	-56.79	29.40 ^	-0.05
09/08 12:48	-19.23	9.80	-0.04	09/08 21:58	-45.43	29.60 ^	-0.04
09/08 12:58	-21.21	10.50	-0.04	09/08 22:08	-56.79	30.00 ^	-0.05
09/08 13:08	-28.31	11.00	-0.05	09/08 22:18	-45.43	30.30 ^	-0.04
09/08 13:18	-35.69	11.40	-0.06	09/08 22:28	-56.79	30.60 ^	-0.05
09/08 13:28	-31.19	11.80	-0.05	09/08 22:38	-56.79	31.00 ^	-0.05
09/08 13:38	-26.40	12.30	-0.04	09/08 22:48	-45.43	31.20 ^	-0.04
09/08 13:48	-27.26	12.60	-0.04	09/08 22:58	-34.07	31.50 ^	-0.03
09/08 13:58	-28.41	13.00	-0.04	09/08 23:08	-34.07	31.80 ^	-0.03
09/08 14:08	-29.84	13.50	-0.04	09/08 23:18	-56.79	32.10 ^	-0.05
09/08 14:18	-38.71	13.90	-0.05	09/08 23:28	-34.07	32.40 ^	-0.03
09/08 14:28	-24.06	14.30	-0.03	09/08 23:38	-34.07	32.80 ^	-0.03
09/08 14:38	-32.92	14.60	-0.04	09/08 23:48	-45.43	33.10 ^	-0.04
09/08 14:48	-34.01	15.00	-0.04	09/08 23:58	-34.07	33.50 ^	-0.03
09/08 14:58	-35.08	15.40	-0.04	09/09 00:08	-45.43	33.90 ^	-0.04
09/08 15:08	-35.87	15.70	-0.04	09/09 00:18	-56.79	34.20 ^	-0.05
09/08 15:18	-36.91	16.10	-0.04	09/09 00:28	-45.43	34.50 ^	-0.04
09/08 15:28	-47.09	16.40	-0.05	09/09 00:38	-45.43	34.80 ^	-0.04
09/08 15:38	-48.34	16.80	-0.05	09/09 00:48	-34.07	35.10 ^	-0.03
09/08 15:48	-39.40	17.10	-0.04	09/09 00:58	-45.43	35.30 ^	-0.04
09/08 15:58	-50.15	17.40	-0.05	09/09 01:08	-45.43	35.70 ^	-0.04

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
09/09	01:18	-34.07	36.10 ^	-0.03	09/09	10:28	20.02	3.30	0.22
09/09	01:28	-45.43	36.40 ^	-0.04	09/09	10:38	12.00	3.70	0.11
09/09	01:38	-34.07	36.70 ^	-0.03	09/09	10:48	4.94	4.00	0.04
09/09	01:48	-34.07	37.00 ^	-0.03	09/09	10:58	2.87	4.40	0.02
09/09	01:58	-34.07	37.20 ^	-0.03	09/09	11:08	0.00	5.00	0.00
09/09	02:08	-45.43	37.40 ^	-0.04	09/09	11:18	0.00	5.50	0.00
09/09	02:18	-45.43	37.70 ^	-0.04	09/09	11:28	-4.88	6.20	-0.02
09/09	02:28	-45.43	38.10 ^	-0.04	09/09	11:38	-8.23	6.70	-0.03
09/09	02:38	-45.43	38.30 ^	-0.04	09/09	11:48	-8.98	7.10	-0.03
09/09	02:48	-45.43	38.60 ^	-0.04	09/09	11:58	-9.75	7.50	-0.03
09/09	02:58	-45.43	38.80 ^	-0.04	09/09	12:08	-10.73	8.00	-0.03
09/09	03:08	-34.07	39.20 ^	-0.03	09/09	12:18	-19.55	8.50	-0.05
09/09	03:18	-45.43	39.50 ^	-0.04	09/09	12:28	-25.50	9.00	-0.06
09/09	03:28	-45.43	39.70 ^	-0.04	09/09	12:38	-18.67	9.60	-0.04
09/09	03:38	-45.43	40.00 ^	-0.04	09/09	12:48	-25.09	10.10	-0.05
09/09	03:48	-45.43	40.50 ^	-0.04	09/09	12:58	-26.52	10.50	-0.05
09/09	03:58	-34.07	41.00 ^	-0.03	09/09	13:08	-33.54	10.90	-0.06
09/09	04:08	-45.43	41.40 ^	-0.04	09/09	13:18	-29.38	11.30	-0.05
09/09	04:18	-45.43	41.80 ^	-0.04	09/09	13:28	-24.66	11.70	-0.04
09/09	04:28	-45.43	42.10 ^	-0.04	09/09	13:38	-32.27	12.10	-0.05
09/09	04:38	-45.43	42.60 ^	-0.04	09/09	13:48	-27.26	12.60	-0.04
09/09	04:48	-45.43	42.90 ^	-0.04	09/09	13:58	-27.84	12.80	-0.04
09/09	04:58	-45.43	43.40 ^	-0.04	09/09	14:08	-36.94	13.40	-0.05
09/09	05:08	-45.43	43.90 ^	-0.04	09/09	14:18	-46.87	14.00	-0.06
09/09	05:18	-45.43	44.20 ^	-0.04	09/09	14:28	-40.80	14.50	-0.05
09/09	05:28	-45.43	44.80 ^	-0.04	09/09	14:38	-34.01	15.00	-0.04
09/09	05:38	-56.79	45.30 ^	-0.05	09/09	14:48	-34.81	15.30	-0.04
09/09	05:48	-45.43	45.90 ^	-0.04	09/09	14:58	-35.87	15.70	-0.04
09/09	05:58	-56.79	46.50 ^	-0.05	09/09	15:08	-46.13	16.10	-0.05
09/09	06:08	-56.79	47.10 ^	-0.05	09/09	15:18	-38.17	16.60	-0.04
09/09	06:18	-56.79	47.80 ^	-0.05	09/09	15:28	-39.40	17.10	-0.04
09/09	06:28	-45.43	48.30 ^	-0.04	09/09	15:38	-40.59	17.60	-0.04
09/09	06:38	-45.43	48.60 ^	-0.04	09/09	15:48	-41.74	18.10	-0.04
09/09	06:48	-56.79	49.30 ^	-0.05	09/09	15:58	-42.82	18.60	-0.04
09/09	06:58	-34.07	49.80 ^	-0.03	09/09	16:08	-43.83	19.10	-0.04
09/09	07:08	-56.79	50.70 ^	-0.05	09/09	16:18	-55.69	19.50	-0.05
09/09	07:18	-45.43	51.10 ^	-0.04	09/09	16:28	-45.16	19.90	-0.04
09/09	07:28	-45.43	51.80 ^	-0.04	09/09	16:38	-68.14	20.10	-0.06
09/09	07:38	-45.43	52.60 ^	-0.04	09/09	16:48	-45.68	20.40	-0.04
09/09	07:48	-45.43	53.20 ^	-0.04	09/09	16:58	-45.79	20.60	-0.04
09/09	07:58	-56.79	53.80 ^	-0.05	09/09	17:08	-45.52	20.90	-0.04
09/09	08:08	-45.43	54.40 ^	-0.04	09/09	17:18	-56.79	21.20 ^	-0.05
09/09	08:18	-34.07	54.80 ^	-0.03	09/09	17:28	-56.79	21.50 ^	-0.05
09/09	08:28	-45.43	55.40 ^	-0.04	09/09	17:38	-56.79	21.80 ^	-0.05
09/09	08:38	318.03	37.20 ^	0.28	09/09	17:48	-68.15	22.10 ^	-0.06
09/09	08:48	567.90	29.10 ^	0.50	09/09	17:58	-45.43	22.40 ^	-0.04
09/09	08:58	533.83	23.50 ^	0.47	09/09	18:08	-45.43	22.80 ^	-0.04
09/09	09:08	516.69	18.30	0.49	09/09	18:18	-45.43	23.20 ^	-0.04
09/09	09:18	358.97	12.20	0.55	09/09	18:28	-56.79	23.60 ^	-0.05
09/09	09:28	143.40	6.90	0.50	09/09	18:38	-45.43	23.90 ^	-0.04
09/09	09:38	66.63	4.20	0.50	09/09	18:48	-45.43	24.30 ^	-0.04
09/09	09:48	47.93	3.50	0.48	09/09	18:58	-45.43	24.60 ^	-0.04
09/09	09:58	34.59	3.10	0.42	09/09	19:08	-45.43	25.00 ^	-0.04
09/09	10:08	31.21	3.00	0.40	09/09	19:18	-56.79	25.30 ^	-0.05
09/09	10:18	24.97	3.00	0.32	09/09	19:28	-56.79	25.60 ^	-0.05

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/09 19:38	-56.79	26.00 ^	-0.05	09/10 02:48	-45.43	40.20 ^	-0.04
09/09 19:48	-45.43	26.20 ^	-0.04	09/10 02:58	-45.43	40.60 ^	-0.04
09/09 19:58	-45.43	26.50 ^	-0.04	09/10 03:08	-45.43	40.80 ^	-0.04
09/09 20:08	-56.79	27.00 ^	-0.05	09/10 03:18	-34.07	41.10 ^	-0.03
09/09 20:18	-45.43	27.40 ^	-0.04	09/10 03:28	-56.79	41.50 ^	-0.05
09/09 20:28	-56.79	27.70 ^	-0.05	09/10 03:38	-34.07	41.70 ^	-0.03
09/09 20:38	-45.43	28.10 ^	-0.04	09/10 03:48	-56.79	42.20 ^	-0.05
09/09 20:48	-45.43	28.40 ^	-0.04	09/10 03:58	-45.43	42.40 ^	-0.04
09/09 20:58	-45.43	28.70 ^	-0.04	09/10 04:08	-45.43	42.70 ^	-0.04
09/09 21:08	-45.43	29.00 ^	-0.04	09/10 04:18	-45.43	43.10 ^	-0.04
09/09 21:18	-45.43	29.20 ^	-0.04	09/10 04:28	-45.43	43.40 ^	-0.04
09/09 21:28	-45.43	29.60 ^	-0.04	09/10 04:38	-45.43	43.80 ^	-0.04
09/09 21:38	-56.79	30.00 ^	-0.05	09/10 04:48	-34.07	44.00 ^	-0.03
09/09 21:48	-34.07	30.40 ^	-0.03	09/10 04:58	-45.43	44.30 ^	-0.04
09/09 21:58	-45.43	30.80 ^	-0.04	09/10 05:08	-34.07	44.60 ^	-0.03
09/09 22:08	-45.43	31.20 ^	-0.04	09/10 05:18	-45.43	44.90 ^	-0.04
09/09 22:18	-45.43	31.70 ^	-0.04	09/10 05:28	-45.43	45.20 ^	-0.04
09/09 22:28	-45.43	32.10 ^	-0.04	09/10 05:38	-45.43	45.50 ^	-0.04
09/09 22:38	-56.79	32.60 ^	-0.05	09/10 05:48	-45.43	45.80 ^	-0.04
09/09 22:48	-45.43	33.10 ^	-0.04	09/10 05:58	-45.43	46.20 ^	-0.04
09/09 22:58	-45.43	33.50 ^	-0.04	09/10 06:08	-45.43	46.80 ^	-0.04
09/09 23:08	-56.79	34.00 ^	-0.05	09/10 06:18	-34.07	47.30 ^	-0.03
09/09 23:18	-56.79	34.40 ^	-0.05	09/10 06:28	-56.79	47.90 ^	-0.05
09/09 23:28	-45.43	34.70 ^	-0.04	09/10 06:38	-45.43	48.60 ^	-0.04
09/09 23:38	-34.07	35.00 ^	-0.03	09/10 06:48	-56.79	49.50 ^	-0.05
09/09 23:48	-45.43	35.30 ^	-0.04	09/10 06:58	-45.43	50.10 ^	-0.04
09/09 23:58	-45.43	35.80 ^	-0.04	09/10 07:08	-45.43	50.90 ^	-0.04
09/10 00:08	-45.43	36.10 ^	-0.04	09/10 07:18	-56.79	51.30 ^	-0.05
09/10 00:18	-45.43	36.40 ^	-0.04	09/10 07:28	-45.43	52.40 ^	-0.04
09/10 00:28	-45.43	36.70 ^	-0.04	09/10 07:38	-45.43	52.80 ^	-0.04
09/10 00:38	-45.43	37.00 ^	-0.04	09/10 07:48	-68.15	53.40 ^	-0.06
09/10 00:48	-45.43	37.20 ^	-0.04	09/10 07:58	-45.43	54.20 ^	-0.04
09/10 00:58	-56.79	37.40 ^	-0.05	09/10 08:08	-45.43	54.40 ^	-0.04
09/10 01:08	-56.79	37.70 ^	-0.05	09/10 08:18	-45.43	55.20 ^	-0.04
09/10 01:18	-34.07	38.00 ^	-0.03				
09/10 01:28	-45.43	38.40 ^	-0.04				
09/10 01:38	-56.79	38.60 ^	-0.05				
09/10 01:48	-45.43	38.90 ^	-0.04				
09/10 01:58	-45.43	39.10 ^	-0.04				
09/10 02:08	-45.43	39.40 ^	-0.04				
09/10 02:18	-34.07	39.50 ^	-0.03				
09/10 02:28	-45.43	39.80 ^	-0.04				
09/10 02:38	-34.07	40.00 ^	-0.03				

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

------------- A051591B.195 -- 09/05/91 ---------------------------------------

Original name:A051591A.195
Modification : B

Site Information:
Identification: LOCATION NO. 12
Description : ROAD 76
N/O RASMUSSEN AVE.

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 09/05/91 09:13
End Time : 09/10/91 07:43
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 711
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	36.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:41 File: A051591B.195
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 12
ROAD 76
N/O RASMUSSEN AVE.

Metering Period:
09/05/91 09:13 - 09/10/91 07:43

Report Period:
09/05/91 09:13 - 09/10/91 07:43

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
09/05	11:33	461.61 *	5.60 *	1.47 *					
09/05	16:53	185.39 *	3.70 *	1.15 *					
09/06	14:53	511.08	5.90	1.50					
09/06	23:43	57.01	2.60	0.62					
09/07	06:43	137.43	3.30	1.02					
09/07	03:03	26.55	1.70	0.57					
09/08	10:23	463.85	5.50	1.52					
09/08	03:53	36.22	1.90	0.65					
09/09	13:23	402.45	5.30	1.40					
09/09	01:33	48.62	2.20	0.70					
09/10	06:43	314.09 *	4.60 *	1.37 *					
09/10	01:53	202.33 *	3.80 *	1.20 *					

DAILY AVERAGES

Date: 09/20/91 14:42 File: A051591B.195
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 12
ROAD 76
N/O RASMUSSEN AVE.

Metering Period:
09/05/91 09:13 - 09/10/91 07:43

Report Period:
09/05/91 09:13 - 09/10/91 07:43

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/05	00:00	308.89 *	4.64 *	1.30 *
09/06	00:00	281.14	4.36	1.24
09/07	00:00	70.90	2.49	0.78
09/08	00:00	60.36	2.28	0.72
09/09	00:00	214.94	3.82	1.15
09/10	00:00	245.14 *	4.15 *	1.26 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:37 File: A051591B.195
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 12
ROAD 76
N/O RASMUSSEN AVE.

Metering Period:
09/05/91 09:13 - 09/10/91 07:43

Report Period:
09/05/91 09:13 - 09/10/91 07:43

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/05 09:13	364.57	5.10	1.35	09/05 16:13	188.84	3.80	1.12
09/05 09:23	336.44	4.80	1.37	09/05 16:23	185.47	3.80	1.10
09/05 09:33	371.89	5.00	1.42	09/05 16:33	188.84	3.80	1.12
09/05 09:43	364.57	5.10	1.35	09/05 16:43	197.13	3.90	1.12
09/05 09:53	403.99	5.20	1.45	09/05 16:53	185.39	3.70	1.15
09/05 10:03	422.57	5.30	1.47	09/05 17:03	188.84	3.80	1.12
09/05 10:13	455.33	5.60	1.45	09/05 17:13	205.42	4.00	1.12
09/05 10:23	452.02	5.70	1.40	09/05 17:23	241.81	4.20	1.22
09/05 10:33	452.02	5.70	1.40	09/05 17:33	261.12	4.30	1.27
09/05 10:43	458.48	5.70	1.42	09/05 17:43	266.26	4.40	1.25
09/05 10:53	445.91	5.60	1.42	09/05 17:53	247.76	4.20	1.25
09/05 11:03	439.63	5.60	1.40	09/05 18:03	227.94	4.20	1.15
09/05 11:13	445.91	5.60	1.42	09/05 18:13	241.81	4.20	1.22
09/05 11:23	445.91	5.60	1.42	09/05 18:23	247.76	4.20	1.25
09/05 11:33	461.61	5.60	1.47	09/05 18:33	247.76	4.20	1.25
09/05 11:43	445.91	5.60	1.42	09/05 18:43	241.81	4.20	1.22
09/05 11:53	442.49	5.50	1.45	09/05 18:53	242.33	4.10	1.27
09/05 12:03	418.08	5.50	1.37	09/05 19:03	237.85	4.20	1.20
09/05 12:13	427.23	5.50	1.40	09/05 19:13	247.76	4.20	1.25
09/05 12:23	433.34	5.50	1.42	09/05 19:23	232.79	4.10	1.22
09/05 12:33	433.34	5.50	1.42	09/05 19:33	223.25	4.10	1.17
09/05 12:43	433.34	5.50	1.42	09/05 19:43	210.92	4.00	1.15
09/05 12:53	420.77	5.40	1.42	09/05 19:53	229.26	4.00	1.25
09/05 13:03	420.77	5.40	1.42	09/05 20:03	237.85	4.20	1.20
09/05 13:13	405.95	5.40	1.37	09/05 20:13	246.73	4.30	1.20
09/05 13:23	408.20	5.30	1.42	09/05 20:23	246.73	4.30	1.20
09/05 13:33	402.45	5.30	1.40	09/05 20:33	241.81	4.20	1.22
09/05 13:43	408.20	5.30	1.42	09/05 20:43	241.81	4.20	1.22
09/05 13:53	390.05	5.20	1.40	09/05 20:53	229.26	4.00	1.25
09/05 14:03	402.45	5.30	1.40	09/05 21:03	214.59	4.00	1.17
09/05 14:13	416.82	5.30	1.45	09/05 21:13	214.59	4.00	1.17
09/05 14:23	402.45	5.30	1.40	09/05 21:23	210.92	4.00	1.15
09/05 14:33	364.57	5.10	1.35	09/05 21:33	219.43	4.10	1.15
09/05 14:43	319.25	4.80	1.30	09/05 21:43	228.97	4.10	1.20
09/05 14:53	247.76	4.20	1.25	09/05 21:53	232.79	4.10	1.22
09/05 15:03	228.97	4.10	1.20	09/05 22:03	267.29	4.30	1.30
09/05 15:13	238.51	4.10	1.25	09/05 22:13	276.91	4.40	1.30
09/05 15:23	267.29	4.30	1.30	09/05 22:23	276.91	4.40	1.30
09/05 15:33	298.49	4.50	1.35	09/05 22:33	276.91	4.40	1.30
09/05 15:43	276.91	4.40	1.30	09/05 22:43	276.91	4.40	1.30
09/05 15:53	251.72	4.20	1.27	09/05 22:53	287.56	4.40	1.35
09/05 16:03	210.92	4.00	1.15	09/05 23:03	291.86	4.50	1.32

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/05 23:13	270.52	4.40	1.27	09/06 08:23	494.04	5.90	1.45
09/05 23:23	276.91	4.40	1.30	09/06 08:33	466.78	5.90	1.37
09/05 23:33	287.43	4.50	1.30	09/06 08:43	447.83	5.80	1.35
09/05 23:43	302.62	4.60	1.32	09/06 08:53	427.23	5.50	1.40
09/05 23:53	308.65	4.70	1.30	09/06 09:03	405.95	5.40	1.37
09/06 00:03	313.39	4.70	1.32	09/06 09:13	356.47	5.10	1.32
09/06 00:13	308.65	4.70	1.30	09/06 09:23	342.55	4.90	1.35
09/06 00:23	302.62	4.60	1.32	09/06 09:33	347.62	4.90	1.37
09/06 00:33	291.86	4.50	1.32	09/06 09:43	378.08	5.10	1.40
09/06 00:43	287.43	4.50	1.30	09/06 09:53	390.05	5.20	1.40
09/06 00:53	281.17	4.40	1.32	09/06 10:03	420.77	5.40	1.42
09/06 01:03	280.80	4.50	1.27	09/06 10:13	433.34	5.50	1.42
09/06 01:13	287.43	4.50	1.30	09/06 10:23	445.91	5.60	1.42
09/06 01:23	266.26	4.40	1.25	09/06 10:33	481.00	5.80	1.45
09/06 01:33	246.73	4.30	1.20	09/06 10:43	454.46	5.80	1.37
09/06 01:43	266.26	4.40	1.25	09/06 10:53	447.83	5.80	1.35
09/06 01:53	291.82	4.40	1.37	09/06 11:03	423.93	5.60	1.35
09/06 02:03	302.62	4.60	1.32	09/06 11:13	414.84	5.40	1.40
09/06 02:13	313.39	4.70	1.32	09/06 11:23	402.45	5.30	1.40
09/06 02:23	331.53	4.80	1.35	09/06 11:33	402.45	5.30	1.40
09/06 02:33	331.53	4.80	1.35	09/06 11:43	381.70	5.20	1.37
09/06 02:43	334.93	4.90	1.32	09/06 11:53	366.66	5.00	1.40
09/06 02:53	320.52	4.70	1.35	09/06 12:03	355.23	4.90	1.40
09/06 03:03	342.55	4.90	1.35	09/06 12:13	360.31	4.90	1.42
09/06 03:13	342.55	4.90	1.35	09/06 12:23	332.39	4.70	1.40
09/06 03:23	342.55	4.90	1.35	09/06 12:33	320.97	4.60	1.40
09/06 03:33	342.55	4.90	1.35	09/06 12:43	302.91	4.50	1.37
09/06 03:43	366.66	5.00	1.40	09/06 12:53	325.02	4.50	1.47
09/06 03:53	356.09	4.80	1.45	09/06 13:03	344.26	4.70	1.45
09/06 04:03	358.80	5.00	1.37	09/06 13:13	337.14	4.70	1.42
09/06 04:13	366.66	5.00	1.40	09/06 13:23	320.52	4.70	1.35
09/06 04:23	355.23	4.90	1.40	09/06 13:33	314.09	4.60	1.37
09/06 04:33	358.80	5.00	1.37	09/06 13:43	298.49	4.50	1.35
09/06 04:43	378.08	5.10	1.40	09/06 13:53	281.68	4.30	1.37
09/06 04:53	366.66	5.00	1.40	09/06 14:03	271.40	4.30	1.32
09/06 05:03	378.08	5.10	1.40	09/06 14:13	277.57	4.30	1.35
09/06 05:13	297.06	5.10	1.10	09/06 14:23	313.97	4.50	1.42
09/06 05:23	288.96	5.10	1.07	09/06 14:33	403.99	5.20	1.45
09/06 05:33	360.31	4.90	1.42	09/06 14:43	484.31	5.70	1.50
09/06 05:43	325.27	4.70	1.37	09/06 14:53	511.08	5.90	1.50
09/06 05:53	309.50	4.60	1.35	09/06 15:03	479.78	6.00	1.37
09/06 06:03	298.04	4.60	1.30	09/06 15:13	442.33	5.70	1.37
09/06 06:13	291.16	4.60	1.27	09/06 15:23	342.97	5.10	1.27
09/06 06:23	302.62	4.60	1.32	09/06 15:33	291.16	4.60	1.27
09/06 06:33	302.62	4.60	1.32	09/06 15:43	302.62	4.60	1.32
09/06 06:43	287.43	4.50	1.30	09/06 15:53	320.97	4.60	1.40
09/06 06:53	267.29	4.30	1.30	09/06 16:03	302.62	4.60	1.32
09/06 07:03	237.85	4.20	1.20	09/06 16:13	281.17	4.40	1.32
09/06 07:13	228.97	4.10	1.20	09/06 16:23	276.91	4.40	1.30
09/06 07:23	276.91	4.40	1.30	09/06 16:33	343.81	4.80	1.40
09/06 07:33	355.23	4.90	1.40	09/06 16:43	343.81	4.80	1.40
09/06 07:43	390.05	5.20	1.40	09/06 16:53	298.49	4.50	1.35
09/06 07:53	429.66	5.40	1.45	09/06 17:03	248.05	4.10	1.30
09/06 08:03	468.16	5.70	1.45	09/06 17:13	211.21	3.90	1.20
09/06 08:13	483.82	5.90	1.42	09/06 17:23	170.04	3.50	1.15

page 2

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/06 17:33	137.06	3.40	0.97	09/07 02:43	29.16	1.80	0.57
09/06 17:43	155.43	3.40	1.10	09/07 02:53	27.94	1.70	0.60
09/06 17:53	173.00	3.50	1.17	09/07 03:03	26.55	1.70	0.57
09/06 18:03	188.62	3.70	1.17	09/07 03:13	26.55	1.70	0.57
09/06 18:13	172.96	3.60	1.12	09/07 03:23	29.16	1.80	0.57
09/06 18:23	165.61	3.50	1.12	09/07 03:33	30.69	1.80	0.60
09/06 18:33	148.37	3.40	1.05	09/07 03:43	30.69	1.80	0.60
09/06 18:43	141.48	3.30	1.05	09/07 03:53	30.27	1.70	0.65
09/06 18:53	124.05	3.10	1.02	09/07 04:03	31.71	1.80	0.62
09/06 19:03	121.61	3.10	1.00	09/07 04:13	37.34	1.90	0.67
09/06 19:13	117.97	3.10	0.97	09/07 04:23	42.21	2.00	0.70
09/06 19:23	111.60	3.00	0.97	09/07 04:33	50.01	2.20	0.72
09/06 19:33	111.60	3.00	0.97	09/07 04:43	60.51	2.40	0.75
09/06 19:43	115.05	3.00	1.00	09/07 04:53	66.16	2.40	0.82
09/06 19:53	111.03	2.90	1.02	09/07 05:03	82.95	2.70	0.85
09/06 20:03	130.13	3.10	1.07	09/07 05:13	92.90	2.80	0.90
09/06 20:13	134.59	3.20	1.05	09/07 05:23	97.96	2.90	0.90
09/06 20:23	121.61	3.10	1.00	09/07 05:33	92.52	2.90	0.85
09/06 20:33	121.61	3.10	1.00	09/07 05:43	92.52	2.90	0.85
09/06 20:43	97.96	2.90	0.90	09/07 05:53	84.90	2.70	0.87
09/06 20:53	87.83	2.70	0.90	09/07 06:03	87.73	2.80	0.85
09/06 21:03	84.90	2.70	0.87	09/07 06:13	92.52	2.90	0.85
09/06 21:13	82.95	2.70	0.85	09/07 06:23	111.89	3.10	0.92
09/06 21:23	82.95	2.70	0.85	09/07 06:33	124.33	3.20	0.97
09/06 21:33	82.95	2.70	0.85	09/07 06:43	137.43	3.30	1.02
09/06 21:43	78.16	2.60	0.85	09/07 06:53	134.59	3.20	1.05
09/06 21:53	70.20	2.40	0.87	09/07 07:03	130.74	3.20	1.02
09/06 22:03	80.00	2.60	0.87	09/07 07:13	137.43	3.30	1.02
09/06 22:13	100.12	2.80	0.97	09/07 07:23	137.43	3.30	1.02
09/06 22:23	115.05	3.00	1.00	09/07 07:33	128.18	3.20	1.00
09/06 22:33	109.30	3.00	0.95	09/07 07:43	115.53	3.10	0.95
09/06 22:43	103.41	2.90	0.95	09/07 07:53	103.41	2.90	0.95
09/06 22:53	87.83	2.70	0.90	09/07 08:03	103.55	3.00	0.90
09/06 23:03	75.40	2.60	0.82	09/07 08:13	94.70	2.90	0.87
09/06 23:13	66.47	2.50	0.77	09/07 08:23	87.73	2.80	0.85
09/06 23:23	64.74	2.50	0.75	09/07 08:33	80.02	2.70	0.82
09/06 23:33	60.51	2.40	0.75	09/07 08:43	87.73	2.80	0.85
09/06 23:43	57.01	2.60	0.62	09/07 08:53	87.83	2.70	0.90
09/06 23:53	60.42	2.50	0.70	09/07 09:03	97.96	2.90	0.90
09/07 00:03	64.74	2.50	0.75	09/07 09:13	103.41	2.90	0.95
09/07 00:13	60.51	2.40	0.75	09/07 09:23	105.85	3.00	0.92
09/07 00:23	58.09	2.40	0.72	09/07 09:33	105.85	3.00	0.92
09/07 00:33	58.09	2.40	0.72	09/07 09:43	105.85	3.00	0.92
09/07 00:43	52.54	2.30	0.70	09/07 09:53	94.96	2.80	0.92
09/07 00:53	48.66	2.10	0.75	09/07 10:03	94.70	2.90	0.87
09/07 01:03	48.62	2.20	0.70	09/07 10:13	89.80	2.80	0.87
09/07 01:13	46.54	2.20	0.67	09/07 10:23	89.80	2.80	0.87
09/07 01:23	43.47	2.10	0.67	09/07 10:33	92.90	2.80	0.90
09/07 01:33	39.20	2.00	0.65	09/07 10:43	97.96	2.90	0.90
09/07 01:43	39.20	2.00	0.65	09/07 10:53	92.90	2.80	0.90
09/07 01:53	36.22	1.90	0.65	09/07 11:03	94.70	2.90	0.87
09/07 02:03	34.55	1.90	0.62	09/07 11:13	89.80	2.80	0.87
09/07 02:13	33.44	1.90	0.60	09/07 11:23	87.73	2.80	0.85
09/07 02:23	30.69	1.80	0.60	09/07 11:33	82.95	2.70	0.85
09/07 02:33	30.69	1.80	0.60	09/07 11:43	78.07	2.70	0.80

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/07 11:53	78.16	2.60	0.85	09/07 21:03	46.72	2.10	0.72
09/07 12:03	73.56	2.60	0.80	09/07 21:13	45.42	2.10	0.70
09/07 12:13	70.80	2.60	0.77	09/07 21:23	46.54	2.20	0.67
09/07 12:23	75.40	2.60	0.82	09/07 21:33	46.54	2.20	0.67
09/07 12:33	92.90	2.80	0.90	09/07 21:43	46.54	2.20	0.67
09/07 12:43	109.30	3.00	0.95	09/07 21:53	42.21	2.00	0.70
09/07 12:53	117.35	3.00	1.02	09/07 22:03	43.47	2.10	0.67
09/07 13:03	134.59	3.20	1.05	09/07 22:13	43.47	2.10	0.67
09/07 13:13	130.74	3.20	1.02	09/07 22:23	42.18	2.10	0.65
09/07 13:23	134.59	3.20	1.05	09/07 22:33	43.47	2.10	0.67
09/07 13:33	128.18	3.20	1.00	09/07 22:43	42.21	2.00	0.70
09/07 13:43	124.33	3.20	0.97	09/07 22:53	42.21	2.00	0.70
09/07 13:53	121.61	3.10	1.00	09/07 23:03	43.47	2.10	0.67
09/07 14:03	115.53	3.10	0.95	09/07 23:13	43.47	2.10	0.67
09/07 14:13	111.89	3.10	0.92	09/07 23:23	42.21	2.00	0.70
09/07 14:23	103.55	3.00	0.90	09/07 23:33	43.47	2.10	0.67
09/07 14:33	97.96	2.90	0.90	09/07 23:43	43.47	2.10	0.67
09/07 14:43	94.70	2.90	0.87	09/07 23:53	43.47	2.10	0.67
09/07 14:53	84.90	2.70	0.87	09/08 00:03	43.47	2.10	0.67
09/07 15:03	80.02	2.70	0.82	09/08 00:13	42.18	2.10	0.65
09/07 15:13	78.07	2.70	0.80	09/08 00:23	42.18	2.10	0.65
09/07 15:23	68.96	2.60	0.75	09/08 00:33	43.47	2.10	0.67
09/07 15:33	68.96	2.60	0.75	09/08 00:43	43.47	2.10	0.67
09/07 15:43	68.96	2.60	0.75	09/08 00:53	42.21	2.00	0.70
09/07 15:53	62.13	2.40	0.77	09/08 01:03	43.47	2.10	0.67
09/07 16:03	64.74	2.50	0.75	09/08 01:13	42.18	2.10	0.65
09/07 16:13	62.15	2.50	0.72	09/08 01:23	42.18	2.10	0.65
09/07 16:23	62.15	2.50	0.72	09/08 01:33	42.18	2.10	0.65
09/07 16:33	58.09	2.40	0.72	09/08 01:43	42.18	2.10	0.65
09/07 16:43	56.29	2.30	0.75	09/08 01:53	40.41	2.00	0.67
09/07 16:53	56.29	2.30	0.75	09/08 02:03	39.20	2.00	0.65
09/07 17:03	58.09	2.40	0.72	09/08 02:13	42.18	2.10	0.65
09/07 17:13	58.09	2.40	0.72	09/08 02:23	39.20	2.00	0.65
09/07 17:23	58.09	2.40	0.72	09/08 02:33	39.20	2.00	0.65
09/07 17:33	54.04	2.30	0.72	09/08 02:43	42.18	2.10	0.65
09/07 17:43	52.54	2.30	0.70	09/08 02:53	37.34	1.90	0.67
09/07 17:53	50.01	2.20	0.72	09/08 03:03	42.18	2.10	0.65
09/07 18:03	54.04	2.30	0.72	09/08 03:13	42.18	2.10	0.65
09/07 18:13	52.54	2.30	0.70	09/08 03:23	42.18	2.10	0.65
09/07 18:23	52.54	2.30	0.70	09/08 03:33	40.23	2.10	0.62
09/07 18:33	54.04	2.30	0.72	09/08 03:43	42.18	2.10	0.65
09/07 18:43	54.04	2.30	0.72	09/08 03:53	36.22	1.90	0.65
09/07 18:53	48.66	2.10	0.75	09/08 04:03	39.20	2.00	0.65
09/07 19:03	52.54	2.30	0.70	09/08 04:13	39.20	2.00	0.65
09/07 19:13	52.54	2.30	0.70	09/08 04:23	39.20	2.00	0.65
09/07 19:23	52.54	2.30	0.70	09/08 04:33	42.18	2.10	0.65
09/07 19:33	52.54	2.30	0.70	09/08 04:43	43.47	2.10	0.67
09/07 19:43	52.54	2.30	0.70	09/08 04:53	40.41	2.00	0.67
09/07 19:53	46.72	2.10	0.72	09/08 05:03	43.47	2.10	0.67
09/07 20:03	48.62	2.20	0.70	09/08 05:13	43.47	2.10	0.67
09/07 20:13	48.62	2.20	0.70	09/08 05:23	42.21	2.00	0.70
09/07 20:23	48.62	2.20	0.70	09/08 05:33	48.62	2.20	0.70
09/07 20:33	48.62	2.20	0.70	09/08 05:43	45.42	2.10	0.70
09/07 20:43	48.62	2.20	0.70	09/08 05:53	42.21	2.00	0.70
09/07 20:53	52.10	2.20	0.75	09/08 06:03	43.47	2.10	0.67

START Date	Time	FLO GPM	LEV in.	VEL FPS	START Date	Time	FLO GPM	LEV in.	VEL FPS
09/08	06:13	48.62	2.20	0.70	09/08	15:23	43.47	2.10	0.67
09/08	06:23	45.42	2.10	0.70	09/08	15:33	43.47	2.10	0.67
09/08	06:33	43.47	2.10	0.67	09/08	15:43	45.42	2.10	0.70
09/08	06:43	42.18	2.10	0.65	09/08	15:53	45.42	2.10	0.70
09/08	06:53	42.21	2.00	0.70	09/08	16:03	48.62	2.20	0.70
09/08	07:03	48.62	2.20	0.70	09/08	16:13	46.54	2.20	0.67
09/08	07:13	45.42	2.10	0.70	09/08	16:23	43.47	2.10	0.67
09/08	07:23	46.54	2.20	0.67	09/08	16:33	46.54	2.20	0.67
09/08	07:33	48.62	2.20	0.70	09/08	16:43	46.54	2.20	0.67
09/08	07:43	48.62	2.20	0.70	09/08	16:53	45.42	2.10	0.70
09/08	07:53	45.42	2.10	0.70	09/08	17:03	48.62	2.20	0.70
09/08	08:03	45.42	2.10	0.70	09/08	17:13	46.54	2.20	0.67
09/08	08:13	46.54	2.20	0.67	09/08	17:23	48.62	2.20	0.70
09/08	08:23	48.62	2.20	0.70	09/08	17:33	48.62	2.20	0.70
09/08	08:33	48.62	2.20	0.70	09/08	17:43	48.62	2.20	0.70
09/08	08:43	46.54	2.20	0.67	09/08	17:53	46.72	2.10	0.72
09/08	08:53	46.54	2.20	0.67	09/08	18:03	48.62	2.20	0.70
09/08	09:03	46.54	2.20	0.67	09/08	18:13	48.62	2.20	0.70
09/08	09:13	46.54	2.20	0.67	09/08	18:23	48.62	2.20	0.70
09/08	09:23	45.15	2.20	0.65	09/08	18:33	48.62	2.20	0.70
09/08	09:33	45.15	2.20	0.65	09/08	18:43	48.62	2.20	0.70
09/08	09:43	46.54	2.20	0.67	09/08	18:53	45.42	2.10	0.70
09/08	09:53	45.42	2.10	0.70	09/08	19:03	48.62	2.20	0.70
09/08	10:03	132.80	2.90	1.22	09/08	19:13	48.62	2.20	0.70
09/08	10:13	398.08	5.00	1.52	09/08	19:23	48.62	2.20	0.70
09/08	10:23	463.85	5.50	1.52	09/08	19:33	54.04	2.30	0.72
09/08	10:33	414.84	5.40	1.40	09/08	19:43	54.04	2.30	0.72
09/08	10:43	301.52	4.70	1.27	09/08	19:53	53.49	2.20	0.77
09/08	10:53	237.85	4.20	1.20	09/08	20:03	54.04	2.30	0.72
09/08	11:03	193.45	3.70	1.20	09/08	20:13	54.04	2.30	0.72
09/08	11:13	155.43	3.40	1.10	09/08	20:23	52.54	2.30	0.70
09/08	11:23	115.05	3.00	1.00	09/08	20:33	48.62	2.20	0.70
09/08	11:33	97.96	2.90	0.90	09/08	20:43	52.54	2.30	0.70
09/08	11:43	73.37	2.50	0.85	09/08	20:53	46.72	2.10	0.72
09/08	11:53	69.05	2.50	0.80	09/08	21:03	48.62	2.20	0.70
09/08	12:03	64.74	2.50	0.75	09/08	21:13	46.54	2.20	0.67
09/08	12:13	60.51	2.40	0.75	09/08	21:23	46.54	2.20	0.67
09/08	12:23	58.09	2.40	0.72	09/08	21:33	46.54	2.20	0.67
09/08	12:33	52.54	2.30	0.70	09/08	21:43	43.47	2.10	0.67
09/08	12:43	46.54	2.20	0.67	09/08	21:53	40.41	2.00	0.67
09/08	12:53	45.42	2.10	0.70	09/08	22:03	42.21	2.00	0.70
09/08	13:03	46.54	2.20	0.67	09/08	22:13	43.47	2.10	0.67
09/08	13:13	42.18	2.10	0.65	09/08	22:23	48.62	2.20	0.70
09/08	13:23	42.18	2.10	0.65	09/08	22:33	52.54	2.30	0.70
09/08	13:33	42.18	2.10	0.65	09/08	22:43	48.62	2.20	0.70
09/08	13:43	42.18	2.10	0.65	09/08	22:53	45.42	2.10	0.70
09/08	13:53	40.41	2.00	0.67	09/08	23:03	48.62	2.20	0.70
09/08	14:03	42.18	2.10	0.65	09/08	23:13	52.54	2.30	0.70
09/08	14:13	42.18	2.10	0.65	09/08	23:23	54.04	2.30	0.72
09/08	14:23	42.18	2.10	0.65	09/08	23:33	52.10	2.20	0.75
09/08	14:33	43.47	2.10	0.67	09/08	23:43	52.54	2.30	0.70
09/08	14:43	43.47	2.10	0.67	09/08	23:53	52.54	2.30	0.70
09/08	14:53	40.41	2.00	0.67	09/09	00:03	52.54	2.30	0.70
09/08	15:03	39.20	2.00	0.65	09/09	00:13	56.29	2.30	0.75
09/08	15:13	42.18	2.10	0.65	09/09	00:23	58.09	2.40	0.72

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/09 00:33	54.04	2.30	0.72	09/09 09:43	336.44	4.80	1.37
09/09 00:43	54.04	2.30	0.72	09/09 09:53	325.55	4.60	1.42
09/09 00:53	50.01	2.20	0.72	09/09 10:03	343.81	4.80	1.40
09/09 01:03	52.54	2.30	0.70	09/09 10:13	366.66	5.00	1.40
09/09 01:13	52.54	2.30	0.70	09/09 10:23	371.89	5.00	1.42
09/09 01:23	50.29	2.30	0.67	09/09 10:33	358.80	5.00	1.37
09/09 01:33	48.62	2.20	0.70	09/09 10:43	336.44	4.80	1.37
09/09 01:43	48.62	2.20	0.70	09/09 10:53	320.97	4.60	1.40
09/09 01:53	52.10	2.20	0.75	09/09 11:03	320.52	4.70	1.35
09/09 02:03	66.47	2.50	0.77	09/09 11:13	320.52	4.70	1.35
09/09 02:13	73.56	2.60	0.80	09/09 11:23	332.39	4.70	1.40
09/09 02:23	73.56	2.60	0.80	09/09 11:33	332.39	4.70	1.40
09/09 02:33	69.05	2.50	0.80	09/09 11:43	331.53	4.80	1.35
09/09 02:43	66.47	2.50	0.77	09/09 11:53	332.39	4.70	1.40
09/09 02:53	62.13	2.40	0.77	09/09 12:03	336.44	4.80	1.37
09/09 03:03	70.80	2.60	0.77	09/09 12:13	336.44	4.80	1.37
09/09 03:13	73.56	2.60	0.80	09/09 12:23	332.39	4.70	1.40
09/09 03:23	75.40	2.60	0.82	09/09 12:33	332.39	4.70	1.40
09/09 03:33	89.80	2.80	0.87	09/09 12:43	355.23	4.90	1.40
09/09 03:43	105.85	3.00	0.92	09/09 12:53	355.23	4.90	1.40
09/09 03:53	103.41	2.90	0.95	09/09 13:03	378.08	5.10	1.40
09/09 04:03	105.85	3.00	0.92	09/09 13:13	390.05	5.20	1.40
09/09 04:13	115.53	3.10	0.95	09/09 13:23	402.45	5.30	1.40
09/09 04:23	111.89	3.10	0.92	09/09 13:33	390.05	5.20	1.40
09/09 04:33	111.89	3.10	0.92	09/09 13:43	367.77	5.20	1.32
09/09 04:43	111.89	3.10	0.92	09/09 13:53	319.25	4.80	1.30
09/09 04:53	97.96	2.90	0.90	09/09 14:03	320.52	4.70	1.35
09/09 05:03	103.55	3.00	0.90	09/09 14:13	320.97	4.60	1.40
09/09 05:13	100.10	3.00	0.87	09/09 14:23	302.62	4.60	1.32
09/09 05:23	103.55	3.00	0.90	09/09 14:33	302.91	4.50	1.37
09/09 05:33	103.55	3.00	0.90	09/09 14:43	277.57	4.30	1.35
09/09 05:43	105.85	3.00	0.92	09/09 14:53	267.58	4.20	1.35
09/09 05:53	97.96	2.90	0.90	09/09 15:03	261.63	4.20	1.32
09/09 06:03	103.55	3.00	0.90	09/09 15:13	248.05	4.10	1.30
09/09 06:13	103.55	3.00	0.90	09/09 15:23	248.05	4.10	1.30
09/09 06:23	109.45	3.10	0.90	09/09 15:33	248.05	4.10	1.30
09/09 06:33	103.55	3.00	0.90	09/09 15:43	248.05	4.10	1.30
09/09 06:43	103.55	3.00	0.90	09/09 15:53	251.87	4.10	1.32
09/09 06:53	97.96	2.90	0.90	09/09 16:03	251.87	4.10	1.32
09/09 07:03	103.55	3.00	0.90	09/09 16:13	248.05	4.10	1.30
09/09 07:13	111.89	3.10	0.92	09/09 16:23	251.87	4.10	1.32
09/09 07:23	109.30	3.00	0.95	09/09 16:33	251.87	4.10	1.32
09/09 07:33	115.53	3.10	0.95	09/09 16:43	257.67	4.20	1.30
09/09 07:43	111.89	3.10	0.92	09/09 16:53	248.05	4.10	1.30
09/09 07:53	121.61	3.10	1.00	09/09 17:03	257.67	4.20	1.30
09/09 08:03	162.65	3.50	1.10	09/09 17:13	257.67	4.20	1.30
09/09 08:13	210.92	4.00	1.15	09/09 17:23	257.67	4.20	1.30
09/09 08:23	257.01	4.30	1.25	09/09 17:33	248.05	4.10	1.30
09/09 08:33	302.91	4.50	1.37	09/09 17:43	248.05	4.10	1.30
09/09 08:43	308.65	4.70	1.30	09/09 17:53	248.05	4.10	1.30
09/09 08:53	332.39	4.70	1.40	09/09 18:03	267.29	4.30	1.30
09/09 09:03	331.53	4.80	1.35	09/09 18:13	287.56	4.40	1.35
09/09 09:13	324.16	4.80	1.32	09/09 18:23	298.21	4.40	1.40
09/09 09:23	331.53	4.80	1.35	09/09 18:33	291.82	4.40	1.37
09/09 09:33	331.53	4.80	1.35	09/09 18:43	287.56	4.40	1.35

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/09 18:53	281.68	4.30	1.37	09/10 02:03	220.09	4.00	1.20
09/09 19:03	291.82	4.40	1.37	09/10 02:13	220.09	4.00	1.20
09/09 19:13	287.56	4.40	1.35	09/10 02:23	220.09	4.00	1.20
09/09 19:23	287.56	4.40	1.35	09/10 02:33	214.59	4.00	1.17
09/09 19:33	276.91	4.40	1.30	09/10 02:43	220.09	4.00	1.20
09/09 19:43	267.29	4.30	1.30	09/10 02:53	211.21	3.90	1.20
09/09 19:53	251.87	4.10	1.32	09/10 03:03	220.09	4.00	1.20
09/09 20:03	238.43	4.00	1.30	09/10 03:13	228.97	4.10	1.20
09/09 20:13	223.76	4.00	1.22	09/10 03:23	238.51	4.10	1.25
09/09 20:23	220.09	4.00	1.20	09/10 03:33	247.76	4.20	1.25
09/09 20:33	229.26	4.00	1.25	09/10 03:43	251.72	4.20	1.27
09/09 20:43	248.05	4.10	1.30	09/10 03:53	238.43	4.00	1.30
09/09 20:53	223.53	3.90	1.27	09/10 04:03	238.51	4.10	1.25
09/09 21:03	223.76	4.00	1.22	09/10 04:13	247.76	4.20	1.25
09/09 21:13	229.26	4.00	1.25	09/10 04:23	257.01	4.30	1.25
09/09 21:23	229.26	4.00	1.25	09/10 04:33	250.84	4.30	1.22
09/09 21:33	220.09	4.00	1.20	09/10 04:43	257.01	4.30	1.25
09/09 21:43	202.33	3.80	1.20	09/10 04:53	251.72	4.20	1.27
09/09 21:53	211.21	3.90	1.20	09/10 05:03	266.26	4.40	1.25
09/09 22:03	205.93	3.90	1.17	09/10 05:13	270.52	4.40	1.27
09/09 22:13	205.71	3.80	1.22	09/10 05:23	250.84	4.30	1.22
09/09 22:23	211.21	3.90	1.20	09/10 05:33	241.81	4.20	1.22
09/09 22:33	211.21	3.90	1.20	09/10 05:43	251.72	4.20	1.27
09/09 22:43	211.21	3.90	1.20	09/10 05:53	242.33	4.10	1.27
09/09 22:53	220.09	4.00	1.20	09/10 06:03	241.81	4.20	1.22
09/09 23:03	223.76	4.00	1.22	09/10 06:13	267.58	4.20	1.35
09/09 23:13	220.09	4.00	1.20	09/10 06:23	277.57	4.30	1.35
09/09 23:23	214.59	4.00	1.17	09/10 06:33	291.82	4.40	1.37
09/09 23:33	211.21	3.90	1.20	09/10 06:43	314.09	4.60	1.37
09/09 23:43	205.93	3.90	1.17	09/10 06:53	291.86	4.50	1.32
09/09 23:53	214.73	3.90	1.22	09/10 07:03	298.49	4.50	1.35
09/10 00:03	229.26	4.00	1.25	09/10 07:13	291.82	4.40	1.37
09/10 00:13	223.76	4.00	1.22	09/10 07:23	287.85	4.30	1.40
09/10 00:23	220.09	4.00	1.20	09/10 07:33	309.54	4.50	1.40
09/10 00:33	220.09	4.00	1.20				
09/10 00:43	223.76	4.00	1.22				
09/10 00:53	223.53	3.90	1.27				
09/10 01:03	229.26	4.00	1.25				
09/10 01:13	242.33	4.10	1.27				
09/10 01:23	220.09	4.00	1.20				
09/10 01:33	205.93	3.90	1.17				
09/10 01:43	214.59	4.00	1.17				
09/10 01:53	202.33	3.80	1.20				

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

------------- A090182B.19A -- 09/10/91 -------------------------------------

Original name:A090182A.19A
Modification : B

Site Information:
 Identification: LOCATION NO. 13
 Description : STATE HIGHWAY 198
 1150' E/O DEMAREE RD

Application Name:
 CITY OF VISALIA - FLOWMETERING PROGRAM

File Type : Binary

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 09/10/91 12:33
End Time : 09/12/91 08:13
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 262
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	30.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:43 File: A090182B.19A
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 13
STATE HIGHWAY 198
1150' E/O DEMAREE RD

Metering Period:
09/10/91 12:33 - 09/12/91 08:13

Report Period:
09/10/91 12:33 - 09/12/91 08:13

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
09/10	19:53	2.81K*	17.70 *	1.85 *					
09/10	16:13	1.28K*	18.10 *	0.82 *					
09/11	12:23	2.77K	18.30	1.75					
09/11	03:43	1.03K	10.90	1.35					
09/12	00:03	2.53K*	17.10 *	1.75 *					
09/12	05:43	1.12K*	9.70 *	1.75 *					

DAILY AVERAGES

Date: 09/20/91 14:43 File: A090182B.19A
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 13
STATE HIGHWAY 198
1150' E/O DEMAREE RD

Metering Period:
09/10/91 12:33 - 09/12/91 08:13

Report Period:
09/10/91 12:33 - 09/12/91 08:13

START Date Time	FLO GPM	LEV in.	VEL FPS
09/10 00:00	2.62K*	17.70 *	1.73 *
09/11 00:00	2.21K	15.58	1.72
09/12 00:00	1.62K*	12.10 *	1.83 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:41 File: A090182B.19A
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A90182
LOCATION NO. 13
STATE HIGHWAY 198
1150' E/O DEMAREE RD

Metering Period:
09/10/91 12:33 - 09/12/91 08:13

Report Period:
09/10/91 12:33 - 09/12/91 08:13

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/10 12:33	2.63K	18.80	1.60	09/10 19:33	2.80K	17.90	1.82
09/10 12:43	2.62K	18.60	1.62	09/10 19:43	2.78K	17.80	1.82
09/10 12:53	2.67K	18.60	1.65	09/10 19:53	2.81K	17.70	1.85
09/10 13:03	2.52K	18.50	1.57	09/10 20:03	2.78K	17.60	1.85
09/10 13:13	2.71K	18.40	1.70	09/10 20:13	2.76K	17.50	1.85
09/10 13:23	2.49K	18.30	1.57	09/10 20:23	2.76K	17.50	1.85
09/10 13:33	2.60K	18.20	1.65	09/10 20:33	2.79K	17.30	1.90
09/10 13:43	2.60K	18.20	1.65	09/10 20:43	2.66K	17.20	1.82
09/10 13:53	2.68K	18.20	1.70	09/10 20:53	2.70K	17.20	1.85
09/10 14:03	2.66K	18.10	1.70	09/10 21:03	2.75K	17.10	1.90
09/10 14:13	2.56K	18.00	1.65	09/10 21:13	2.71K	17.10	1.87
09/10 14:23	2.71K	18.00	1.75	09/10 21:23	2.73K	17.00	1.90
09/10 14:33	2.60K	17.80	1.70	09/10 21:33	2.70K	17.20	1.85
09/10 14:43	2.58K	17.70	1.70	09/10 21:43	2.68K	17.30	1.82
09/10 14:53	2.73K	17.70	1.80	09/10 21:53	2.25K	17.40	1.52
09/10 15:03	2.60K	17.80	1.70	09/10 22:03	2.71K	17.10	1.87
09/10 15:13	2.62K	17.90	1.70	09/10 22:13	2.59K	17.60	1.72
09/10 15:23	2.55K	17.80	1.67	09/10 22:23	2.68K	17.70	1.77
09/10 15:33	2.73K	17.90	1.77	09/10 22:33	2.65K	17.70	1.75
09/10 15:43	2.64K	18.00	1.70	09/10 22:43	2.59K	17.60	1.72
09/10 15:53	2.71K	18.00	1.75	09/10 22:53	2.54K	17.50	1.70
09/10 16:03	2.64K	18.00	1.70	09/10 23:03	2.59K	17.40	1.75
09/10 16:13	1.28K	18.10	0.82	09/10 23:13	2.53K	17.30	1.72
09/10 16:23	2.49K	17.90	1.62	09/10 23:23	2.63K	17.20	1.80
09/10 16:33	2.61K	17.70	1.72	09/10 23:33	2.46K	17.10	1.70
09/10 16:43	2.65K	17.70	1.75	09/10 23:43	2.44K	17.00	1.70
09/10 16:53	2.58K	17.70	1.70	09/10 23:53	2.50K	16.80	1.77
09/10 17:03	2.58K	17.70	1.70	09/11 00:03	2.39K	16.60	1.72
09/10 17:13	2.63K	17.60	1.75	09/11 00:13	2.37K	16.30	1.75
09/10 17:23	2.48K	17.60	1.65	09/11 00:23	2.31K	16.00	1.75
09/10 17:33	2.56K	17.60	1.70	09/11 00:33	2.25K	16.00	1.70
09/10 17:43	2.54K	17.50	1.70	09/11 00:43	2.27K	15.80	1.75
09/10 17:53	2.54K	17.50	1.70	09/11 00:53	2.28K	15.50	1.80
09/10 18:03	2.59K	17.40	1.75	09/11 01:03	2.16K	15.40	1.72
09/10 18:13	2.61K	17.50	1.75	09/11 01:13	1.62K	15.20	1.32
09/10 18:23	2.62K	17.40	1.77	09/11 01:23	1.68K	14.90	1.40
09/10 18:33	2.74K	17.60	1.82	09/11 01:33	1.59K	14.70	1.35
09/10 18:43	2.71K	17.60	1.80	09/11 01:43	1.52K	14.30	1.35
09/10 18:53	2.78K	17.60	1.85	09/11 01:53	1.48K	14.00	1.35
09/10 19:03	2.73K	17.90	1.77	09/11 02:03	1.38K	13.70	1.30
09/10 19:13	2.77K	17.90	1.80	09/11 02:13	1.34K	13.30	1.32
09/10 19:23	2.77K	17.90	1.80	09/11 02:23	1.27K	12.80	1.32

page 1

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/11	02:33	1.21K	12.40	1.32
09/11	02:43	1.20K	12.10	1.35
09/11	02:53	1.15K	11.80	1.35
09/11	03:03	1.13K	11.60	1.35
09/11	03:13	1.08K	11.30	1.35
09/11	03:23	1.11K	11.20	1.40
09/11	03:33	1.08K	11.00	1.40
09/11	03:43	1.03K	10.90	1.35
09/11	03:53	1.56K	11.80	1.82
09/11	04:03	1.42K	11.40	1.75
09/11	04:13	1.39K	11.00	1.80
09/11	04:23	1.38K	10.90	1.82
09/11	04:33	1.33K	10.70	1.80
09/11	04:43	1.33K	10.60	1.82
09/11	04:53	1.31K	10.40	1.85
09/11	05:03	1.31K	10.50	1.82
09/11	05:13	1.28K	10.40	1.80
09/11	05:23	1.28K	10.40	1.80
09/11	05:33	1.29K	10.40	1.82
09/11	05:43	1.24K	10.20	1.80
09/11	05:53	1.23K	10.10	1.82
09/11	06:03	1.24K	10.20	1.80
09/11	06:13	1.27K	10.30	1.82
09/11	06:23	1.29K	10.40	1.82
09/11	06:33	1.36K	10.60	1.87
09/11	06:43	1.46K	11.00	1.90
09/11	06:53	1.45K	11.10	1.85
09/11	07:03	1.54K	11.40	1.90
09/11	07:13	1.54K	11.60	1.85
09/11	07:23	1.52K	11.70	1.80
09/11	07:33	1.64K	11.90	1.90
09/11	07:43	1.62K	12.00	1.85
09/11	07:53	1.68K	12.20	1.87
09/11	08:03	1.72K	12.40	1.87
09/11	08:13	1.81K	12.60	1.92
09/11	08:23	1.82K	13.00	1.85
09/11	08:33	1.93K	13.30	1.90
09/11	08:43	2.03K	13.90	1.87
09/11	08:53	2.24K	14.20	2.00
09/11	09:03	2.13K	14.80	1.80
09/11	09:13	2.32K	15.00	1.92
09/11	09:23	2.30K	15.30	1.85
09/11	09:33	2.41K	15.70	1.87
09/11	09:43	2.34K	16.00	1.77
09/11	09:53	2.35K	16.40	1.72
09/11	10:03	2.55K	16.70	1.82
09/11	10:13	2.57K	16.90	1.80
09/11	10:23	2.65K	17.30	1.80
09/11	10:33	2.63K	17.60	1.75
09/11	10:43	2.63K	17.60	1.75
09/11	10:53	2.67K	17.80	1.75
09/11	11:03	2.63K	17.80	1.72
09/11	11:13	2.62K	17.90	1.70
09/11	11:23	2.46K	17.90	1.60
09/11	11:33	2.67K	18.00	1.72
09/11	11:43	2.67K	18.00	1.72
09/11	11:53	2.69K	18.10	1.72
09/11	12:03	2.71K	18.20	1.72
09/11	12:13	2.62K	18.30	1.65
09/11	12:23	2.77K	18.30	1.75
09/11	12:33	2.60K	18.20	1.65
09/11	12:43	2.69K	18.30	1.70
09/11	12:53	2.75K	18.20	1.75
09/11	13:03	2.71K	18.20	1.72
09/11	13:13	2.71K	18.00	1.75
09/11	13:23	2.64K	18.00	1.70
09/11	13:33	2.59K	18.00	1.67
09/11	13:43	2.71K	18.00	1.75
09/11	13:53	2.71K	18.00	1.75
09/11	14:03	2.57K	17.90	1.67
09/11	14:13	2.62K	17.90	1.70
09/11	14:23	2.70K	17.80	1.77
09/11	14:33	2.65K	17.70	1.75
09/11	14:43	2.63K	17.60	1.75
09/11	14:53	2.71K	17.60	1.80
09/11	15:03	2.69K	17.50	1.80
09/11	15:13	2.64K	17.50	1.77
09/11	15:23	2.64K	17.50	1.77
09/11	15:33	2.61K	17.50	1.75
09/11	15:43	2.71K	17.60	1.80
09/11	15:53	2.59K	17.60	1.72
09/11	16:03	2.65K	17.70	1.75
09/11	16:13	2.63K	17.60	1.75
09/11	16:23	2.63K	17.60	1.75
09/11	16:33	2.66K	17.60	1.77
09/11	16:43	2.63K	17.60	1.75
09/11	16:53	2.61K	17.50	1.75
09/11	17:03	2.59K	17.40	1.75
09/11	17:13	2.74K	17.60	1.82
09/11	17:23	2.67K	17.40	1.80
09/11	17:33	2.59K	17.40	1.75
09/11	17:43	2.60K	17.30	1.77
09/11	17:53	2.57K	17.30	1.75
09/11	18:03	2.53K	17.30	1.72
09/11	18:13	2.55K	17.40	1.72
09/11	18:23	2.57K	17.30	1.75
09/11	18:33	2.55K	17.20	1.75
09/11	18:43	2.60K	17.30	1.77
09/11	18:53	2.55K	17.20	1.75
09/11	19:03	2.59K	17.40	1.75
09/11	19:13	2.67K	17.40	1.80
09/11	19:23	2.64K	17.50	1.77
09/11	19:33	2.52K	17.40	1.70
09/11	19:43	2.69K	17.50	1.80
09/11	19:53	2.66K	17.60	1.77
09/11	20:03	2.63K	17.60	1.75
09/11	20:13	2.63K	17.60	1.75
09/11	20:23	2.65K	17.70	1.75
09/11	20:33	2.68K	17.70	1.77
09/11	20:43	2.66K	17.60	1.77

START Date	Time	FLO GPM	LEV in.	VEL FPS
09/11	20:53	2.54K	17.50	1.70
09/11	21:03	2.61K	17.50	1.75
09/11	21:13	2.54K	17.50	1.70
09/11	21:23	2.59K	17.40	1.75
09/11	21:33	2.55K	17.40	1.72
09/11	21:43	2.57K	17.50	1.72
09/11	21:53	2.52K	17.40	1.70
09/11	22:03	2.55K	17.40	1.72
09/11	22:13	2.61K	17.50	1.75
09/11	22:23	2.61K	17.50	1.75
09/11	22:33	2.61K	17.50	1.75
09/11	22:43	2.63K	17.60	1.75
09/11	22:53	2.68K	17.70	1.77
09/11	23:03	2.60K	17.80	1.70
09/11	23:13	2.60K	17.80	1.70
09/11	23:23	2.57K	17.90	1.67
09/11	23:33	2.63K	17.60	1.75
09/11	23:43	2.57K	17.50	1.72
09/11	23:53	2.46K	17.30	1.67
09/12	00:03	2.53K	17.10	1.75
09/12	00:13	2.52K	16.90	1.77
09/12	00:23	2.45K	16.70	1.75
09/12	00:33	2.39K	16.40	1.75
09/12	00:43	2.33K	16.10	1.75
09/12	00:53	2.25K	15.70	1.75
09/12	01:03	2.19K	15.40	1.75
09/12	01:13	2.07K	15.10	1.70
09/12	01:23	2.05K	14.70	1.75
09/12	01:33	2.02K	14.40	1.77
09/12	01:43	1.97K	14.00	1.80
09/12	01:53	1.88K	13.70	1.77
09/12	02:03	1.85K	13.30	1.82
09/12	02:13	1.79K	13.00	1.82
09/12	02:23	1.69K	12.60	1.80
09/12	02:33	1.64K	12.30	1.80
09/12	02:43	1.55K	12.00	1.77
09/12	02:53	1.56K	11.80	1.82
09/12	03:03	1.54K	11.70	1.82
09/12	03:13	1.48K	11.40	1.82
09/12	03:23	1.42K	11.20	1.80
09/12	03:33	1.46K	11.00	1.90
09/12	03:43	1.43K	11.00	1.85
09/12	03:53	1.44K	11.00	1.87
09/12	04:03	1.50K	11.20	1.90
09/12	04:13	1.41K	11.10	1.80
09/12	04:23	1.44K	10.90	1.90
09/12	04:33	1.37K	10.70	1.85
09/12	04:43	1.33K	10.50	1.85
09/12	04:53	1.31K	10.30	1.87
09/12	05:03	1.24K	10.20	1.80
09/12	05:13	1.23K	10.10	1.82
09/12	05:23	1.25K	9.90	1.90
09/12	05:33	1.15K	9.80	1.77
09/12	05:43	1.12K	9.70	1.75
09/12	05:53	1.16K	9.60	1.85
09/12	06:03	1.17K	9.80	1.80
09/12	06:13	1.19K	9.90	1.80
09/12	06:23	1.20K	9.90	1.82
09/12	06:33	1.21K	9.80	1.87
09/12	06:43	1.26K	10.10	1.85
09/12	06:53	1.26K	10.10	1.85
09/12	07:03	1.29K	10.30	1.85
09/12	07:13	1.38K	10.50	1.92
09/12	07:23	1.48K	10.90	1.95
09/12	07:33	1.56K	11.30	1.95
09/12	07:43	1.65K	11.70	1.95
09/12	07:53	1.75K	12.10	1.97
09/12	08:03	1.85K	12.60	1.97

Codes:

K Multiply data by 1,000
M Multiply data by 1,000,000
\- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

page 3

------------- A051591B.19A -- 09/10/91 ---------------------------------------

Original name:A051591A.19A
Modification : B

File Type : Binary

Site Information:
Identification: LOCATION NO. 14
Description : WALNUT AVE.
AT COLONIAL DR.

Application Name:
CITY OF VISALIA - FLOWMETERING PROGRAM

Instrument Name : FLO-TOTE
Instrument Model : 260

Start Time : 09/10/91 10:33
End Time : 09/12/91 07:43
Start Type : Immediate
Memory Mode : Fixed
Cycle Time : 10 min.
Sample 'On' Time : 1 min.
Data Cycles : 271
Data Channels : 2

Site:	Type:	Diameter:			Cal Co
OPEN CHAN	CIRCULAR	33.00 in.	5.00 in.	5.00 in.	0.015

Channel	Type	Units	Offset	Cal Zero	Cal Gain
0	VELOCITY	FEET PER SECOND	0	0	1
1	LEVEL	INCHES	0.4	0	1

DAILY MAXIMUMS and MINIMUMS for FLOW

Date: 09/20/91 14:44 File: A051591B.19A
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 14
WALNUT AVE.
AT COLONIAL DR.

Metering Period:
09/10/91 10:33 - 09/12/91 07:43

Report Period:
09/10/91 10:33 - 09/12/91 07:43

Date	Time	FLO GPM	LEV in.	VEL FPS	Date	Time	FLO GPM	LEV in.	VEL FPS
09/10	21:53	1.09K*	13.60 *	0.95 *					
09/10	14:13	501.51 *	12.10 *	0.52 *					
09/11	09:33	1.24K	13.90	1.05					
09/11	05:43	226.23	8.80	0.38					
09/12	00:03	1.06K*	12.50 *	1.05 *					
09/12	04:43	310.48 *	8.50 *	0.55 *					

DAILY AVERAGES

Date: 09/20/91 14:45 File: A051591B.19A
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 14
WALNUT AVE.
AT COLONIAL DR.

Metering Period:
09/10/91 10:33 - 09/12/91 07:43

Report Period:
09/10/91 10:33 - 09/12/91 07:43

START Date Time	FLO GPM	LEV in.	VEL FPS
09/10 00:00	869.07 *	12.65 *	0.84 *
09/11 00:00	790.80	11.92	0.80
09/12 00:00	546.32 *	9.78 *	0.75 *

Codes:
- K Multiply data by 1,000
- M Multiply data by 1,000,000
- \- No data for period
- * Incomplete data for period
- < Data below cutout value
- ^ Surcharge (level greater than pipe height)
- | Fill Data for period

10 MIN (ALL) AVERAGES

Date: 09/18/91 13:54 File: A051591B.19A
CITY OF VISALIA - FLOWMETERING PROGRAM

260 A51591
LOCATION NO. 14
WALNUT AVE.
AT COLONIAL DR.

Metering Period:
09/10/91 10:33 - 09/12/91 07:43

Report Period:
09/10/91 10:33 - 09/12/91 07:43

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/10 10:33	926.40	13.70	0.80	09/10 17:33	771.60	11.90	0.82
09/10 10:43	927.98	13.60	0.81	09/10 17:43	743.40	11.80	0.80
09/10 10:53	929.31	13.50	0.82	09/10 17:53	752.78	11.90	0.80
09/10 11:03	952.92	13.40	0.85	09/10 18:03	751.78	12.20	0.77
09/10 11:13	720.80	13.30	0.65	09/10 18:13	810.41	12.30	0.82
09/10 11:23	987.08	13.20	0.90	09/10 18:23	800.21	12.40	0.80
09/10 11:33	1.03K	13.10	0.95	09/10 18:33	840.05	12.30	0.85
09/10 11:43	911.56	13.00	0.85	09/10 18:43	840.05	12.30	0.85
09/10 11:53	954.23	12.90	0.90	09/10 18:53	800.21	12.40	0.80
09/10 12:03	859.44	12.80	0.82	09/10 19:03	830.02	12.50	0.82
09/10 12:13	911.84	12.80	0.87	09/10 19:13	860.38	12.50	0.85
09/10 12:23	901.43	12.70	0.87	09/10 19:23	839.82	12.60	0.82
09/10 12:33	880.71	12.70	0.85	09/10 19:33	880.71	12.70	0.85
09/10 12:43	839.82	12.60	0.82	09/10 19:43	890.88	12.80	0.85
09/10 12:53	839.82	12.60	0.82	09/10 19:53	869.41	12.90	0.82
09/10 13:03	819.34	12.60	0.80	09/10 20:03	899.34	13.20	0.82
09/10 13:13	770.20	12.40	0.77	09/10 20:13	877.40	13.20	0.80
09/10 13:23	829.89	12.20	0.85	09/10 20:23	952.92	13.40	0.85
09/10 13:33	800.60	12.20	0.82	09/10 20:33	887.13	13.30	0.80
09/10 13:43	819.77	12.10	0.85	09/10 20:43	942.58	13.30	0.85
09/10 13:53	781.22	12.00	0.82	09/10 20:53	975.34	13.40	0.87
09/10 14:03	771.55	12.10	0.80	09/10 21:03	973.80	13.60	0.85
09/10 14:13	501.51	12.10	0.52	09/10 21:13	994.80	13.80	0.85
09/10 14:23	762.16	12.00	0.80	09/10 21:23	1.02K	13.80	0.87
09/10 14:33	752.78	11.90	0.80	09/10 21:33	1.04K	13.70	0.90
09/10 14:43	743.40	11.80	0.80	09/10 21:43	1.03K	13.60	0.90
09/10 14:53	743.40	11.80	0.80	09/10 21:53	1.09K	13.60	0.95
09/10 15:03	743.40	11.80	0.80	09/10 22:03	1.03K	13.60	0.90
09/10 15:13	752.36	11.70	0.82	09/10 22:13	1.05K	13.80	0.90
09/10 15:23	752.36	11.70	0.82	09/10 22:23	1.04K	13.70	0.90
09/10 15:33	742.74	11.60	0.82	09/10 22:33	1.09K	13.60	0.95
09/10 15:43	697.46	11.60	0.77	09/10 22:43	1.03K	13.60	0.90
09/10 15:53	724.63	11.60	0.80	09/10 22:53	1.08K	13.50	0.95
09/10 16:03	779.89	11.70	0.85	09/10 23:03	1.09K	13.60	0.95
09/10 16:13	752.36	11.70	0.82	09/10 23:13	1.04K	13.50	0.92
09/10 16:23	752.36	11.70	0.82	09/10 23:23	1.06K	13.20	0.97
09/10 16:33	724.63	11.60	0.80	09/10 23:33	1.05K	13.10	0.97
09/10 16:43	742.74	11.60	0.82	09/10 23:43	995.69	12.80	0.95
09/10 16:53	761.98	11.80	0.82	09/10 23:53	1.04K	12.60	1.02
09/10 17:03	752.36	11.70	0.82	09/11 00:03	1.04K	12.30	1.05
09/10 17:13	761.98	11.80	0.82	09/11 00:13	947.05	12.20	0.97
09/10 17:23	761.98	11.80	0.82	09/11 00:23	959.80	11.90	1.02

START Date Time	FLO GPM	LEV in.	VEL FPS	START Date Time	FLO GPM	LEV in.	VEL FPS
09/11 00:33	935.87	11.70	1.02	09/11 09:43	1.21K	13.90	1.02
09/11 00:43	923.90	11.60	1.02	09/11 09:53	1.19K	13.80	1.02
09/11 00:53	870.97	11.30	1.00	09/11 10:03	1.21K	13.90	1.02
09/11 01:03	816.51	11.20	0.95	09/11 10:13	1.17K	13.80	1.00
09/11 01:13	780.17	11.10	0.92	09/11 10:23	1.17K	13.60	1.02
09/11 01:23	742.54	10.90	0.90	09/11 10:33	1.17K	13.60	1.02
09/11 01:33	691.53	10.80	0.85	09/11 10:43	1.10K	13.50	0.97
09/11 01:43	648.69	10.60	0.82	09/11 10:53	1.16K	13.30	1.05
09/11 01:53	678.50	10.50	0.87	09/11 11:03	1.08K	13.30	0.97
09/11 02:03	621.13	10.30	0.82	09/11 11:13	1.04K	13.20	0.95
09/11 02:13	574.62	10.20	0.77	09/11 11:23	1.03K	13.10	0.95
09/11 02:23	579.33	10.00	0.80	09/11 11:33	1.02K	13.00	0.95
09/11 02:33	521.39	10.00	0.72	09/11 11:43	1.07K	12.80	1.02
09/11 02:43	518.58	9.70	0.75	09/11 11:53	1.02K	12.80	0.97
09/11 02:53	455.96	9.60	0.67	09/11 12:03	995.69	12.80	0.95
09/11 03:03	474.34	9.40	0.72	09/11 12:13	984.32	12.70	0.95
09/11 03:13	324.11	9.30	0.50	09/11 12:23	1.01K	12.70	0.97
09/11 03:23	344.89	9.10	0.55	09/11 12:33	972.96	12.60	0.95
09/11 03:33	320.58	9.00	0.52	09/11 12:43	942.24	12.60	0.92
09/11 03:43	320.58	9.00	0.52	09/11 12:53	950.24	12.40	0.95
09/11 03:53	304.17	8.70	0.52	09/11 13:03	950.24	12.40	0.95
09/11 04:03	290.84	8.90	0.48	09/11 13:13	849.63	12.70	0.82
09/11 04:13	292.47	8.70	0.50	09/11 13:23	839.82	12.60	0.82
09/11 04:23	273.85	8.80	0.46	09/11 13:33	870.22	12.40	0.87
09/11 04:33	279.81	8.80	0.47	09/11 13:43	878.71	12.20	0.90
09/11 04:43	287.36	8.60	0.50	09/11 13:53	828.85	12.00	0.87
09/11 04:53	258.63	8.60	0.45	09/11 14:03	781.22	12.00	0.82
09/11 05:03	258.63	8.60	0.45	09/11 14:13	828.85	12.00	0.87
09/11 05:13	229.89	8.60	0.40	09/11 14:23	771.55	12.10	0.80
09/11 05:23	252.88	8.60	0.44	09/11 14:33	810.41	12.30	0.82
09/11 05:33	251.53	8.70	0.43	09/11 14:43	840.05	12.30	0.85
09/11 05:43	226.23	8.80	0.38	09/11 14:53	810.41	12.30	0.82
09/11 05:53	257.38	8.70	0.44	09/11 15:03	809.80	12.00	0.85
09/11 06:03	285.76	8.80	0.48	09/11 15:13	789.86	11.80	0.85
09/11 06:13	302.96	8.90	0.50	09/11 15:23	761.98	11.80	0.82
09/11 06:23	326.08	9.10	0.52	09/11 15:33	743.40	11.80	0.80
09/11 06:33	317.63	9.30	0.49	09/11 15:43	771.60	11.90	0.82
09/11 06:43	374.29	9.60	0.55	09/11 15:53	789.86	11.80	0.85
09/11 06:53	330.78	10.10	0.45	09/11 16:03	752.36	11.70	0.82
09/11 07:03	467.93	10.50	0.60	09/11 16:13	761.98	11.80	0.82
09/11 07:13	272.27	10.90	0.33	09/11 16:23	743.40	11.80	0.80
09/11 07:23	388.28	11.40	0.44	09/11 16:33	761.98	11.80	0.82
09/11 07:33	470.49	11.90	0.50	09/11 16:43	771.60	11.90	0.82
09/11 07:43	480.12	12.40	0.48	09/11 16:53	789.86	11.80	0.85
09/11 07:53	563.30	12.60	0.55	09/11 17:03	318.26	12.10	0.33
09/11 08:03	530.13	12.90	0.50	09/11 17:13	819.77	12.10	0.85
09/11 08:13	697.08	13.00	0.65	09/11 17:23	829.89	12.20	0.85
09/11 08:23	831.69	13.30	0.75	09/11 17:33	810.41	12.30	0.82
09/11 08:33	840.81	13.40	0.75	09/11 17:43	829.89	12.20	0.85
09/11 08:43	859.24	13.60	0.75	09/11 17:53	829.89	12.20	0.85
09/11 08:53	926.40	13.70	0.80	09/11 18:03	820.21	12.40	0.82
09/11 09:03	433.03	13.80	0.37	09/11 18:13	891.03	12.60	0.87
09/11 09:13	1.22K	14.00	1.02	09/11 18:23	621.68	12.70	0.60
09/11 09:23	1.23K	14.10	1.02	09/11 18:33	921.76	12.60	0.90
09/11 09:33	1.24K	13.90	1.05	09/11 18:43	901.43	12.70	0.87

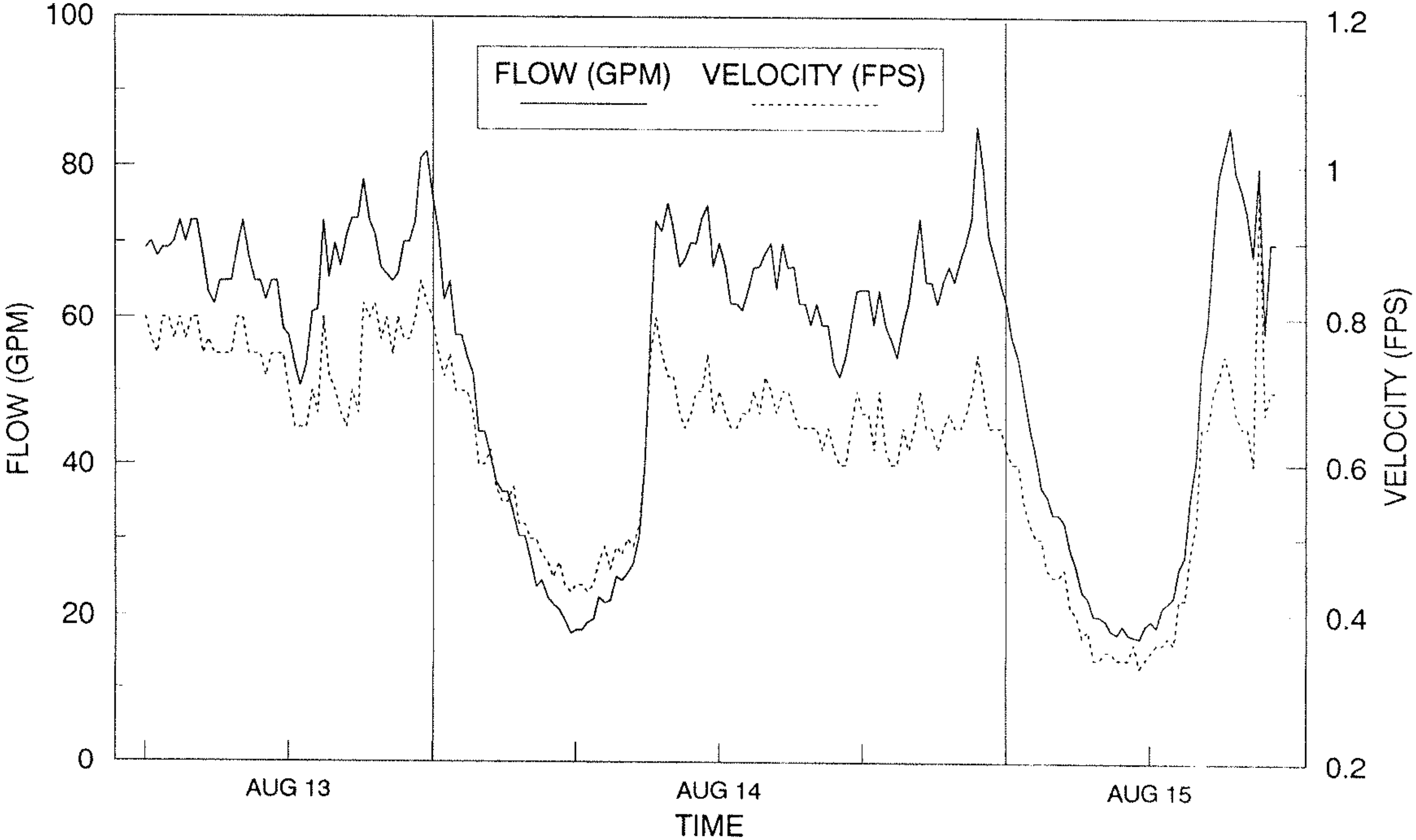
START Date Time	FLO GPM	LEV in.	VEL FPS
09/11 18:53	890.88	12.80	0.85
09/11 19:03	901.22	12.90	0.85
09/11 19:13	901.22	12.90	0.85
09/11 19:23	965.18	13.00	0.90
09/11 19:33	976.13	13.10	0.90
09/11 19:43	921.90	13.10	0.85
09/11 19:53	1.03K	13.10	0.95
09/11 20:03	987.08	13.20	0.90
09/11 20:13	998.03	13.30	0.90
09/11 20:23	975.34	13.40	0.87
09/11 20:33	1.01K	13.40	0.90
09/11 20:43	975.34	13.40	0.87
09/11 20:53	1.05K	13.30	0.95
09/11 21:03	1.03K	13.40	0.92
09/11 21:13	1.09K	13.40	0.97
09/11 21:23	1.05K	13.60	0.92
09/11 21:33	1.08K	13.50	0.95
09/11 21:43	1.05K	13.60	0.92
09/11 21:53	1.10K	13.50	0.97
09/11 22:03	985.97	13.50	0.87
09/11 22:13	1.10K	13.50	0.97
09/11 22:23	1.13K	13.50	1.00
09/11 22:33	1.08K	13.50	0.95
09/11 22:43	1.16K	13.50	1.02
09/11 22:53	1.19K	13.50	1.05
09/11 23:03	1.17K	13.60	1.02
09/11 23:13	1.19K	13.50	1.05
09/11 23:23	1.18K	13.40	1.05
09/11 23:33	1.17K	13.20	1.07
09/11 23:43	1.11K	12.90	1.05
09/11 23:53	1.12K	12.80	1.07
09/12 00:03	1.06K	12.50	1.05
09/12 00:13	1.05K	12.40	1.05
09/12 00:23	995.87	12.20	1.02
09/12 00:33	1.00K	12.00	1.05
09/12 00:43	963.39	11.70	1.05
09/12 00:53	882.45	11.40	1.00
09/12 01:03	876.68	11.20	1.02
09/12 01:13	805.61	11.10	0.95
09/12 01:23	748.48	10.80	0.92
09/12 01:33	711.98	10.60	0.90
09/12 01:43	717.49	10.50	0.92
09/12 01:53	659.00	10.30	0.87
09/12 02:03	643.85	10.30	0.85
09/12 02:13	615.53	10.00	0.85
09/12 02:23	570.60	9.90	0.80
09/12 02:33	491.64	9.80	0.70
09/12 02:43	482.13	9.50	0.72
09/12 02:53	459.11	9.20	0.72
09/12 03:03	427.23	9.20	0.67
09/12 03:13	400.72	9.00	0.65
09/12 03:23	369.11	8.80	0.62
09/12 03:33	380.22	8.70	0.65
09/12 03:43	386.97	8.80	0.65
09/12 03:53	366.93	8.50	0.65
09/12 04:03	333.42	8.70	0.57
09/12 04:13	349.99	8.50	0.62
09/12 04:23	327.59	8.60	0.57
09/12 04:33	332.57	8.40	0.60
09/12 04:43	310.48	8.50	0.55
09/12 04:53	326.44	8.30	0.60
09/12 05:03	321.77	8.50	0.57
09/12 05:13	310.48	8.50	0.55
09/12 05:23	321.77	8.50	0.57
09/12 05:33	316.10	8.60	0.55
09/12 05:43	310.48	8.50	0.55
09/12 05:53	338.70	8.50	0.60
09/12 06:03	373.57	8.60	0.65
09/12 06:13	357.20	8.80	0.60
09/12 06:23	393.84	8.90	0.65
09/12 06:33	414.47	9.20	0.65
09/12 06:43	474.34	9.40	0.72
09/12 06:53	540.80	9.80	0.77
09/12 07:03	537.31	10.20	0.72
09/12 07:13	593.32	10.60	0.75
09/12 07:23	644.62	11.20	0.75
09/12 07:33	660.61	11.70	0.72

Codes:
K Multiply data by 1,000
M Multiply data by 1,000,000
- No data for period
* Incomplete data for period
< Data below cutout value
^ Surcharge (level greater than pipe height)
| Fill Data for period

page 3

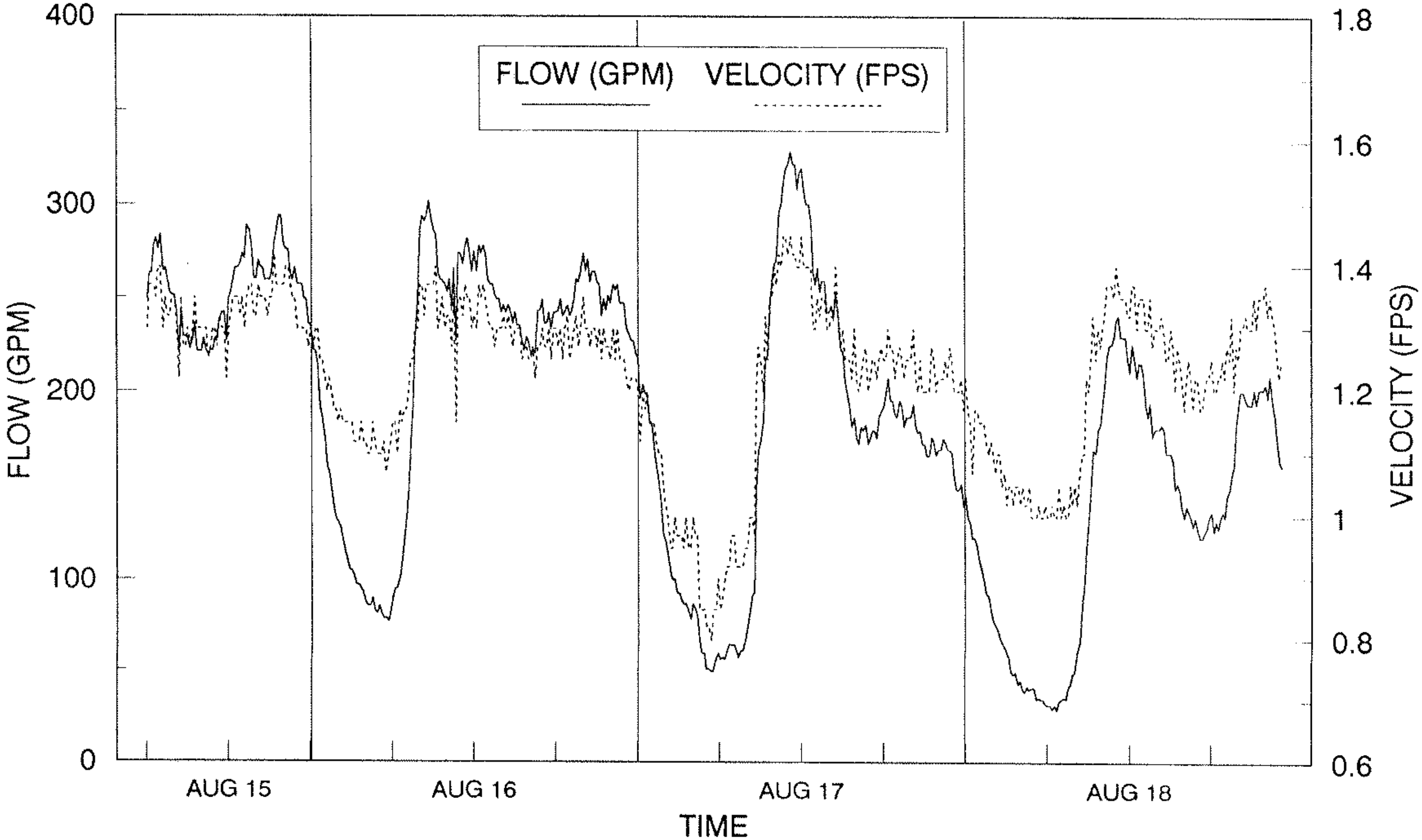
APPENDIX C
SEWER DIURNAL CURVES

FLOW METERING
LOCATION NO. 1



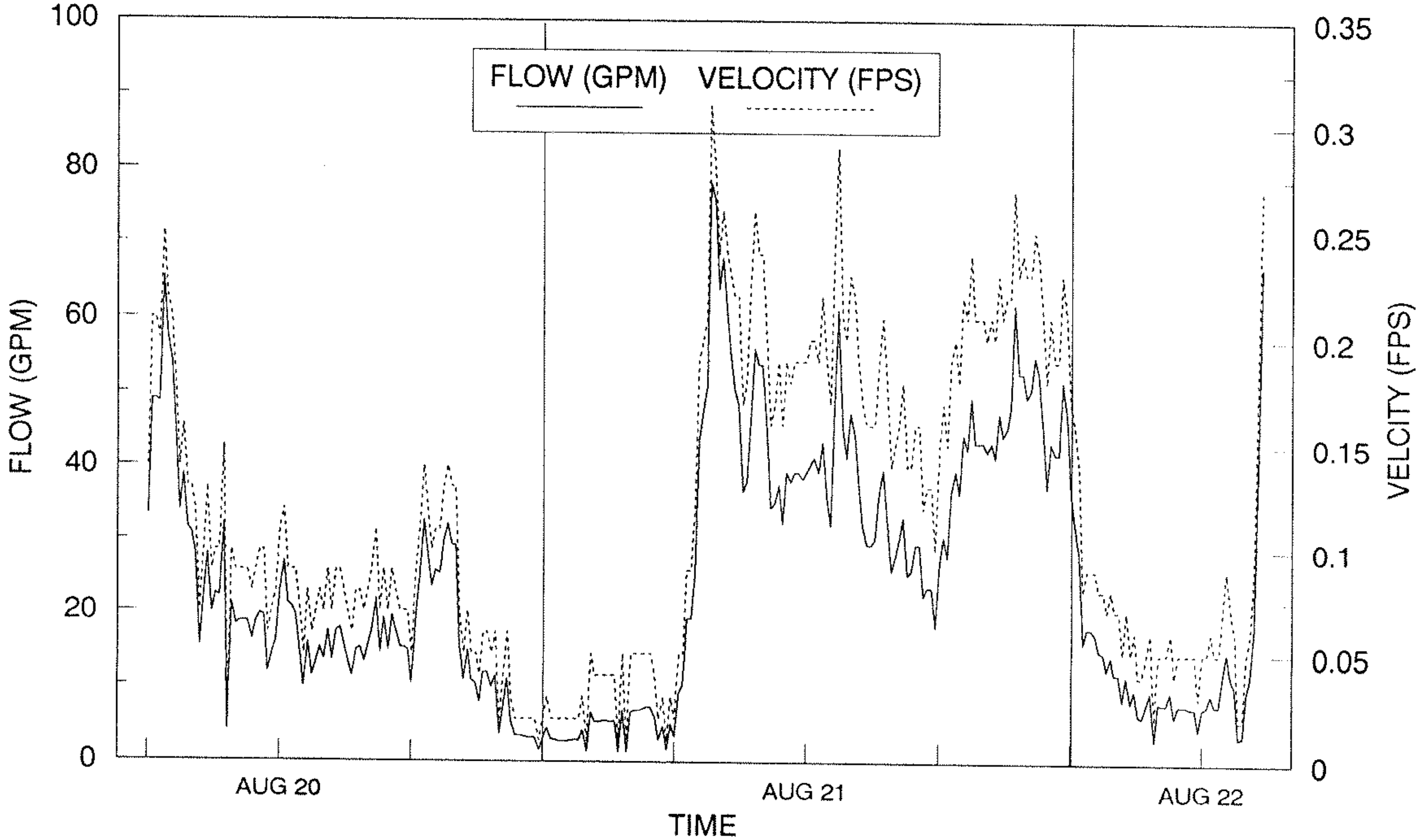
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 2



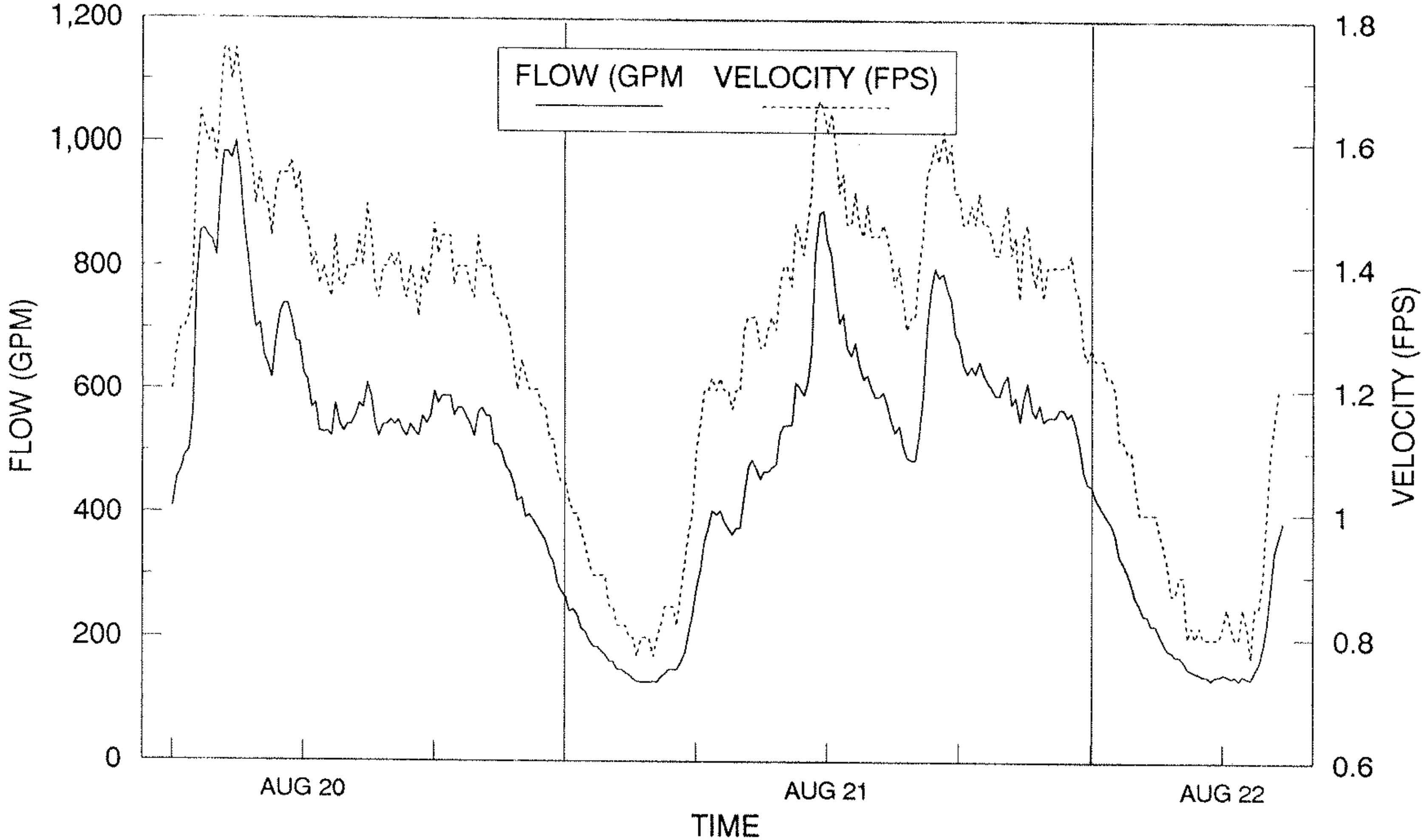
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 3



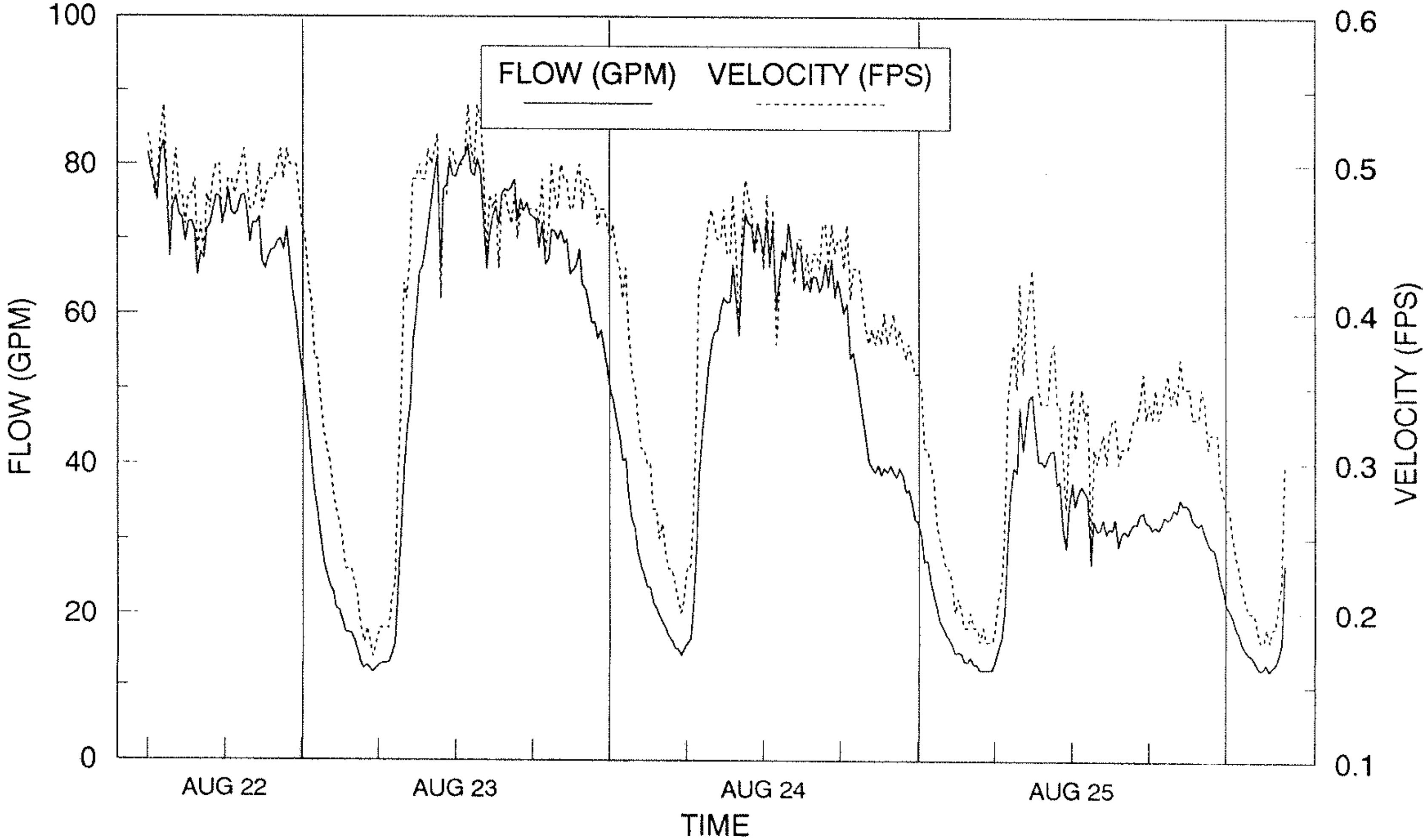
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING LOCATION NO. 4



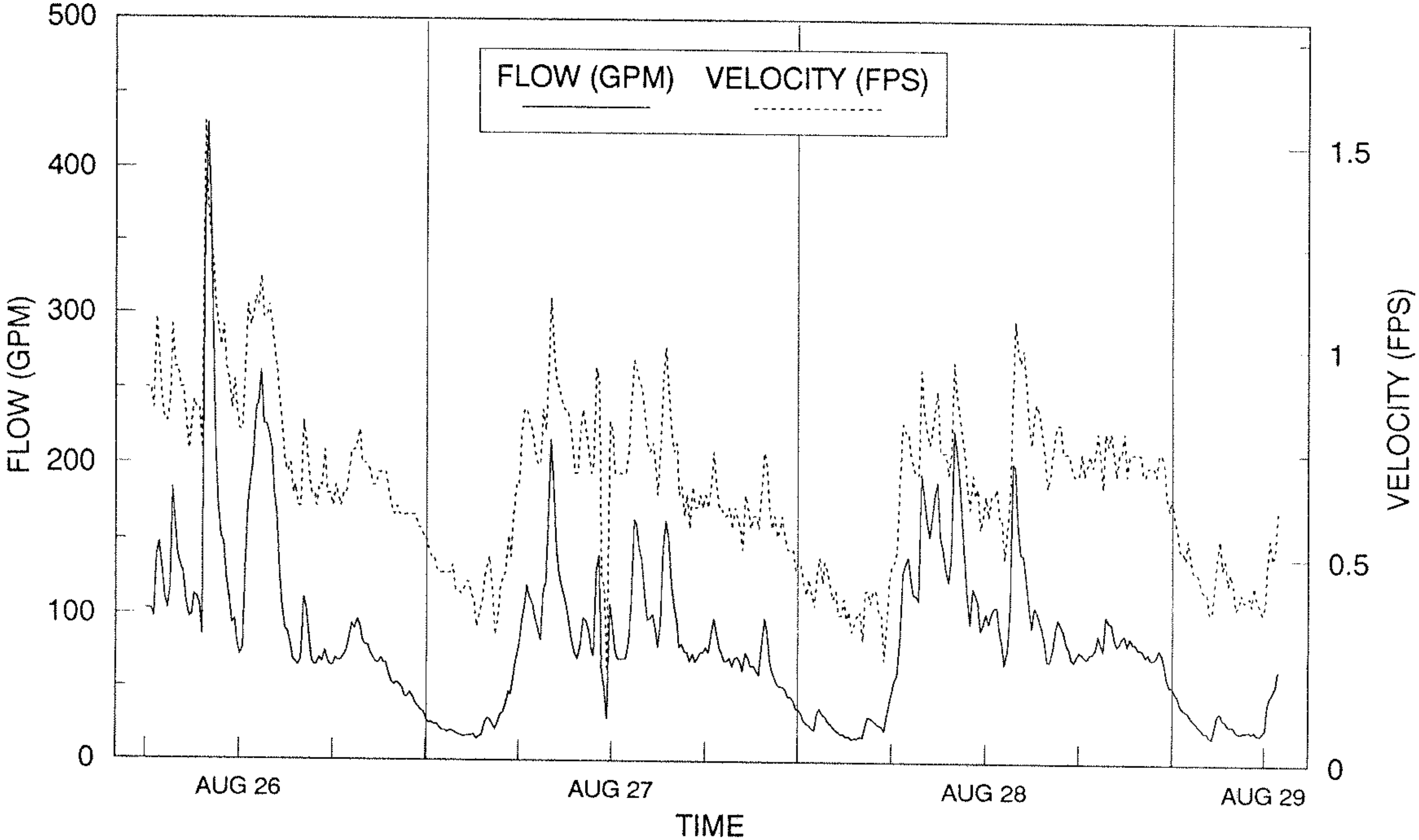
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING LOCATION NO. 5



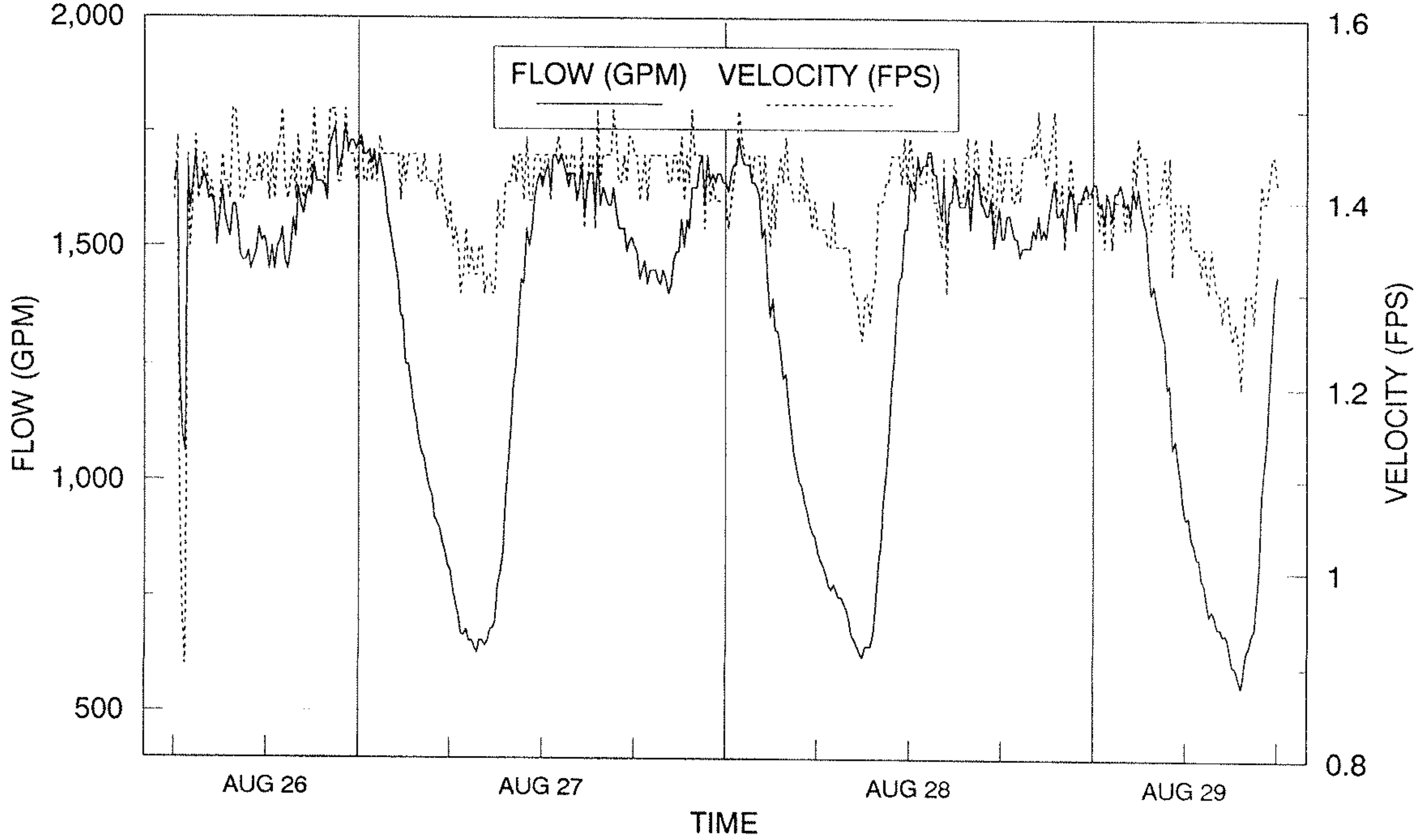
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 6



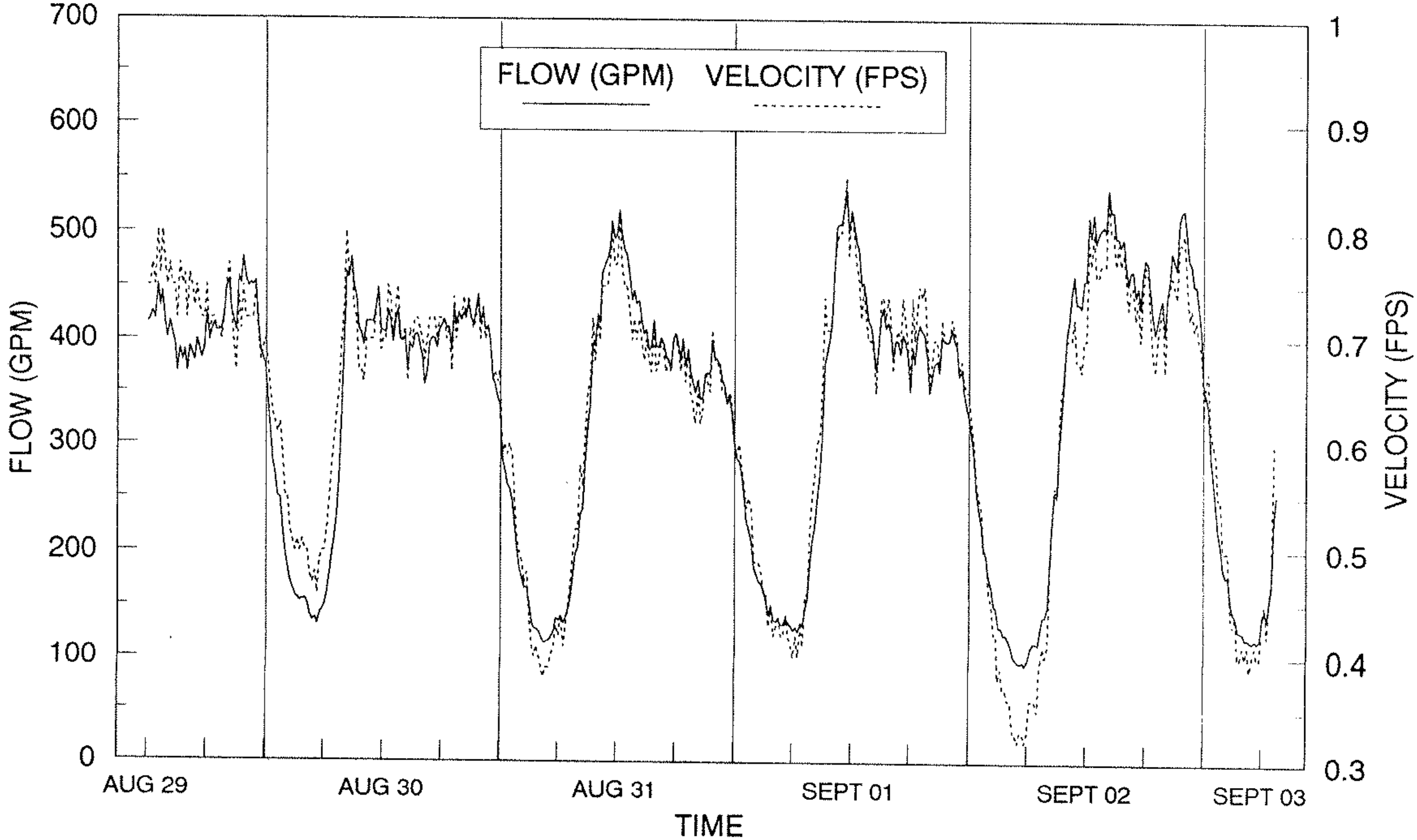
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 7



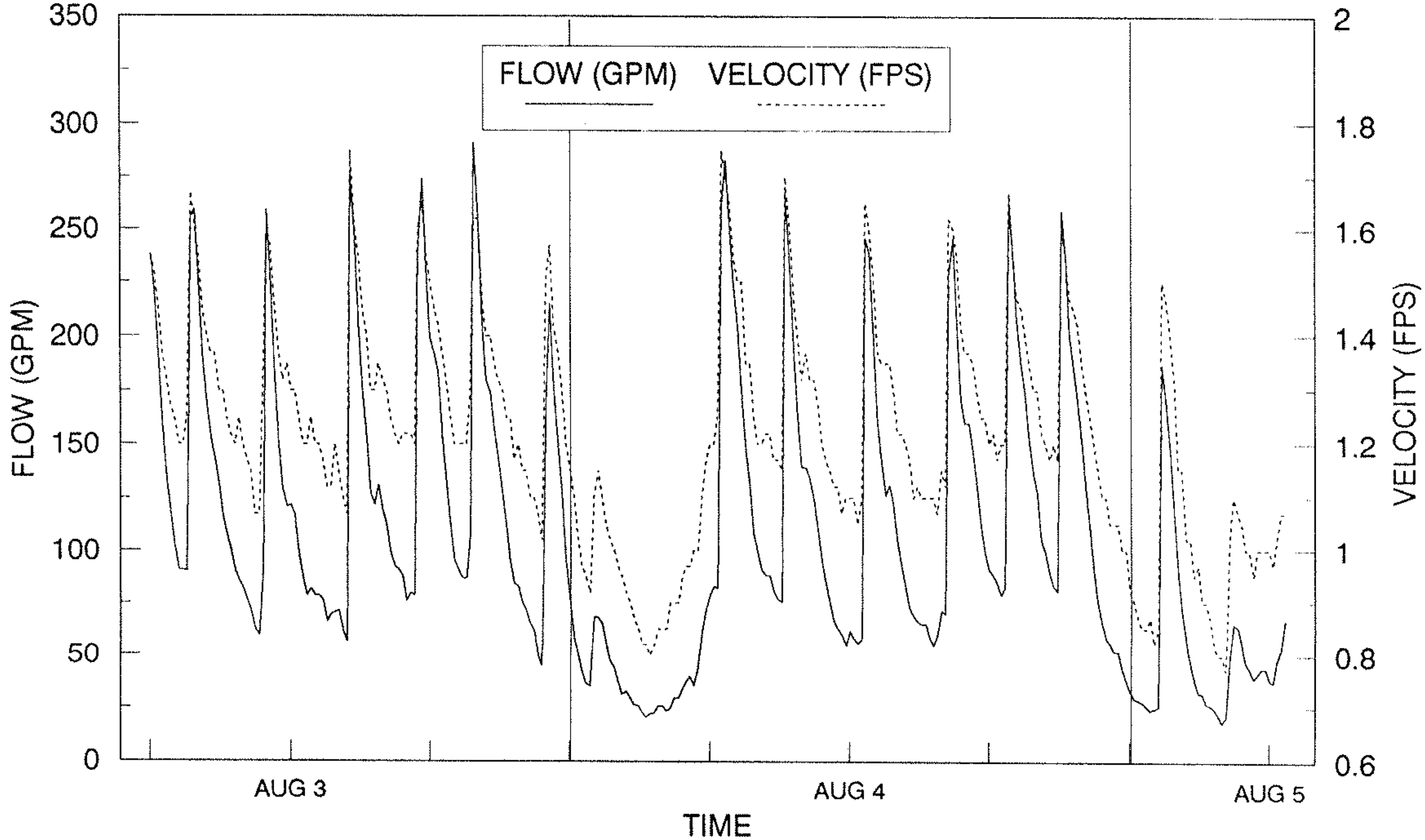
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING LOCATION NO. 8



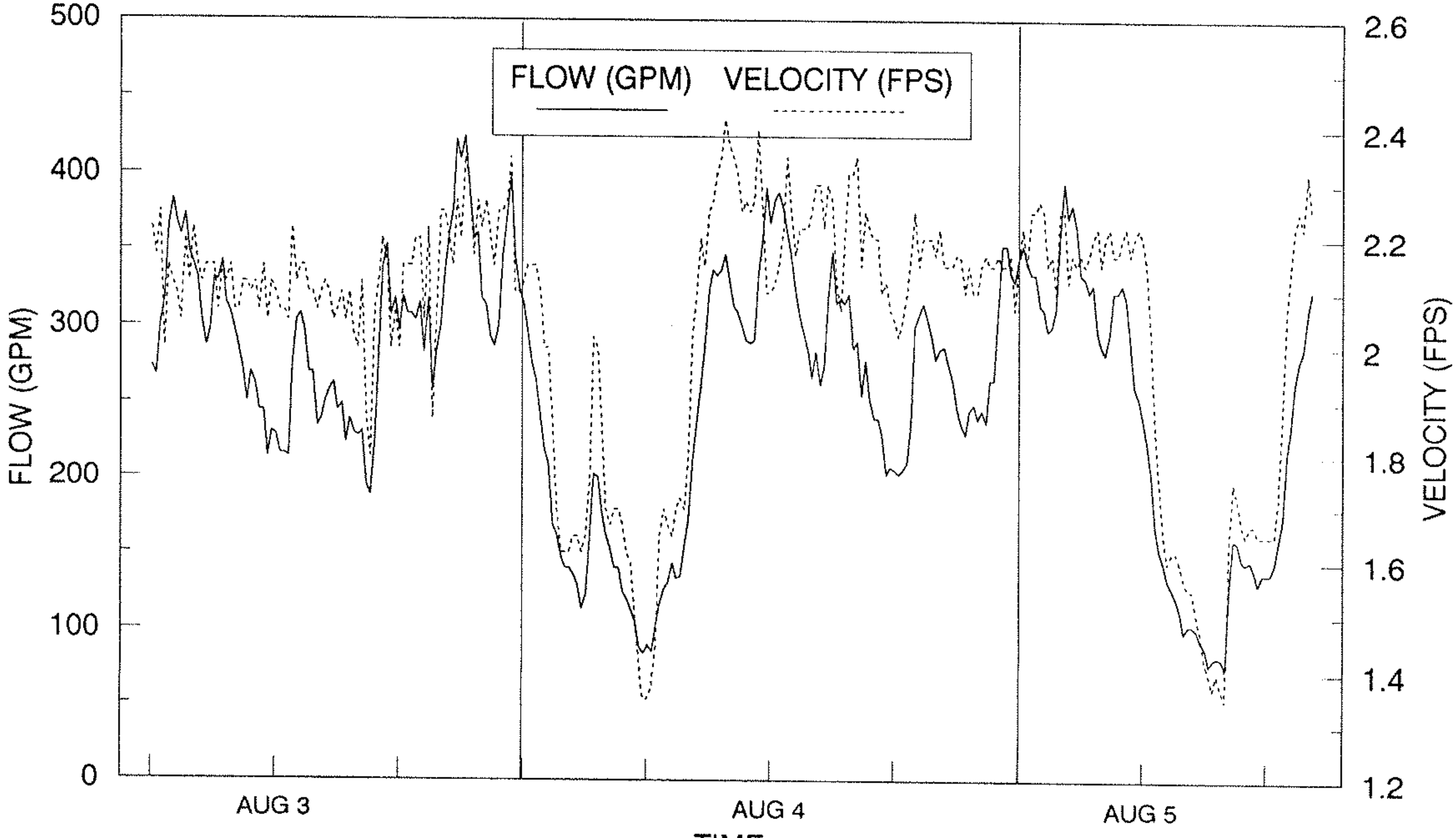
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 9



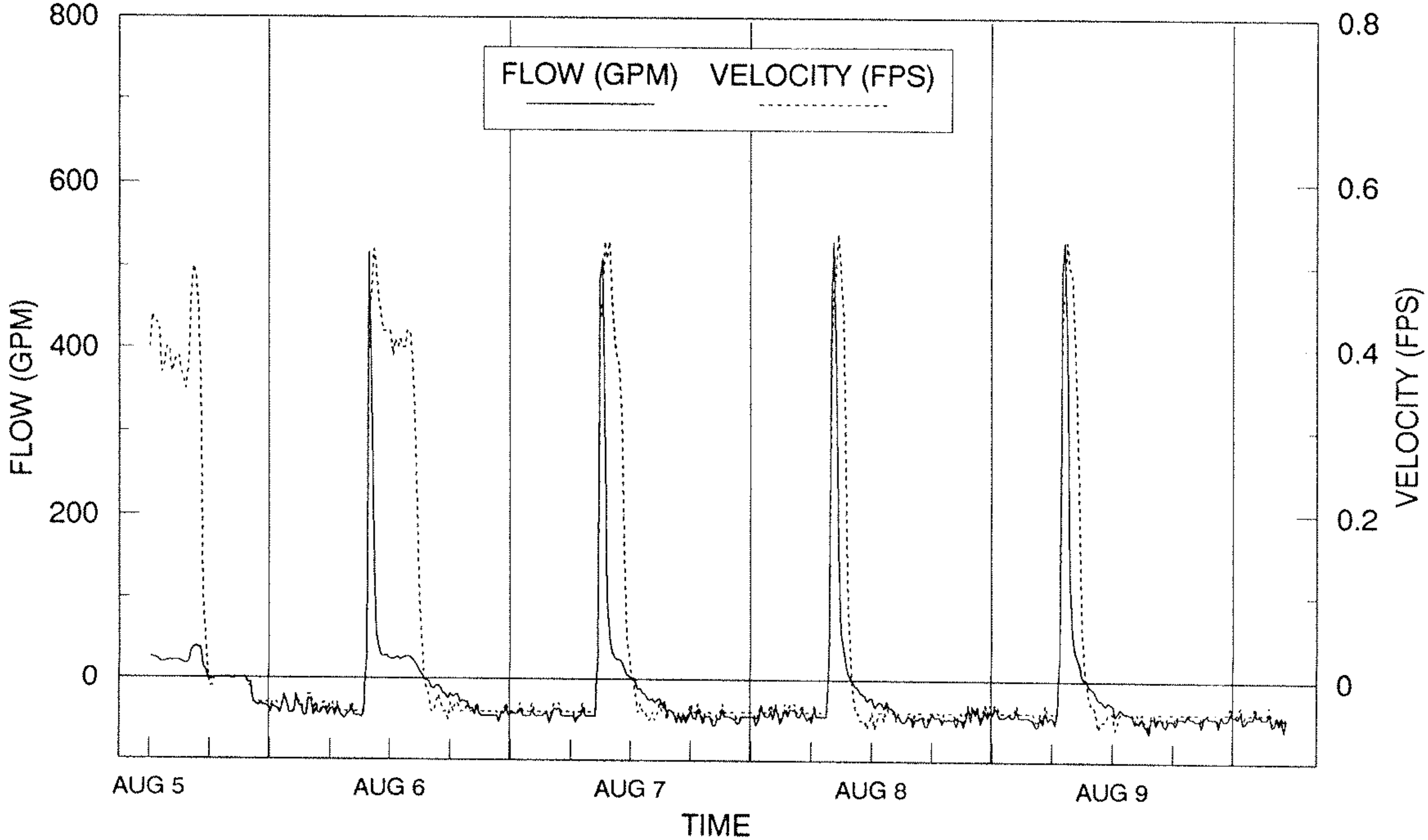
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 10



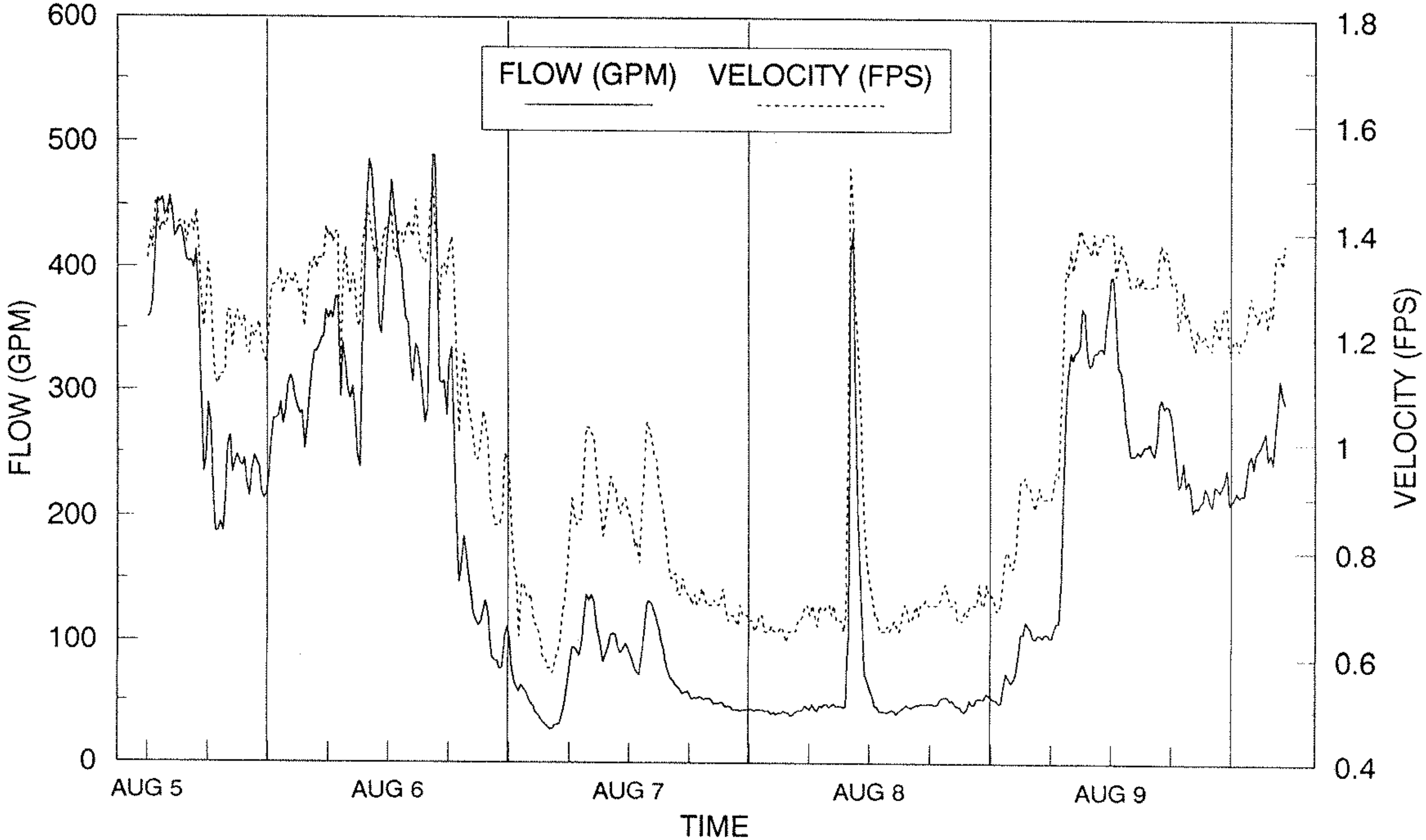
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 11



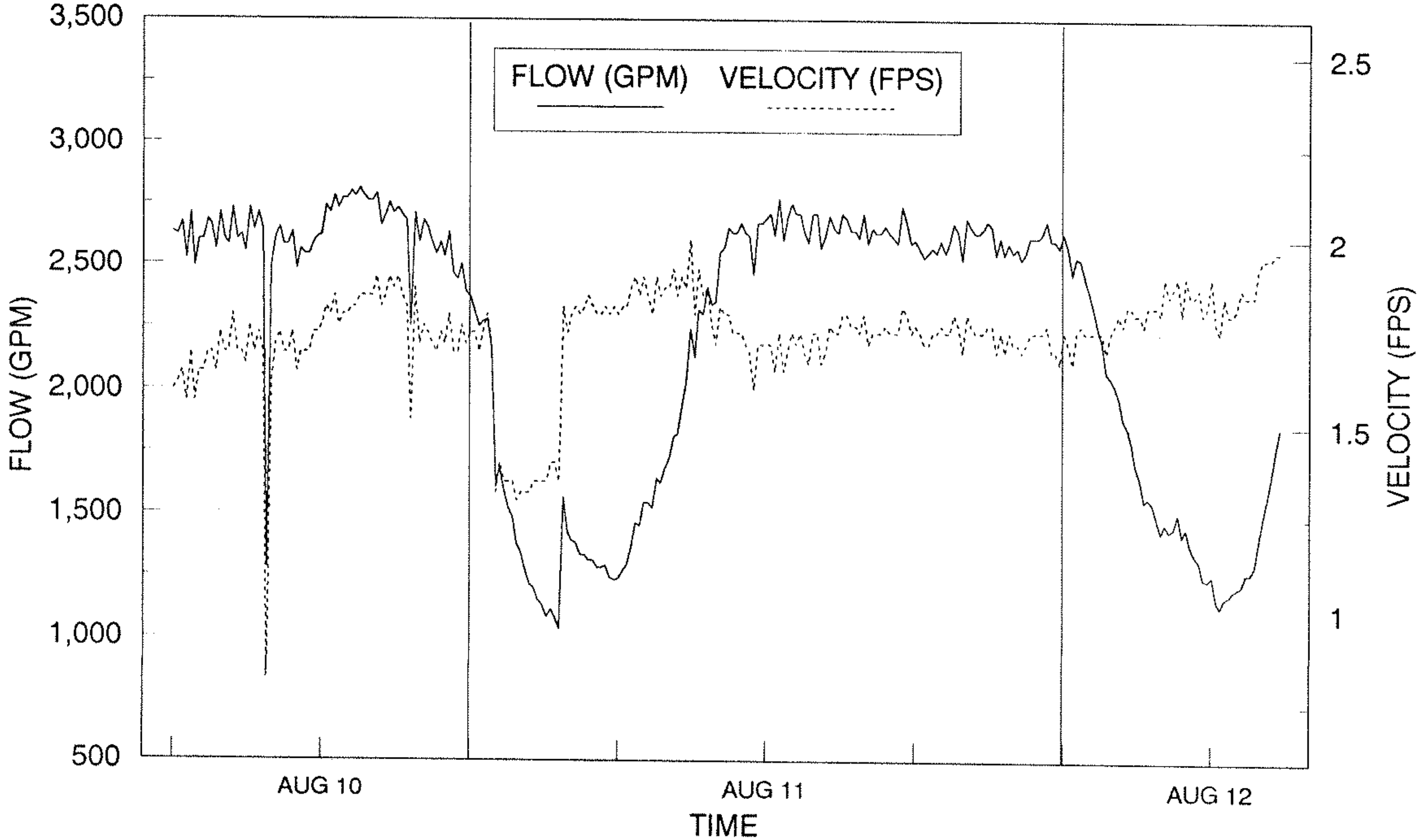
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 12



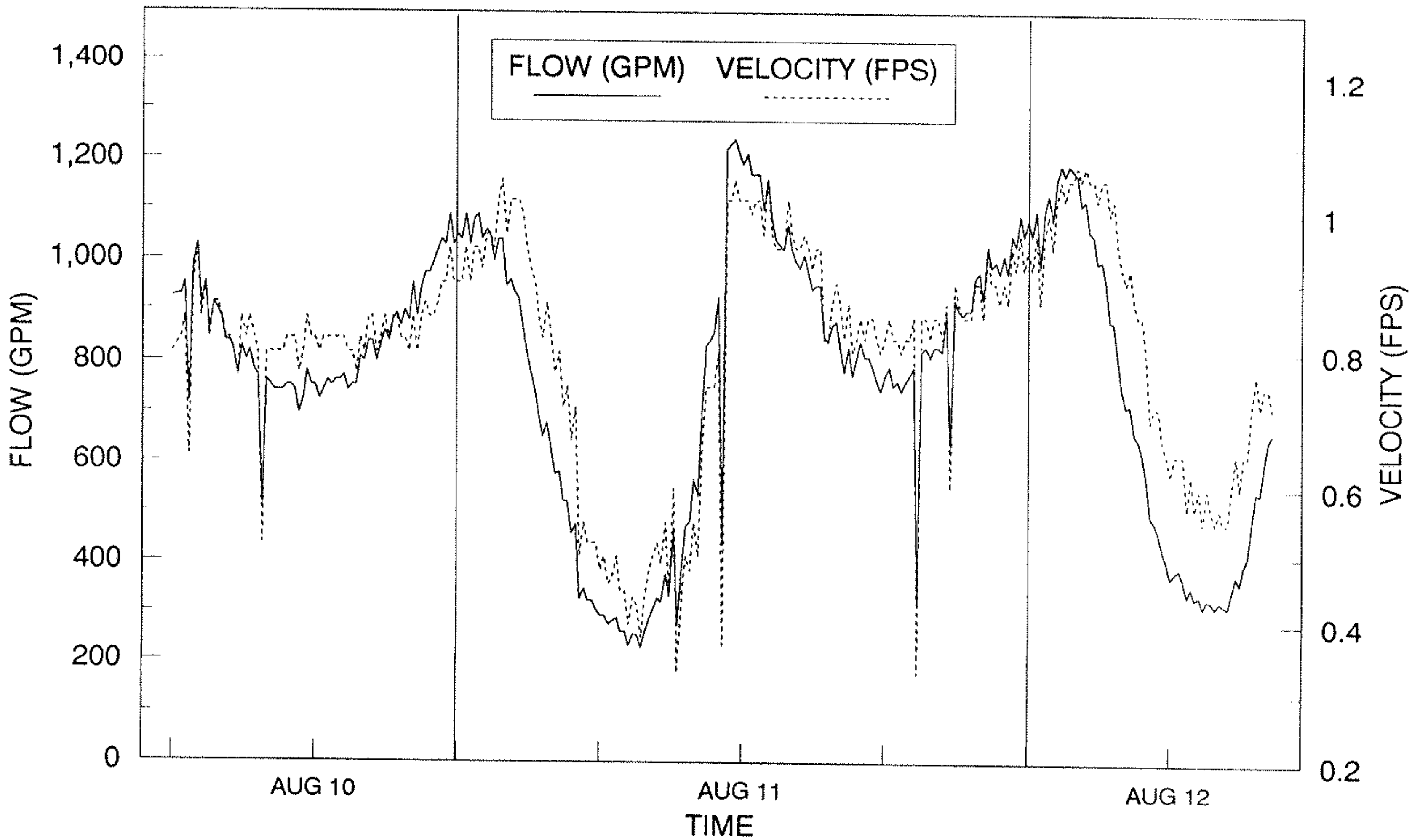
CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 13



CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

FLOW METERING
LOCATION NO. 14



CITY OF VISALIA
BOYLE ENGINEERING CORPORATION

APPENDIX D
WASTEWATER TREATMENT PLANT - MONTHLY DATA

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

August 1989 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	7.844	9.316	8.67858	.4069086
2	INF PEAK FLOW	MGD	31	10.2	17.6	11.56452	1.230325
3	INF PEAK TIME	TIME	31	11	21	14.90323	2.573646
4	INF LOW FLOW	MGD	31	3.6	5.3	4.448387	.4696596
5	INF FLOW TIME	TIME	31	6	8	6.354839	.5506578
6	FILTER FLOW	MGD	31	8.39	10.018	9.227258	.396251
7	BY PASS FLOW	MGD	31	0	1.87	.9365161	.4575097
8	EFFLUENT FLOW	MGD	0	-	-	-	-

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

September 1989 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	30	7.773	13.491	9.517933	1.008695
2	INF PEAK FLOW	MGD	30	11.5	14.2	12.94	.7388628
3	INF PEAK TIME	TIME	30	9	23	12.8	2.72156
4	INF LOW FLOW	MGD	30	3.2	5.4	4.336667	.6567863
5	INF FLOW TIME	TIME	30	5	7	6.233333	.5683233
6	FILTER FLOW	MGD	30	8.562	11.654	10.2308	.9493799
7	BY PASS FLOW	MGD	30	0	4.01	.7056	1.0676
8	EFFLUENT FLOW	MGD	30	8.41	10.963	10.18237	.7063943

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

October 1989 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.388	10.307	9.471387	.6459345
2	INF PEAK FLOW	MGD	31	11.2	15	13.40645	.8346444
3	INF PEAK TIME	TIME	31	10	14	11.83871	1.067605
4	INF LOW FLOW	MGD	31	3.2	6	4.36129	.8868202
5	INF FLOW TIME	TIME	31	5	7	6.322581	.5408058
6	FILTER FLOW	MGD	31	8.425	12.146	10.03594	.9632146
7	BY PASS FLOW	MGD	31	0	.708	.3074516	.2860108
8	EFFLUENT FLOW	MGD	0	-	-	-	-

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

November 1989 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	30	7.979	9.978	9.2431	.6428772
2	INF PEAK FLOW	MGD	30	11.8	14.8	13.19667	.6905674
3	INF PEAK TIME	TIME	30	10	16	12.13333	1.357822
4	INF LOW FLOW	MGD	30	3.1	5.4	4.32	.8458408
5	INF FLOW TIME	TIME	30	4	7	6.2	.8051573
6	FILTER FLOW	MGD	30	7.704	10.314	9.1672	.7086616
7	BY PASS FLOW	MGD	30	0	1.284	.6079667	.2885055
8	EFFLUENT FLOW	MGD	0	-	-	-	-

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

December 1989 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	7.498	10.582	9.016774	.7050642
2	INF PEAK FLOW	MGD	31	11.1	13.6	12.54194	.5143005
3	INF PEAK TIME	TIME	31	11	91	15.19355	14.103
4	INF LOW FLOW	MGD	31	3.1	6.2	4.332258	.9100859
5	INF FLOW TIME	TIME	31	6	7	6.354839	.4863716
6	FILTER FLOW	MGD	31	6.088	9.114	8.100774	.8436345
7	BY PASS FLOW	MGD	31	0	2.088	1.168742	.6596932
8	EFFLUENT FLOW	MGD	1	10.615	10.615	10.615	0

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

January 1990 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.013	10.277	9.30371	.5805287
2	INF PEAK FLOW	MGD	31	11.6	15.5	13.24194	.988523
3	INF PEAK TIME	TIME	31	8	16	12.74194	1.914291
4	INF LOW FLOW	MGD	31	3.5	6	4.877419	.8697541
5	INF FLOW TIME	TIME	31	2	8	6.322581	1.045213
6	FILTER FLOW	MGD	31	6.569	10.279	8.511774	.9110188
7	BY PASS FLOW	MGD	31	0	2.033	1.183194	.7075982
8	EFFLUENT FLOW	MGD	31	8.733	11.102	9.996645	.5915865

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

February 1990 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	28	8.046	10.357	9.346679	.6676908
2	INF PEAK FLOW	MGD	28	12.3	15.8	13.81071	.8525885
3	INF PEAK TIME	TIME	28	10	16	12.57143	1.372445
4	INF LOW FLOW	MGD	28	3.2	6.2	5.235714	.8761075
5	INF FLOW TIME	TIME	28	5	8	6.357143	.6214841
6	FILTER FLOW	MGD	28	7.29	10.629	9.353857	.882405
7	BY PASS FLOW	MGD	28	0	1.433	.2825714	.3699491
8	EFFLUENT FLOW	MGD	14	.333	10.741	8.996285	2.845461

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

March 1990 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	9	8.357	9.639	9.211	.4740619
2	INF PEAK FLOW	MGD	8	12.4	14.1	13.4875	.7079825
3	INF PEAK TIME	TIME	8	11	18	13.25	2.12132
4	INF LOW FLOW	MGD	10	3.8	6.2	5	.7930251
5	INF FLOW TIME	TIME	10	5	7	6.3	.6749465
6	FILTER FLOW	MGD	31	8.567	10.941	9.78671	.7157907
7	BY PASS FLOW	MGD	31	0	1.898	.1193871	.3794985
8	EFFLUENT FLOW	MGD	31	8.626	10.629	9.844129	.6663451

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

April 1990 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	9	8.106	10.195	9.000333	.745454
2	INF PEAK FLOW	MGD	6	11.4	14	12.18333	1.045783
3	INF PEAK TIME	TIME	6	11	16	13.83333	1.722404
4	INF LOW FLOW	MGD	9	2.7	5.2	3.633333	.9886864
5	INF FLOW TIME	TIME	9	6	7	6.444445	.5270433
6	FILTER FLOW	MGD	30	7.868	10.685	9.656034	.7447768
7	BY PASS FLOW	MGD	30	0	.993	.1289	.2444445
8	EFFLUENT FLOW	MGD	30	8.465	11.01	9.5754	.6468267

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

May 1990 Screen Page 1-9 of 1

VARIABLES #	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	21	7.235	11.065	8.639	.6910957
2	INF PEAK FLOW	MGD	21	11	12.6	11.63333	.3637811
3	INF PEAK TIME	TIME	21	10	14	12.85714	1.062348
4	INF LOW FLOW	MGD	21	2.4	4.6	3.347619	.5105086
5	INF FLOW TIME	TIME	21	5	7	6.095238	.4364341
6	FILTER FLOW	MGD	31	7.046	9.465	7.992	.6767482
7	BY PASS FLOW	MGD	31	.11	2.147	1.216581	.5581191
8	EFFLUENT FLOW	MGD	31	8.318	9.71	8.912097	.417823

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

June 1990 Screen Page 1-9 of 1

VARIABLES #	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	30	8.097	9.467	8.804733	.4389968
2	INF PEAK FLOW	MGD	30	11.2	12.8	11.87333	.4234082
3	INF PEAK TIME	TIME	30	12	17	13.83333	1.147215
4	INF LOW FLOW	MGD	30	2.9	4.5	3.84	.4287919
5	INF FLOW TIME	TIME	30	6	8	6.4	.5632407
6	FILTER FLOW	MGD	30	7.054	9.312	8.499333	.6113791
7	BY PASS FLOW	MGD	30	.095	1.766	.8651333	.3485266
8	EFFLUENT FLOW	MGD	30	7.549	11.188	9.0409	.6628928

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

July 1990 Screen Page 1-9 of 1

VARIABLES #	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	7.92	9.95	9.08671	.5388837
2	INF PEAK FLOW	MGD	31	11.1	12.8	11.81613	.4083356
3	INF PEAK TIME	TIME	31	12	15	13.90323	.6508865
4	INF LOW FLOW	MGD	31	3.6	5	4.145161	.4257075
5	INF FLOW TIME	TIME	31	5	7	6.387097	.5584143
6	FILTER FLOW	MGD	31	7.481	10.341	9.226677	.7548699
7	BY PASS FLOW	MGD	31	0	1.652	.757	.4286289
8	EFFLUENT FLOW	MGD	31	.184	10.053	9.063065	1.722434

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

August 1990 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.225	9.796	9.053549	.4797578
2	INF PEAK FLOW	MGD	31	10.6	12.5	11.87742	.4047262
3	INF PEAK TIME	TIME	31	10	15	13.51613	1.363104
4	INF LOW FLOW	MGD	31	3.4	5.8	4.241935	.5469779
5	INF FLOW TIME	TIME	31	4	7	6.387097	.7154205
6	FILTER FLOW	MGD	31	7.958	10.892	9.269065	.6616989
7	BY PASS FLOW	MGD	31	.158	1.387	1.028323	.2668364
8	EFFLUENT FLOW	MGD	31	8.718	10.354	9.594935	.4784002

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

September 1990 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	30	8.086	10.64	9.670934	.7809222
2	INF PEAK FLOW	MGD	30	12	14.8	13.14	.7595769
3	INF PEAK TIME	TIME	30	10	16	12.7	1.841103
4	INF LOW FLOW	MGD	30	3.2	5.8	4.353333	.8236719
5	INF FLOW TIME	TIME	30	4	8	6.366667	.8087158
6	FILTER FLOW	MGD	30	7.711	10.905	9.553634	.9070662
7	BY PASS FLOW	MGD	30	0	4.338	1.1071	.7221199
8	EFFLUENT FLOW	MGD	30	.397	12.034	9.6628	1.997247

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

October 1990 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.813	10.826	10.00584	.6594599
2	INF PEAK FLOW	MGD	31	12	14.4	13.53871	.5869014
3	INF PEAK TIME	TIME	31	10	22	12.77419	2.171169
4	INF LOW FLOW	MGD	31	2.8	6.6	4.622581	.8200452
5	INF FLOW TIME	TIME	31	5	7	6.258065	.6307507
6	FILTER FLOW	MGD	31	8.36	11.203	9.654355	.7870222
7	BY PASS FLOW	MGD	31	0	2.049	1.134774	.5289223
8	EFFLUENT FLOW	MGD	31	9.279	11.26	10.47016	.6748237

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

November 1990 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	30	8.169	10.599	9.778234	.7838262
2	INF PEAK FLOW	MGD	30	12	18.4	13.74	1.09122
3	INF PEAK TIME	TIME	30	10	15	12.06667	1.337351
4	INF LOW FLOW	MGD	30	3	6	4.233333	.9763888
5	INF FLOW TIME	TIME	30	5	7	6.266667	.5832898
6	FILTER FLOW	MGD	30	7.281	11.109	9.3034	.8555245
7	BY PASS FLOW	MGD	30	.255	1.682	.8648	.4177126
8	EFFLUENT FLOW	MGD	30	8.556	11.15	10.16307	.7652623

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

December 1990 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.62	10.753	9.947549	.6421714
2	INF PEAK FLOW	MGD	31	12.1	14.2	13.53226	.4308082
3	INF PEAK TIME	TIME	31	10	16	12.90323	1.350427
4	INF LOW FLOW	MGD	31	3.6	9.831	5.071968	1.112925
5	INF FLOW TIME	TIME	31	5	7	6.451613	.5679613
6	FILTER FLOW	MGD	31	7.958	10.64	9.379323	.6891178
7	BY PASS FLOW	MGD	31	.27	1.08	.5205162	.1984304
8	EFFLUENT FLOW	MGD	31	3.833	11.004	7.95529	2.622521

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

January 1991 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.423	10.537	9.806774	.6441317
2	INF PEAK FLOW	MGD	31	12.2	14.6	13.52581	.6010929
3	INF PEAK TIME	TIME	31	0	21	13.22581	3.232231
4	INF LOW FLOW	MGD	31	3.3	5.8	4.403226	.7700573
5	INF FLOW TIME	TIME	31	5	7	6.387097	.5584143
6	FILTER FLOW	MGD	31	7.837	10.317	9.323742	.6709245
7	BY PASS FLOW	MGD	31	.14	1.417	.4420645	.3178941
8	EFFLUENT FLOW	MGD	31	3.68	10.659	8.673323	2.262976

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

February 1991 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	28	8.176	10.367	9.530143	.6291687
2	INF PEAK FLOW	MGD	28	12.5	15.9	13.45714	.7941573
3	INF PEAK TIME	TIME	28	10	21	13.53571	2.768636
4	INF LOW FLOW	MGD	28	2.5	5	4.1	.6804146
5	INF FLOW TIME	TIME	28	6	8	6.5	.6382847
6	FILTER FLOW	MGD	28	7.581	10.45	9.29225	.7612287
7	BY PASS FLOW	MGD	28	.16	.956	.5115	.2437092
8	EFFLUENT FLOW	MGD	28	8.312	10.497	9.665286	.6415911

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

March 1991 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.453	13.613	10.22474	1.174576
2	INF PEAK FLOW	MGD	31	12.5	20	14.27097	1.831794
3	INF PEAK TIME	TIME	31	11	21	14.09677	2.599422
4	INF LOW FLOW	MGD	31	3.4	6.9	4.570968	.7900187
5	INF FLOW TIME	TIME	31	5	8	6.258065	.8151768
6	FILTER FLOW	MGD	31	8.218	10.41	9.372678	.5859778
7	BY PASS FLOW	MGD	31	.517	4.935	1.204677	.9363334
8	EFFLUENT FLOW	MGD	31	2.587	13.184	8.698452	3.207173

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

April 1991 — Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	30	8.393	10.272	9.542	.5843871
2	INF PEAK FLOW	MGD	30	11.9	14.2	12.84667	.4854749
3	INF PEAK TIME	TIME	30	10	20	14.96667	2.760354
4	INF LOW FLOW	MGD	30	2.7	5.2	4.14	.7645608
5	INF FLOW TIME	TIME	30	5	8	6.466667	.7302964
6	FILTER FLOW	MGD	30	8.097	10.424	9.430767	.6631578
7	BY PASS FLOW	MGD	30	.382	1.443	.8092667	.1819976
8	EFFLUENT FLOW	MGD	11	3.317	10.646	9.527	2.140777

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

May 1991 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	7.66	10.203	9.269677	.7068217
2	INF PEAK FLOW	MGD	31	11.2	14.2	12.47419	.6428934
3	INF PEAK TIME	TIME	31	12	18	16.80645	1.681651
4	INF LOW FLOW	MGD	31	2.7	5.2	4	.8091148
5	INF FLOW TIME	TIME	31	5	7	6.258065	.5143084
6	FILTER FLOW	MGD	31	8.184	10.583	9.443516	.7354769
7	BY PASS FLOW	MGD	31	.182	1.421	.6837097	.3089667
8	EFFLUENT FLOW	MGD	25	.044	10.572	9.13948	2.01646

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

June 1991 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	30	8.376	10.304	9.253533	.6083921
2	INF PEAK FLOW	MGD	30	11.2	14.2	12.31	.5909284
3	INF PEAK TIME	TIME	30	10	21	15.96667	2.894508
4	INF LOW FLOW	MGD	30	2.9	5.6	4.223333	.8244883
5	INF FLOW TIME	TIME	30	5	8	6.3	.7943752
6	FILTER FLOW	MGD	30	8.317	10.979	9.683733	.7230204
7	BY PASS FLOW	MGD	30	0	1.721	.5368667	.4234183
8	EFFLUENT FLOW	MGD	30	8.55	10.876	9.8695	.6934918

MONTHLY DATA REVIEW V4.31
VISALIA WASTEWATER TREATMENT PLANT

July 1991 Screen Page 1-9 of 1

#	Name	Units	No.	Min.	Max.	Ave.	St.Dev.
1	INFLUENT FLOW	MGD	31	8.387	10.513	9.460936	.6335897
2	INF PEAK FLOW	MGD	31	11.6	14.2	12.46129	.6232588
3	INF PEAK TIME	TIME	31	12	22	17	2.516612
4	INF LOW FLOW	MGD	31	3.7	6.8	4.683871	.7857478
5	INF FLOW TIME	TIME	31	4	7	6.483871	.7243832
6	FILTER FLOW	MGD	31	8.236	11.229	9.60571	.7359993
7	BY PASS FLOW	MGD	31	.312	1.94	1.078161	.3358518
8	EFFLUENT FLOW	MGD	31	.617	11.137	9.547452	1.88054

APPENDIX E
TOPOGRAPHIC SURVEY OF SEWER SYSTEM

City of Visalia
Sanitary Sewer Master Plan

Topographic Survey of Sanitary Sewer Mains
South of Highway 198
Surveyed December 1991
by
Knopf Engineering, Inc.
711 N. Court St., Suite O
Visalia, CA 93291

Giddings Avenue
Noble to Tulare

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
1	Intersection Giddings and Noble	323.99	314.29 S	311.88 E & W		
2	Alley at Giddings between Noble & Kaweah	323.88	314.86 N & S	315.18 W		
3	Alley at Giddings between Kaweah & Myrtle	323.76	315.42 N & S	315.53 W		
4	Intersection Giddings and Myrtle	323.97	315.67 N & S			
5	Alley at Giddings between Myrtle & College	323.20	315.95 N & S	316.13 W		
6	Intersection Giddings and Raymon	322.57	316.33 N & S	316.51 W		
7	Alley at Giddings between Beverly & Westcott	323.00	317.04 N & S	317.46 W		
8	Intersection Giddings and Westcott	322.78	317.38 N & S	317.54 E		
9	Alley at Giddings between Westcott and Laurel	323.01	317.51 N & S	317.61 W		
10	Intersection Giddings and Laurel	323.54	317.86 N & S	317.99 E		
11	Alley at Giddings between Laurel and Tulare	324.17	318.24 N & S	318.28 W	318.46 E	
12	Intersection Giddings and Tulare	324.36	318.51 N & S	318.59 E		

BENCH MARK: City of Visalia Bench Mark No. 43, Elev. 324.92

LICENSED LAND SURVEYOR
D. CRAIG KNOPF
LS 5676
Exp. 9-30-91
STATE OF CALIFORNIA

Conyer Street
Noble to Tulare

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
13	Intersection Conyer and Noble	325.97	315.62 S	313.55 E & W		
14	Conyer 40' ± south of Manhole #13	325.88	315.88 N & S			
15	Alley at Conyer between Noble & Kaweah	325.89	316.33 N & S	318.31 W	317.20 E	
16	Conyer 40' ± north of Alley between Kaweah and Myrtle	325.84	316.39 N & S	318.30 SE		
17	Intersection Conyer at Myrtle	326.01	316.78 N & S	316.57 W		
18	Alley at Conyer north of Mt. Whitney High School	326.46	316.94 N & S			
19	Conyer 365' south of Manhole #18	325.79	317.42 N & S			
20	Conyer 320' south of Manhole #19	325.74	317.80 N & S			
21	Conyer 345' south of Manhole #20	324.94	318.29 N & S			
22	Intersection Conyer and Tulare	324.39	318.90 N	318.93 E & W		

BENCH MARK: City of Visalia Bench Mark No. 42, Elev. 326.675

Tulare Avenue
Church to Encina

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
23	Intersection Tulare and Church	waiting to	be exposed			
24	Intersection Tulare and Court	329.38	321.47 E & W			
26	Intersection Tulare and Locust	328.93	320.81 E & W	323.67 N		
27	Intersection Tulare and Laspina	327.93	320.38 E	320.60 W	320.28 N	

BENCH MARK: City of Visalia Bench Mark No. 224, Elev. 328.98

Santa Fe
Noble to Myrtle

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
28	Intersection Santa Fe and Noble	331.64	321.84 N & S			
29	Santa Fe 440' south of Manhole #28	331.16	322.70 N & S	323.20 E		
30	Santa Fe 40' south of Manhole #29	331.15	322.77 N & S			

BENCH MARK: City of Visalia Bench Mark No. 21, Elev. 332.005

Divisadero Street
Harvard to Cambridge

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
31	Intersection Divisadero & Harvard	321.62	314.75 N & S	314.91 W		
32	Intersection Divisadero & Princeton	321.29	315.47 N & S	315.54 E		
33	Intersection Divisadero & Cambridge	321.02	316.36 N	316.39 E & W		

BENCH MARK: City of Visalia Bench Mark No. 228.28, Elev. 322.925

Giddings
Walnut to Princeton

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
34	Intersection Giddings and Walnut	322.22	313.82 N	314.43 S	311.97 E & W	
35	Intersection Giddings and Vassar	323.36	315.83 N & S	315.84 E	315.92 W	
38	Intersection Giddings and Cambridge	322.97	316.22 N & S	316.31 E	316.22 W	
39	Intersection Giddings and Princeton	323.27	317.06 N & S	317.23 W		

BENCH MARK: City of Visalia Bench Mark No. 29, Elev. 321.494

Vassar
Giddings to Sowell

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
35	Intersection Giddings and Vassar	323.36	315.84 E	315.92 W	315.83 N & S	
36	Vassar between Giddings and Sowell	322.45	316.28 E & W			
37	Intersection Vassar and Sowell	323.87	317.37 E & W	317.45 N		

BENCH MARK: City of Visalia Bench Mark No. 29, Elev. 321.494

Gist Avenue
between Linda Vista & Verde Vista

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
40	Gist between Linda Vista and Verde Vista	316.49	310.68 N & W	310.72 E		
41	Highway 198 135' ± north of Manhole #40	318.66	310.31 S	310.00 E		

BENCH MARK: City of Visalia Bench Mark No. 293, Elev. 314.84

City of Visalia
Sanitary Sewer Master Plan

Topographic Survey of Sanitary Sewer Mains
North of Highway 198
Surveyed December 1991
by
Knopf Engineering, Inc.
711 N. Court St., Suite O
Visalia, CA 93291

Mineral King
Divisadero to Mooney Boulevard

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
130	Mineral King 70'± west of centerline of Divisadero	321.65	309.35 E & W			
131	Mineral King 90'± west of centerline of Divisadero	321.58	313.20 E	311.93 W		
132	Mineral King west side of Central	321.12	309.82 E & W			
133	Mineral King at alley north 450' ± west of Manhole #132	320.55	309.58 E & W	312.27 N		
134	Intersection Mineral King and Mooney Boulevard	Information	not attainable			

BENCH MARK: City of Visalia Bench Mark No. 44, Elev. 322.39

LICENSED LAND SURVEYOR
D. CRAIG KNOPF
LS 5076
Exp. 9-30-95
STATE OF CALIFORNIA

Roosevelt Street
Jacob to Turner

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
135	Intersection Roosevelt and Jacob	326.16	320.81 E, W & N	323.49 S		
136	Intersection Roosevelt and Turner	325.90	320.29 N, S & E			

BENCH MARK: City of Visalia Bench Mark No. 14, Elev. 325.93

Turner Street
Roosevelt Southward

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
136	Intersection Turner and Roosevelt	325.90	320.29 N, S & E			
137	Turner Street 310'± south of Roosevelt	326.33	319.78 N & S	319.68 E & W		

BENCH MARK: City of Visalia Bench Mark No. 14, Elev. 325.93

S.S. Line Through Cemetary
Turner to Rinaldi

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
137	Turner Street 310'± south of Roosevelt	326.33	319.68 E & W	319.78 N & S		
138	345' west of Manhole #137	325.02	319.16 E & W			
139	330' west of Manhole #138	325.34	318.12 E & W	318.51 N		
140	Rinaldi Street	323.60	317.45 E	317.33 N & S		

BENCH MARK: City of Visalia Bench Mark No. 14, Elev. 325.93

Court Street
Mineral King to Willow

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
147	Intersection Court Street and Mineral King	328.50	321.25 N	317.55 E & W	317.98 S	318.10 N
148	Court Street between Mineral King & Willow	328.67	321.89 S	322.01 N	321.96 E	
149	Intersection Court & Willow	329.01	325.59 S	325.21 N	317.18 E	317.06 W
150	Intersection Court & Willow 5' north of Manhole #149	329.03	325.51 S	325.56 W		

BENCH MARK: City of Visalia Bench Mark No. 40, Elev. 329.355

Willow Street
Court to Locust

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
149	Intersection Willow & Court	329.01	317.06 W	317.18 E	325.21 N	325.59 S
151	Intersection Willow & Locust	329.74	317.01 E & S	316.89 W		

BENCH MARK: City of Visalia Bench Mark No. 40, Elev. 329.355

Court Street
Murray to N.E. Fourth

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
78	Intersection Court Street and Murray	329.71	319.77 N & S	319.47 E & W		
141	Intersection Court and N.E. First	330.85	320.80 S	320.88 N & NE	321.18 NW	
142	Intersection Court & N.E. Second	330.20	321.35 S	321.40 NE		
143	Intersection Court & N.E. Second at Ash Street	330.14	321.84 SW	321.97 N	322.17 NE	
144	Intersection Court and N.E. Third	329.78	322.44 S	322.51 NE & NW		
145	Court Street due north of oval	329.73	322.50 SE	322.57 N	322.63 W	
146	Intersection Court and N.E. Fourth	329.98	322.83 S	322.93 N	323.26 NE	

BENCH MARK: City of Visalia Bench Mark No. 222, Elev. 329.74

Highland Avenue
Goshen to Grove

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
119	Intersection Goshen and Johnson	327.35	319.31 N & SE	319.38 W		
123	Intersection Highland and Race	326.83	320.05 N & S	320.39 W	321.39 SE	
124	Highland Avenue 50'± north of median curb	327.01	320.36 N & S			
125	Intersection Highland and Grove	327.89	320.62 N & S	320.71 W		

BENCH MARK: City of Visalia Bench Mark No. 41, Elev. 328.63

Grove Street
Highland to Stevenson

Manhole Number	Description	Rim Elevation	Invert Elevation	Invert Elevation	Invert Elevation	Invert Elevation
125	Intersection Grove and Higland	327.89	320.71 W	320.62 N & S		
126	Intersection Grove and Stevenson	328.52	321.01 E & W	320.92 N	321.30 S	

BENCH MARK: City of Visalia Bench Mark No. 41, Elev. 328.63

Stevenson Street
Grove to Pershing

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
126	Intersection Stevenson and Grove	328.52	320.92 N	321.30 S	321.01 E & W	
127	Stevenson Street 70'± north of alley	328.18	321.33 N & S			
128	Intersection Stevenson and Allen	327.96	321.65 N & S	321.66 W		
129	Intersection Stevenson and Pershing	327.74	322.13 N & S			

BENCH MARK: City of Visalia Bench Mark No. 41, Elev. 328.63

Johnson Street
Willow to Goshen

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
111	Intersection Johnson and Willow	327.32	316.17 N	315.47 E	315.58 SW	
112	Intersection Johnson and Acequia	327.53	316.74 N & S	318.51 E	318.57 W	
113	Intersection Johnson and Main	327.56	317.15 N & S	318.11 E	318.20 W	
114	Intersection Johnson and Center	Information	not attainable			
115	Intersection Johnson and Oak	327.52	318.16 N & S	319.03 E & W		
116	Intersection Johnson and School	327.55	318.60 N & S	318.80 E	319.75 W	
117	Intersection Johnson and Murray	328.13	319.01 N & S	319.41 E & W		
118	Johnson Street 40'± south of Manhole #119	327.53	319.41 NW & S			
119	Intersection Johnson and Goshen	327.35	319.31 N & SE	319.38 W	capped cast	

BENCH MARK: City of Visalia Bench Mark No. 41, Elev. 328.63

Garden Street
Murray to alley south of Oak Street

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
72	Intersection Murray and Garden	330.40	320.76 S, E & W	323.21 N		
73	Alley at Garden between Murray and School	329.90	321.00 N & S	321.43 E	324.48 W	
74	Alley at Garden between School and Oak	330.33	321.73 N & S	322.23 E	322.11 W	
75	Alley at Garden between Oak and Center	330.25	322.39 N & S	322.48 E	322.68 W	

BENCH MARK: City of Visalia Bench Mark No. 17, Elev. 333.29

Santa Fe
Roosevelt to Murray

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
57	Intersection Santa Fe and Roosevelt	332.97	325.05 N & S	325.22 E		
58	Intersection Santa Fe and N.E. First	331.95	324.80 N	324.60 S	324.69 E	
59	Intersection Santa Fe and Douglas east of R.R.	332.60	324.04 N	326.24 E	324.04 W	
60	Intersection Santa Fe and Douglas west of R.R.	332.63	323.84 N & S	324.00 E		
61	Santa Fe between Douglas and Grove	331.86	323.49 N & S			
62	Intersection Santa Fe and Grove	331.17	323.09 N & S	323.34 E		
63	Santa Fe between Grove and Race	331.89	322.63 N & S			
64	Intersection Santa Fe and Race	332.91	322.18 N & S	322.50 E		
65	Santa Fe between Race and Murray	332.58	321.80 N & S			
66	Intersection Santa Fe and Murray	332.39	321.40 N	321.37 E & W		

BENCH MARK: City of Visalia Bench Mark No. 17, Elev. 333.29

Murray Street
Santa Fe to West Street
(northerly of two s.s. lines)

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
66	Intersection Santa Fe and Murray	332.39	321.37 E & W	321.40 N		
67	Intersection Santa Fe and Murray 26' west of Manhole #66	332.34	321.31 E & W	321.76 N & S		
69	Intersection Murray and Bridge	331.36	320.95 E & W	322.44 N	322.62 S	
71	Intersection Murray and Garden	330.40	320.56 E & W	323.05 N & S		
76	Intersection Murray and Church	329.50	320.11 E & W	323.85 N	323.65 S	
78	Intersection Murray and Court	329.71	319.47 E & W	319.77 N & S		
80	Murray between Court and Locust	328.57	319.55 E & W	320.34 N		
82	Intersection Murray and Locust	328.33	319.38 E & W			
84	Alley at Murray between Locust and Encina	328.38	319.11 E & W	320.05 N		
85	Intersection Murray and Encina	328.90	319.04 E & W	321.93 N		
87	Intersection Murray and Floral	329.29	318.38 E & W	318.43 S		
89	Intersection Murray and West Street	329.46	318.26 E	318.20 S		

BENCH MARK: City of Visalia Bench Mark No. 17, Elev. 333.29

Murray Street
Santa Fe to West Street
(southerly of two s.s. lines)

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
68	Intersection Santa Fe and Murray	332.24	321.92 W	322.01 N	322.26 E	
70	Intersection Murray and Bridge	331.42	321.10 E & W	322.62 N		
72	Intersection Murray and Garden	330.40	320.76 E, W & S	323.21 N		
77	Intersection Murray and Church	329.53	320.32 E & W	323.65 N		
79	Intersection Murray and Court	329.76	319.91 E & W	319.79 N		
81	Intersection Murray and Locust	328.49	319.39 E & W	322.47 N		
83	Intersection Murray and Locust 28' west of Manhole #81	328.30	319.28 E & W	319.41 S		
86	Intersection Murray and Encina	328.93	318.73 E & W			
88	Intersection Murray and Floral	329.38	318.42 E & W	318.43 N		
90	Intersection Murray and Locust Street	329.52	318.26 E & W	318.13 N & S		
91	Intersection Murray and West Street 8' west of Manhole #90	329.49	318.53 E	318.59 W	318.12 N & S	

BENCH MARK: City of Visalia Bench Mark No. 17, Elev. 333.29

West Street
Mineral King to Goshen
(westerly of two s.s. lines)

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
110	Intersection West Street and Mineral King	328.23	309.38 N	309.26 E & W		
108	Intersection West and Willow	328.81	315.73 S	315.88 E, W & N		
107	Intersection west of Willow 8' north of Manhole #108	328.83	315.94 N & S	316.36 W	316.41 E	
106	Alley at West Street between Acequia and Willow	328.81	315.61 N & S	321.42 E		
105	Intersection West and Acequia	328.75	316.25 N & S			
103	Alley at West between Main and Acequia	328.32	316.62 N & S	323.14 E		
102	Intersection West Street and Main	328.46	316.82 N & S	317.16 W		
100	Alley at West Street between Center and Main	328.25	316.94 N & S	321.95 E		
98	Intersection West Street and Center		Information	not attainable		
97	Alley at West Street between Oak and Center	328.15	317.19 N & S	320.92 E		
96	Intersection West Street and Oak	328.52	317.41 N & S			
94	Alley at West between Oak and School	328.63	317.60 N & S	323.39 W		
93	Intersection West Street and School	329.22	317.81 N & S			
91	Intersection West Street and Murray	329.49	318.13 N & S	318.53 E	318.59 W	
122	Intersection West Street and Goshen	329.35	318.23 S	318.53 W	318.88 E	

BENCH MARK: City of Visalia Bench Mark No. 297, Elev. 328.685

West Street
Willow to Murray
(easterly of two s.s. lines)

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
109	Intersection West Street and Willow	328.80	315.95 N	315.92 E & W		
104	Intersection West and Acequia	328.75	316.25 N & S			
101	Intersection West and Main	328.46	316.82 N & S			
99	Intersection West Street and Center		information	not attainable		
95	Intersection West Street and Oak	328.43	317.48 N & S			
92	Intersection West Street and Schoool	329.22	317.81 N & S	320.60 E		
90	Intersection West Street and Murray	329.52	318.13 N & S	318.26 E & W		

BENCH MARK: City of Visalia Bench Mark No. 297, Elev. 328.685

Giddings Avenue
Mineral King to Goshen

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
42	Intersection Giddings and Mineral King	324.22	314.52 N	314.37 S	314.05 E & W	
43	Giddings Avenue 335' north of Manhole #42	323.63	315.12 N & S			
44	Giddings Avenue 316' north of Manhole #43	323.83	315.43 N & S	315.59 E		
45	Giddings Avenue 166' north of Manhole #43	323.53	315.56 N & S	315.76 W		
46	Giddings Avenue 33' north of Manhole #45	323.52	315.57 N & S			
47	Alley at Giddings between Main and Center	324.15	316.05 N & S	316.55 E	316.37 W	
48	Alley at Giddings 331' north of Manhole #47	325.01	316.26 N & S	316.76 E	316.30 W	
49	Giddings Avenue 327' north of Manhole #48	325.30	316.80 N & S			
50	Giddings Avenue 243' north of Manhole #49	325.21	316.99 N & S	317.47 NE		
51	Intersection Giddings and Murray	325.49	317.30 N & S			
52	Intersection Giddings and Goshen	326.08	318.33 N & S	318.38 W	321.79 E	

BENCH MARK: City of Visalia Bench Mark No. 43, Elev. 324.92

Goshen Avenue & Switzer Street
Giddings to Divisadero

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
52	Intersection Giddings and Goshen	326.08	318.38 W	318.33 N & S		
53	Intersection Goshen and Switzer	324.54	318.89 E & W			
54	Intersection Switzer and Rinaldi	325.29	319.19 E & W	319.62 N		
55	Intersection Switzer and Hall	324.63	319.45 E	319.51 W	319.69 NW	
56	Intersection Switzer and Divisadero	323.59	319.92 E	314.95 W	314.66 N & S	

BENCH MARK: City of Visalia Bench Mark No. 43, Elev. 324.92

Goshen Avenue & Switzer Street
West to Johnson

Manhole Number	*Description*	*Rim Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*	*Invert Elevation*
122	Intersection Goshen and West Street	329.35	318.53 W	318.88 E	318.23 S	
121	Intersection Goshen and Willis	327.98	318.91 E & W	319.17 N		
120	Goshen Avenue 170' west of Manhole #121	327.48	319.14 E & W			
119	Intersection Goshen and Johnson	327.35	319.38 W	319.31 N & SE		

BENCH MARK: City of Visalia Bench Mark No. 41, Elev. 328.63

APPENDIX F
BSWAN OUTPUT FILES

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 01

.00050	RA
.00100	LDR
.00180	MDR
.00250	HDR
.00100	CC
.00100	CNC
.00100	CSO
.00100	CCM
.00100	CBD
.00100	CR
.00100	CH
.00100	CS
.00110	IL
.00190	IH

GEOMETRY
LABELS
COORDINATES
SANITARY

CITY OF VISALIA

SERVICE AREA 01 Input File = C:\SEWPLAN\OUTPUT\01.IN

Summary of SWAN Units and Factors
****

UNITS

Length = feet
Diameter = inches
Flow = MGD
Elevation = feet
Area = acres
Pressure = psi
Head = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

SERVICE AREA 01

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
439	440	.00302	8	.43	.20	46.3	.02	.00	.02	.06	1.4	.26	.18			CRENSHAW-ST.
440	450	.00290	8	.42	.20	28.1	.02	.00	.04	.10	1.6	.35	.16			CRENSHAW-ST.
450	451	.00332	8	.45	.21	.0	.00	.00	.04	.10	1.6	.32	.17			CRENSHAW-ST.
451	60	.00295	8	.42	.20	34.4	.04	.00	.08	.19	1.8	.47	.12			CRENSHAW-ST.
+ + + + + + + + + + END OF STRIP + + + + + + + + + +																
422	423	.00263	8	.40	.19	61.2	.02	.00	.02	.07	1.4	.29	.16			DANS-LN.
423	53	.01170	8	.84	.43	.0	.00	.00	.02	.07	2.2	.19	.40			DANS-LN.
+ + + + + + + + + + END OF STRIP + + + + + + + + + +																
401	402	.00341	8	.46	.22	16.3	.02	.00	.02	.04	1.3	.20	.20			PACKWOOD-DR.
402	409	.00211	8	.36	.16	19.0	.02	.00	.03	.08	1.3	.32	.13			WOODLAND-ST.
409	413	.00180	8	.33	.15	.0	.00	.00	.03	.08	1.2	.35	.12			WOODLAND-ST.
413	50	.00225	8	.37	.17	20.6	.02	.00	.05	.13	1.5	.41	.12			WOODLAND-ST.
+ + + + + + + + + + END OF STRIP + + + + + + + + + +																
358	359	.00164	8	.32	.14	63.5	.09	.00	.09	.21	1.5	.58	.05			VICTOR-AVE.
359	365	.00178	8	.33	.15	.0	.00	.00	.09	.21	1.5	.58	.06			VICTOR-AVE.
365	366	.00313	8	.44	.21	.0	.00	.00	.09	.21	1.9	.49	.12			VICTOR-AVE.
+ + + + + + + + + + END OF STRIP + + + + + + + + + +																
278	276	.00250	8	.39	.18	8.5	.01	.00	.01	.02	1.0	.17	.17			BRIDGE-ST.
276	15	.00702	8	.65	.32	.0	.00	.00	.01	.02	1.3	.12	.31			-
+ + + + + + + + + + END OF STRIP + + + + + + + + + +																
31	32	.00213	8	.36	.17	27.3	.02	.00	.02	.06	1.2	.29	.14			WEST-ST.
32	33	.09974	8	2.47	1.40	.0	.00	.00	.02	.06	4.4	.10	1.38			WEST-ST.
+ + + + + + + + + + END OF STRIP + + + + + + + + + +																
26	27	.00206	8	.35	.16	41.8	.03	.00	.03	.08	1.3	.35	.13			OAK-VIEW-DR.
27	28	.00267	8	.40	.19	.0	.00	.00	.03	.08	1.4	.32	.15			OAK-VIEW-DR.
28	29	.00234	8	.38	.17	.0	.00	.00	.03	.08	1.3	.32	.14			OAK-VIEW-DR.

SERVICE AREA 01

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
29	30	.00255	8	.39	.18	.0	.00	.00	.03	.08	1.4	.32	.15			OAK-VIEW-DR.
30	33	.01688	8	1.01	.52	37.2	.03	.00	.07	.16	3.2	.26	.46			WEST-ST.
32	33								.02	.00 U						
33	34	.00583	8	.60	.29	.0	.00	.00	.09	.21	2.4	.41	.20			WEST-ST.
34	25	.00518	8	.56	.27	.0	.00	.00	.09	.21	2.3	.42	.18			WEST-ST.
+ + + END OF STRIP + + +																
97	98	.00161	10	.57	.27	58.8	.05	.00	.05	.11	1.3	.31	.23			MIDVALLEY-AVE.
98	99	.00181	10	.60	.29	.0	.00	.00	.05	.11	1.3	.29	.25			MIDVALLEY-AVE.
99	100	.00167	10	.58	.28	.0	.00	.00	.05	.11	1.3	.29	.23			MIDVALLEY-AVE.
100	101	.00170	10	.58	.28	46.6	.04	.00	.09	.20	1.5	.41	.19			MIDVALLEY-AVE.
101	91	.00220	10	.66	.33	.0	.00	.00	.09	.20	1.7	.38	.24			MIDVALLEY-AVE.
+ + + END OF STRIP + + +																
362	364	.00240	8	.38	.18	22.6	.02	.00	.02	.06	1.2	.26	.15			DEMAREE-RD.
364	366	.00272	8	.41	.19	26.4	.03	.00	.05	.12	1.6	.38	.14			DEMAREE-RD.
365	366								.09	.00 U						
366	59	.00247	8	.39	.18	.0	.00	.00	.14	.31	1.9	.67	.04			DEMAREE-RD.
59	58	.00245	10	.70	.35	.0	.00	.00	.14	.31	1.9	.47	.21			DEMAREE-RD.
58	54	.00192	10	.62	.30	41.4	.03	.00	.17	.37	1.8	.55	.13			DEMAREE-RD.
+ + + END OF STRIP + + +																
268	13	.00154	10	.56	.27	15.6	.01	.00	.01	.04	.9	.17	.26			-
13	11	.00146	10	.54	.26	.0	.00	.00	.01	.04	.9	.17	.25			SANTE-FE-AVE.
11	7	.00202	10	.64	.31	.0	.00	.00	.01	.04	1.0	.17	.30			SANTE-FE-AVE.
7	8	.03127	10	2.50	1.43	.0	.00	.00	.01	.04	2.6	.09	1.41			SANTA-FE-AVE.
+ + + END OF STRIP + + +																
44	43	.03569	12	4.35	2.64	20.7	.02	.00	.02	.06	2.8	.08	2.61			MOONEY-BLVD.
+ + + END OF STRIP + + +																
87	88	.00205	8	.35	.16	55.5	.05	.00	.05	.13	1.5	.44	.11			MOONEY-BLVD.

SERVICE AREA 01

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
88	89	.00075	12	.63	.31	.0	.00	.00	.05	.13	1.0	.32	.25			MOONEY-BLVD.
89	90	.00048	12	.50	.24	198.9	.00	.00	.06	.14	.8	.35	.18			MOONEY-BLVD.
90	601	.00045	12	.49	.23	82.5	.00	.00	.06	.15	.8	.38	.17			MOONEY-BLVD.
601	91	.00052	12	.53	.25	.0	.00	.00	.06	.15	.9	.35	.19			
101	91								.09	.00 U						
91	102	.00105	12	.75	.37	.0	.00	.00	.15	.33	1.4	.47	.22			MOONEY-BLVD.
102	103	.00072	14	.93	.48	.0	.00	.00	.15	.33	1.2	.41	.33			MOONEY-BLVD.
103	104	.00052	14	.79	.40	19.5	.02	.00	.17	.36	1.1	.48	.23			MOONEY-BLVD.
104	105	.00082	16	1.42	.76	106.2	.07	.00	.24	.50	1.4	.41	.52			
105	602	.00060	16	1.21	.64	.0	.00	.00	.24	.50	1.3	.44	.40			
602	603	.00058	16	1.19	.63	.0	.00	.00	.24	.50	1.3	.45	.39			
603	107	.00052	16	1.13	.59	.0	.00	.00	.24	.50	1.2	.47	.35			
107	43	.00362	16	2.98	1.73	30.1	.03	.00	.26	.55	2.5	.29	1.47			

+ END OF STRIP +

SERVICE AREA 01

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
6	8	.00162	18	2.73	1.57	.0	.00	.83	.83	1.53	2.5	.53	.74			SANTE-FE-AVE.
7	8								.01	.00 U						
8	12	.00152	24	5.70	3.56	118.3	.13	.00	.97	1.77	2.5	.38	2.59			SANTE-FE-AVE.
12	14	.00160	24	5.85	3.66	.0	.00	.00	.97	1.77	2.5	.38	2.69			SANTE-FE-AVE.
14	15	.00143	24	5.53	3.44	.0	.00	.00	.97	1.77	2.4	.39	2.47			SANTE-FE-AVE.
276	15								.01	.00 U						
15	16	.00233	18	3.28	1.92	8.8	.01	.00	.99	1.80	2.9	.53	.93			SANTE-FE-AVE.
16	17	.00257	18	3.44	2.03	.0	.00	.00	.99	1.80	3.1	.51	1.04			SANTE-FE-AVE.
17	18	.00227	18	3.23	1.90	.0	.00	.00	.99	1.80	2.9	.53	.91			SANTE-FE-AVE.
18	19	.00090	24	4.39	2.66	.0	.00	.03	1.02	1.84	2.1	.45	1.64			CALDWELL-AVE.
19	20	.00090	24	4.39	2.66	.0	.00	.00	1.02	1.84	2.1	.45	1.64			CALDWELL-AVE.
20	21	.00090	24	4.39	2.66	20.5	.02	.00	1.03	1.88	2.1	.46	1.62			CALDWELL-AVE.
21	22	.00090	24	4.39	2.66	.0	.00	.00	1.03	1.88	2.1	.46	1.62			CALDWELL-AVE.
22	23	.00090	24	4.39	2.66	.0	.00	.00	1.03	1.88	2.1	.46	1.62			CALDWELL-AVE.
23	24	.00090	24	4.39	2.66	.0	.00	.00	1.03	1.88	2.1	.46	1.62			CALDWELL-AVE.
24	25	.00090	24	4.39	2.66	.0	.00	.00	1.03	1.88	2.1	.46	1.62			CALDWELL-AVE.
34	25								.09	.00 U						
25	35	.00090	24	4.39	2.66	.0	.00	.00	1.12	2.02	2.1	.48	1.54			CALDWELL-AVE.
35	36	.00090	24	4.39	2.66	.0	.00	.00	1.12	2.02	2.1	.48	1.54			CALDWELL-AVE.
36	37	.00090	24	4.39	2.66	.0	.00	.00	1.12	2.02	2.1	.48	1.54			CALDWELL_AVE.
37	38	.00090	24	4.39	2.66	.0	.00	.00	1.12	2.02	2.1	.48	1.54			CALDWELL_AVE.
38	39	.00074	24	3.98	2.39	.0	.00	.00	1.12	2.02	2.0	.50	1.26			CALDWELL_AVE.
39	40	.00090	24	4.39	2.66	52.8	.05	.00	1.17	2.10	2.1	.49	1.49			CALDWELL-AVE.
40	41	.00096	24	4.53	2.76	31.9	.03	.00	1.20	2.15	2.2	.48	1.55			CALDWELL-AVE.
41	42	.00150	24	5.66	3.53	.0	.00	.00	1.20	2.15	2.6	.43	2.33			CALDWELL-AVE.
42	43	.00150	24	5.66	3.53	.0	.00	.00	1.20	2.15	2.6	.43	2.33			CALDWELL-AVE.
44	43								.02	.00 U						
107	43								.26	.00 U						

SERVICE AREA 01

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
43	46	.00240	24	7.16	4.59	.0	.00	.00	1.49	2.60	3.2	.42	3.10			CALDWELL-AVE.
46	47	.00070	27	5.30	3.28	.0	.00	.00	1.49	2.60	2.1	.50	1.79			CALDWELL-AVE.
47	48	.00070	27	5.30	3.28	39.0	.04	.10	1.63	2.82	2.1	.52	1.65			CALDWELL-AVE.
48	49	.00070	27	5.30	3.28	30.7	.04	.00	1.67	2.88	2.1	.53	1.61			CALDWELL-AVE.
49	50	.00070	27	5.30	3.28	24.5	.05	.00	1.72	2.96	2.1	.53	1.56			CALDWELL-AVE.
413	50								.05	.00 U						
50	51	.00070	27	5.30	3.28	.0	.00	.00	1.77	3.04	2.1	.54	1.51			CALDWELL-AVE.
51	52	.00120	27	6.93	4.42	29.7	.04	.00	1.81	3.10	2.6	.47	2.62			CALDWELL-AVE.
52	53	.00120	27	6.93	4.42	.0	.00	.00	1.81	3.10	2.6	.47	2.62			CALDWELL-AVE.
423	53								.02	.00 U						
53	54	.00120	27	6.93	4.42	.0	.00	.01	1.84	3.15	2.6	.47	2.58			CALDWELL-AVE.
58	54								.17	.00 U						
54	55	.00120	27	6.93	4.42	.0	.00	.00	2.01	3.41	2.7	.50	2.41			CALDWELL-AVE.
55	56	.00140	27	7.49	4.82	.0	.00	.00	2.01	3.41	2.8	.48	2.81			CALDWELL-AVE.
56	57	.00140	27	7.49	4.82	31.7	.03	.00	2.04	3.46	2.8	.48	2.77			CALDWELL-AVE.
57	60	.00140	27	7.49	4.82	.0	.00	.00	2.04	3.46	2.8	.48	2.77			CALDWELL-AVE.
451	60								.08	.00 U						
60	61	.00140	27	7.49	4.82	.0	.00	.00	2.12	3.58	2.9	.49	2.70			CALDWELL-AVE.
61	62	.00140	27	7.49	4.82	.0	.00	.00	2.12	3.58	2.9	.49	2.70			CALDWELL-AVE.
62	63	.00140	27	7.49	4.82	.0	.00	.00	2.12	3.58	2.9	.49	2.70			CALDWELL-AVE.
63	64	.00140	27	7.49	4.82	22.9	.02	.00	2.14	3.61	2.9	.49	2.67			CALDWELL-AVE.
64	65	.06638	27	51.57	41.12	.0	.00	.00	2.14	3.61	11.7	.18	38.97			AKERS-RD.
65	67	.00092	36	13.08	8.95	.0	.00	.00	2.14	3.61	2.4	.36	6.81			AKERS-RD.
67	69	.00105	36	13.97	9.63	.0	.00	.00	2.14	3.61	2.6	.35	7.49			AKERS-RD.
69	510	.00144	36	16.36	11.48	.0	.00	.00	2.14	3.61	2.9	.32	9.34			AKERS RD.
510	511	.00143	36	16.30	11.44	.0	.00	.00	2.14	3.61	2.9	.32	9.29			AKERS RD.
511	512	.00143	36	16.30	11.44	.0	.00	.00	2.14	3.61	2.9	.32	9.29			AKERS RD.
512	513	.00185	36	18.54	13.19	.0	.00	.00	2.14	3.61	3.2	.30	11.05			AKERS RD.

SERVICE AREA 01

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
513	514	.00154	36	16.92	11.92	.0	.00	.00	2.14	3.61	3.0	.31	9.77			AKERS RD.
514	1111	.00172	36	17.88	12.67	.0	.00	.00	2.14	3.61	3.1	.31	10.53			AKERS RD.

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 01

RA	.83
LDR	621.44
MDR	60.94
HDR	51.15
CC	7.16
CNC	.00
CSO	40.64
CCM	12.97
CBD	.00
CR	235.37
CH	.00
CS	.00
IL	23.23
IH	.00
	.40

	1054.12

QUIT

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 02

```
    .00050  RA
    .00100  LDR
    .00180  MDR
    .00250  HDR
    .00100  CC
    .00100  CNC
    .00100  CSO
    .00100  CCM
    .00100  CBD
    .00100  CR
    .00100  CH
    .00100  CS
    .00110  IL
    .00190  IH
GEOMETRY
***WARNING*** SLOPE IS ADVERSE 1256 1272  -.001400

***WARNING*** DISCONNECTED STRIP AT MHs 1257 1256
LABELS
COORDINATES
SANITARY
```

CITY OF VISALIA

SERVICE AREA 02 Input File = C:\SEWPLAN\OUTPUT\02.IN

Summary of SWAN Units and Factors
****

UNITS

Length = feet
Diameter = inches
Flow = MGD
Elevation = feet
Area = acres
Pressure = psi
Head = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

SERVICE AREA 02

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
1317	1318	.00198	8	.35	.16	94.4	.09	.00	.09	.21	1.6	.55	.07			VISTA ST.
1318	1319	.00200	8	.35	.16	.0	.00	.00	.09	.21	1.6	.55	.07			VISTA AVE.
1319	1320	.00197	8	.35	.16	.0	.00	.00	.09	.21	1.6	.55	.07			VISTA AVE.
+ END OF STRIP +																
1181	1182	.00098	8	.24	.11	15.3	.02	.00	.02	.04	.8	.29	.09			WALNUT AVE.
1182	1183	.00579	8	.59	.29	.0	.00	.00	.02	.04	1.5	.17	.27			WALNUT AVE.
1183	1850	.01268	8	.88	.45	.0	.00	.00	.02	.04	2.0	.15	.43			
+ END OF STRIP +																
1178	1179	.00498	8	.55	.27	28.7	.03	.00	.03	.07	1.8	.26	.24			WALNUT AVE.
1179	1514	.00297	8	.43	.20	.0	.00	.00	.03	.07	1.4	.29	.17			WALNUT AVE.
+ END OF STRIP +																
1025	857	.00075	8	.21	.09	9.4	.01	.00	.01	.03	.6	.23	.08			COUNTY CENTER DR.
+ END OF STRIP +																
1042	881	.00163	8	.32	.14	7.9	.01	.00	.01	.02	.8	.17	.13			
881	882	.00124	8	.28	.12	.0	.00	.00	.01	.02	.7	.17	.11			COUNTY CENTER DR.
882	886	.00134	8	.29	.13	17.9	.01	.02	.03	.09	1.1	.38	.09			COUNTY CENTER DR.
886	887	.00105	8	.25	.11	.0	.00	.00	.03	.09	1.0	.41	.08			COUNTY CENTER DR.
887	847	.00104	8	.25	.11	12.2	.01	.00	.05	.12	1.1	.47	.06			COUNTY CENTER DR.
847	852	.00231	8	.38	.17	16.5	.01	.00	.05	.13	1.5	.41	.12			COUNTY CENTER DR.
852	857	.00362	8	.47	.22	5.1	.01	.00	.06	.14	1.8	.38	.16			COUNTY CENTER DR.
1025	857								.01	.00 U						
857	856	.00241	8	.38	.18	.0	.00	.00	.07	.16	1.6	.47	.11			
+ END OF STRIP +																
833	781	.00281	8	.41	.19	19.8	.02	.00	.02	.05	1.2	.23	.17			WALNUT AVE.
781	195	.07500	8	2.14	1.20	.0	.00	.00	.02	.05	4.2	.12	1.18			
+ END OF STRIP +																

SERVICE AREA 02

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
562	561	.00104	8	.25	.11	42.2	.04	.00	.04	.10	1.1	.47	.07			COURT ST.
561	97	.00250	8	.39	.18	.0	.00	.00	.04	.10	1.5	.35	.14			COURT ST.
+ + + + END OF STRIP + + + +																
554	553	.00406	8	.50	.24	.0	.00	.02	.02	.04	1.4	.20	.22			COURT ST.
553	97	.01673	8	1.01	.52	.0	.00	.00	.02	.04	2.3	.15	.50			COURT ST.
+ + + + END OF STRIP + + + +																
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
188	187	.00315	8	.44	.21	.0	.00	.00	.00	.00	.0	.00	.21			GIDDINGS AVE.
187	131	.00114	8	.26	.12	30.7	.03	.00	.03	.09	1.1	.41	.08			
+ + + + END OF STRIP + + + +																
167	1819	.00115	8	.26	.12	44.2	.04	.00	.04	.11	1.1	.47	.07			ASHLAND AVE.
1819	171	.00398	8	.49	.23	33.2	.04	.00	.08	.19	2.1	.44	.16			ASHLAND
+ + + + END OF STRIP + + + +																
148	149	.00490	8	.55	.26	26.1	.03	.00	.03	.07	1.6	.23	.24			EVANS AVE.
149	150	.00249	8	.39	.18	.0	.00	.00	.03	.07	1.3	.29	.15			EVANS AVE.
150	155	.00166	8	.32	.14	.0	.00	.00	.03	.07	1.1	.32	.12			EVANS AVE.
155	146	.00205	8	.35	.16	.0	.00	.00	.03	.07	1.2	.29	.14			GIDDINGS AVE.
146	145	.00287	8	.42	.20	.0	.00	.00	.03	.07	1.4	.29	.17			GIDDINGS AVE.
145	144	.00348	8	.46	.22	25.7	.03	.00	.05	.13	1.7	.35	.17			GIDDINGS AVE.
144	143	.00515	8	.56	.27	.0	.00	.00	.05	.13	2.0	.32	.22			GIDDINGS AVE.
+ + + + END OF STRIP + + + +																
618	617	.00104	8	.25	.11	15.9	.02	.00	.02	.04	.9	.29	.10			JOHNSON ST.
617	118	.00123	8	.27	.12	.0	.00	.00	.02	.04	.9	.29	.11			JOHNSON ST.
118	119	.00140	8	.29	.13	.0	.00	.00	.02	.04	.9	.26	.12			CAMBRIDGE DR.
119	120	.00140	8	.29	.13	.0	.00	.00	.02	.04	.9	.26	.12			CAMBRIDGE DR.
120	128	.00140	8	.29	.13	.0	.00	.00	.02	.04	.9	.26	.12			CAMBRIDGE DR.

SERVICE AREA 02

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
128	129	.00140	8	.29	.13	.0	.00	.00	.02	.04	.9	.26	.12			SOWELL ST.
129	130	.00330	8	.45	.21	19.5	.02	.00	.03	.09	1.5	.29	.18			VASSAR DR.
130	131	.00131	8	.28	.13	.0	.00	.00	.03	.09	1.1	.38	.09			VASSAR DR.
187	131								.03	.00 U						
131	127	.00648	8	.63	.31	.0	.00	.00	.07	.16	2.3	.35	.24			GIDDINGS AVE.
+ + + + + END OF STRIP + + + + +																
105	101	.00200	8	.35	.16	41.0	.04	.00	.04	.09	1.3	.35	.12			SOUTH COURT ST.
101	107	.00215	8	.36	.17	20.3	.02	.00	.05	.13	1.5	.41	.11			
+ + + + + END OF STRIP + + + + +																
51	52	.00068	8	.20	.09	40.3	.03	.00	.03	.08	.9	.47	.06			HOWARD AVE.
52	53	.00188	8	.34	.15	.0	.00	.00	.03	.08	1.3	.35	.12			HOWARD AVE.
53	54	.00209	8	.36	.16	.0	.00	.00	.03	.08	1.3	.32	.13			HOWARD AVE.
54	56	.00204	8	.35	.16	.0	.00	.00	.03	.08	1.3	.32	.13			HOWARD AVE.
+ + + + + END OF STRIP + + + + +																
311	28	.00178	8	.33	.15	22.5	.02	.00	.02	.06	1.1	.29	.13			STAPP AVE.
28	27	.00169	8	.32	.15	37.4	.03	.00	.05	.13	1.3	.44	.09			STAPP AVE.
27	26	.00133	8	.28	.13	.0	.00	.00	.05	.13	1.2	.47	.08			STAPP AVE.
26	25	.00153	8	.31	.14	.0	.00	.00	.05	.13	1.3	.47	.09			STAPP AVE.
+ + + + + END OF STRIP + + + + +																
1504	1503	.00146	10	.54	.26	18.6	.02	.00	.02	.05	1.0	.20	.24			CRENSHAW AVE.
1503	1502	.00147	10	.54	.26	.0	.00	.00	.02	.05	1.0	.20	.24			CRENSHAW AVE.
1502	1501	.00151	10	.55	.26	.0	.00	.00	.02	.05	1.0	.20	.25			CRENSHAW AVE.
1501	1500	.00158	10	.56	.27	20.7	.02	.00	.04	.10	1.2	.29	.23			CRENSHAW AVE.
1500	249	.14700	8	2.99	1.74	.0	.00	.00	.04	.10	6.3	.12	1.70			
+ + + + + END OF STRIP + + + + +																
1325	1324	.00112	10	.47	.22	36.5	.02	.00	.02	.06	.9	.23	.20			MILL CREEK

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
1324	1321	.00244	10	.70	.35	.0	.00	.00	.02	.06	1.2	.20	.32			BIRCH AVE.
1321	1320	.00168	10	.58	.28	.0	.00	.00	.02	.06	1.1	.23	.26			VISTA ST.
1319	1320								.09	.00 U						
1320	1322	.00200	10	.63	.31	22.5	.02	.00	.14	.31	1.8	.49	.17			RACE AVE.
1322	1323	.00203	10	.64	.31	.0	.00	.00	.14	.31	1.8	.49	.17			RACE AVE.
1323	14	.00125	10	.50	.24	.0	.00	.00	.14	.31	1.5	.57	.10			RACE AVE.
+ END OF STRIP +																
943	942	.00365	8	.47	.22	12.0	.01	.00	.01	.03	1.2	.17	.21			COUNTY CENTER DR.
942	217	.01000	10	1.42	.76	.0	.00	.00	.01	.03	1.8	.12	.75			
+ END OF STRIP +																
243	244	.00137	10	.52	.25	14.4	.01	.00	.01	.03	.8	.17	.24			CHINOWTH RD.
244	229	.00267	10	.73	.36	.0	.00	.00	.01	.03	1.1	.15	.35			CHINOWTH RD.
+ END OF STRIP +																
238	237	.00402	10	.90	.46	28.6	.03	.00	.03	.07	1.6	.20	.43			
237	236	.00135	10	.52	.25	.0	.00	.00	.03	.07	1.1	.26	.22			LINWOOD AVE.
236	248	.00170	10	.58	.28	12.9	.01	.00	.04	.10	1.3	.29	.24			LINWOOD AVE.
248	235	.00169	10	.58	.28	.0	.00	.00	.04	.10	1.3	.29	.24			LINWOOD AVE.
235	234	.00255	10	.72	.35	24.1	.02	.00	.07	.16	1.6	.32	.29			LINWOOD AVE.
234	233	.00224	10	.67	.33	.0	.00	.00	.07	.16	1.5	.32	.26			LINWOOD AVE.
+ END OF STRIP +																
206	216	.00036	10	.27	.12	23.1	.03	.00	.03	.07	.6	.35	.09			WALNUT AVE.
+ END OF STRIP +																
200	191	.00745	10	1.22	.64	.0	.00	.01	.01	.03	1.5	.12	.63			
+ END OF STRIP +																
138	139	.00193	10	.62	.30	20.8	.02	.00	.02	.06	1.1	.20	.28			WHITENDALE AVE.
139	140	.00263	10	.73	.36	35.3	.04	.00	.06	.14	1.6	.29	.30			WHITENDALE AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
140	141	.00091	10	.43	.20	32.1	.03	.00	.09	.20	1.2	.49	.11			WHITENDALE AVE.
141	142	.00227	10	.67	.33	.0	.00	.00	.09	.20	1.7	.38	.24			WHITENDALE AVE.
142	143	.00192	10	.62	.30	.0	.00	.00	.09	.20	1.6	.39	.21			WHITENDALE AVE.
144	143								.05	.00 U						
143	166	.00258	10	.72	.36	15.2	.01	.00	.15	.34	2.0	.48	.20			WHITENDALE AVE.
166	165	.00347	10	.83	.42	15.9	.02	.00	.17	.37	2.3	.47	.25			
165	164	.00219	10	.66	.33	.0	.00	.00	.17	.37	1.9	.54	.16			MARTIN ST.
164	163	.00247	10	.70	.35	10.1	.01	.00	.18	.39	2.1	.54	.17			MARTIN ST.
163	157	.00096	10	.44	.21	13.8	.01	.00	.19	.42	1.4	.78	.01			SUNNYSIDE AVE.
157	159	.00100	10	.45	.21	16.1	.02	.00	.21	.45	1.4	.81	.00			SUNNYSIDE AVE.
159	160	.00105	10	.46	.22	.0	.00	.00	.21	.45	1.5	.81	.01			SUNNYSIDE AVE.

+ END OF STRIP +

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
110	108	.00113	10	.48	.23	41.8	.02	.02	.04	.09	1.0	.29	.19			BEECH ST.
108	107	.00135	10	.52	.25	.0	.00	.00	.04	.09	1.1	.29	.21			BEECH ST.

+ END OF STRIP +

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
1132	1133	.00150	8	.30	.14	.0	.00	.01	.01	.03	.8	.17	.13			LINWOOD AVE.
1133	247	.00160	8	.31	.14	55.5	.05	.00	.06	.15	1.4	.49	.08			LINWOOD AVE.
247	1801	.00040	12	.46	.22	17.6	.02	.00	.08	.19	.9	.44	.14			LINWOOD AVE.
1801	245	.00040	12	.46	.22	90.4	.08	.00	.16	.34	1.0	.64	.06			
245	246	.00040	12	.46	.22	14.8	.01	.01	.18	.39	1.0	.70	.04			LINWOOD AVE.
246	233	.00040	12	.46	.22	23.6	.02	.00	.20	.43	1.0	.76	.02			LINWOOD AVE.

+ END OF STRIP +

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
1007	1004	.00233	8	.38	.17	18.4	.02	.00	.02	.05	1.1	.23	.16			DEMAREE RD.
1004	999	.00305	8	.43	.20	17.9	.02	.00	.04	.09	1.5	.32	.17			DEMAREE RD.
999	998	.00169	10	.58	.28	24.2	.02	.00	.06	.15	1.4	.35	.22			DEMAREE RD.
998	996	.00143	10	.54	.26	11.0	.01	.00	.07	.17	1.3	.38	.19			DEMAREE RD.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
996	978	.00203	10	.64	.31	.0	.00	.00	.07	.17	1.5	.35	.24			DEMAREE RD.
978	977	.00274	10	.74	.37	29.8	.03	.00	.10	.23	1.8	.38	.27			DEMAREE RD.
977	963	.00278	10	.75	.37	42.2	.04	.00	.14	.32	2.0	.45	.23			
963	1343	.00279	10	.75	.37	21.5	.01	.00	.16	.34	2.1	.48	.22			DEMAREE RD.
1343	220	.00325	10	.81	.41	.0	.00	.00	.16	.34	2.2	.45	.25			
220	221	.00049	12	.51	.24	.0	.00	.00	.16	.34	1.1	.61	.09			DEMAREE RD.
221	222	.00106	12	.75	.37	18.9	.02	.00	.18	.39	1.5	.51	.19			DEMAREE RD.
222	223	.00080	12	.65	.32	13.2	.01	.00	.19	.41	1.3	.57	.13			COLONIAL DR.
223	224	.00091	12	.69	.34	.0	.00	.00	.19	.41	1.4	.55	.15			COLONIAL DR.
224	225	.00155	12	.91	.46	.0	.00	.00	.19	.41	1.7	.47	.27			COLONIAL DR.
225	212	.00076	12	.63	.31	.0	.00	.00	.19	.41	1.3	.58	.12			COLONIAL DR.
+ + + + + END OF STRIP + + + + +																
894	896	.00218	8	.36	.17	27.0	.03	.00	.03	.07	1.2	.29	.14			WOODLAND DR.
896	844	.00188	8	.34	.15	.0	.00	.00	.03	.07	1.2	.32	.13			WOODLAND DR.
844	848	.00236	8	.38	.18	23.9	.03	.00	.06	.14	1.5	.41	.12			WOODLAND DR.
848	849	.00275	8	.41	.19	.0	.00	.00	.06	.14	1.7	.41	.13			COUNTRY LANE
849	850	.00288	8	.42	.20	.0	.00	.00	.06	.14	1.6	.38	.14			COUNTRY LANE
850	851	.00242	8	.38	.18	20.3	.02	.00	.08	.18	1.7	.49	.10			COUNTRY LANE
851	856	.00288	8	.42	.20	.0	.00	.00	.08	.18	1.8	.47	.12			LINDA VISTA
857	856								.07	.00 U						
856	858	.00619	8	.61	.30	.0	.00	.00	.15	.32	2.7	.51	.15			LINDA VISTA
858	859	.00129	8	.28	.13	.0	.00	.00	.15	.32	1.4	>1.0		12	10	LINDA VISTA
859	860	.00115	8	.26	.12	.0	.00	.00	.15	.32	1.4	>1.0		12	10	LINDA VISTA
860	867	.00025	8	.12	.05	.0	.00	.00	.15	.32	1.4	>1.0		15	12	LINDA VISTA
867	868	.00103	8	.25	.11	.0	.00	.00	.15	.32	1.4	>1.0		12	10	ASHLAND DR.
868	201	.00060	8	.19	.08	13.6	.01	.00	.16	.35	1.5	>1.0		12	12	COUNTY CENTER DR.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
201	217	.00258	10	.72	.36	12.4	.01	.00	.17	.37	2.1	.51	.19			COUNTY CENTER DR.
942	217								.01	.00 U						
217	1800	.00324	10	.81	.40	.0	.00	.00	.18	.40	2.3	.49	.22			COUNTY CENTER DR.
1800	202	.00077	10	.39	.18	.0	.00	.00	.18	.40	1.3	.81		12	12	
202	203	.00089	12	.69	.34	.0	.00	.00	.18	.40	1.4	.54	.16			COUNTY CENTER DR.
203	204	.00110	12	.76	.38	.0	.00	.00	.18	.40	1.5	.51	.20			COUNTY CENTER DR.
204	205	.00081	12	.66	.32	9.8	.01	.00	.19	.41	1.4	.57	.13			COUNTY CENTER DR.
205	198	.00897	12	2.18	1.22	.0	.00	.00	.19	.41	3.3	.29	1.03			COUNTY CENTER DR.
+ + + + + END OF STRIP + + + + +																
158	160	.02083	10	2.04	1.14	48.1	.04	.00	.04	.11	3.1	.16	1.09			SUNNYSIDE AVE.
159	160								.21	.00 U						
160	161	.00133	12	.84	.42	.0	.00	.00	.25	.53	1.8	.58	.17			MOONEY BLVD.
161	162	.00064	12	.58	.28	21.8	.02	.00	.28	.57	1.3	.81	.01			MOONEY BLVD.
162	168	.00289	12	1.24	.65	15.2	.02	.00	.29	.60	2.4	.49	.36			MOONEY BLVD.
168	169	.00096	12	.71	.35	.0	.00	.00	.29	.60	1.6	.70	.06			MOONEY BLVD.
169	170	.00383	12	1.43	.76	.0	.00	.00	.29	.60	2.7	.45	.47			MOONEY BLVD.
170	171	.00089	12	.69	.34	.0	.00	.00	.29	.60	1.5	.73	.05			MOONEY BLVD.
1819	171								.08	.00 U						
171	173	.00055	12	.54	.26	6.9	.01	.00	.38	.76	1.5	>1.0		15	12	MOONEY BLVD.
173	174	.00058	12	.55	.27	15.4	.02	.00	.39	.78	1.5	>1.0		18	12	MOONEY BLVD.
174	175	.00065	12	.59	.28	.0	.00	.00	.39	.78	1.5	>1.0		15	12	MOONEY BLVD.
175	176	.00059	12	.56	.27	.0	.00	.00	.39	.78	1.5	>1.0		18	12	MOONEY BLVD.
176	177	.00191	12	1.01	.52	.0	.00	.00	.39	.78	2.2	.67	.13			MOONEY BLVD.
+ + + + + END OF STRIP + + + + +																
111	1331	.00140	10	.53	.25	22.4	.02	.00	.02	.06	1.0	.23	.23			WHITENDALE AVE.
1331	109	.00107	10	.46	.22	.0	.00	.00	.02	.06	.9	.23	.20			WHITENDALE AVE.
109	106	.00037	12	.44	.21	34.6	.03	.00	.05	.13	.8	.38	.16			WHITENDALE AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
106	113	.00040	12	.46	.22	.0	.00	.00	.05	.13	.8	.35	.16			SOUTH LOCUST ST.
113	107	.00040	12	.46	.22	.0	.00	.00	.05	.13	.8	.35	.16			SOUTH LOCUST ST.
101	107								.05	.00 U						
108	107								.04	.00 U						
107	115	.00040	12	.46	.22	21.3	.02	.00	.16	.36	1.0	.67	.05			LOCUST ST.
115	114	.00040	12	.46	.22	.0	.00	.00	.16	.36	1.0	.67	.05			LOCUST ST.
114	1330	.00040	12	.46	.22	.0	.00	.00	.16	.36	1.0	.67	.05			LOCUST ST.
1330	100	.00040	12	.46	.22	.0	.00	.00	.16	.36	1.0	.67	.05			LOCUST ST.

+ END OF STRIP +

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

20	22	.00062	12	.57	.28	.0	.00	.00	.00	.00	.0	.00	.28			LOVERS LANE

+ END OF STRIP +

230	229	.00064	15	1.06	.55	30.9	.03	.00	.03	.08	.8	.19	.52			CHINOWTH RD.

+ END OF STRIP +

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

1267	1266	.00127	12	.82	.41	.0	.00	.00	.00	.00	.0	.00	.41			NOBLE AVE.

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

1266	1265	.00100	12	.73	.36	.0	.00	.00	.00	.00	.0	.00	.36			NOBLE AVE.

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

1265	1264	.00127	12	.82	.41	.0	.00	.00	.00	.00	.0	.00	.41			NOBLE AVE.

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

1264	1263	.00128	12	.82	.41	.0	.00	.00	.00	.00	.0	.00	.41			BEN MADDOX WAY
1263	1262	.00125	12	.81	.41	28.0	.03	.00	.03	.07	1.0	.20	.38			BEN MADDOX WAY
1262	1261	.00129	12	.83	.42	.0	.00	.00	.03	.07	1.0	.20	.39			BEN MADDOX WAY
1261	1260	.00128	12	.82	.41	.0	.00	.00	.03	.07	1.0	.20	.39			BEN MADDOX WAY
1260	1259	.00130	12	.83	.42	36.0	.00	.00	.03	.07	1.0	.20	.39			BEN MADDOX WAY
1259	1258	.00152	15	1.63	.88	.0	.00	.00	.03	.07	1.0	.15	.86			BEN MADDOX WAY
1258	1274	.00096	15	1.29	.68	.0	.00	.00	.03	.07	.9	.16	.66			BEN MADDOX WAY
1274	79	.00249	15	2.08	1.16	39.2	.04	.00	.06	.15	1.6	.19	1.10			BEN MADDOX WAY

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
79	80	.00050	15	.93	.48	.0	.00	.00	.06	.15	.9	.28	.41			BEN MADDOX WAY
80	81	.00090	15	1.25	.66	19.6	.02	.00	.08	.20	1.2	.27	.58			BEN MADDOX WAY
81	82	.00250	15	2.09	1.17	.0	.00	.00	.08	.20	1.6	.20	1.08			BEN MADDOX WAY
82	83	.00050	15	.93	.48	43.6	.05	.00	.13	.30	1.1	.39	.34			BEN MADDOX WAY
83	84	.00089	15	1.25	.66	.0	.00	.00	.13	.30	1.3	.33	.52			BEN MADDOX WAY
84	85	.00116	15	1.42	.76	13.2	.02	.00	.15	.33	1.5	.33	.61			BEN MADDOX WAY
85	87	.00173	15	1.74	.95	.0	.00	.00	.15	.33	1.7	.30	.80			BEN MADDOX WAY

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
76	77	.00223	10	.67	.33	65.5	.07	.00	.07	.16	1.6	.33	.26			TULARE AVE.
77	47	.00278	10	.75	.37	.0	.00	.00	.07	.16	1.7	.32	.30			TULARE AVE.
47	55	.00086	15	1.22	.64	130.2	.12	.00	.18	.40	1.4	.39	.46			PINKHAM RD.
55	56	.00102	15	1.33	.71	.0	.00	.00	.18	.40	1.5	.38	.52			PINKHAM RD.
54	56								.03	.00 U						
56	78	.00114	15	1.41	.75	17.3	.02	.00	.23	.49	1.6	.41	.52			PINKHAM RD.
78	57	.00116	15	1.42	.76	.0	.00	.00	.23	.49	1.6	.41	.53			PINKHAM RD.
57	71	.00146	15	1.60	.86	37.7	.04	.00	.27	.56	1.8	.41	.59			PINKHAM RD.
71	72	.00182	15	1.78	.98	.0	.00	.00	.27	.56	2.0	.39	.70			PINKHAM RD.
72	73	.00171	15	1.73	.94	17.5	.02	.00	.29	.60	2.0	.41	.65			PINKHAM RD.
73	74	.00082	15	1.20	.63	30.5	.04	.00	.33	.66	1.5	.53	.30			PINKHAM RD.
74	75	.00537	15	3.06	1.78	.0	.00	.00	.33	.66	3.1	.32	1.46			PINKHAM RD.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
29	30	.00152	20	3.51	2.07	25.2	.02	.00	.02	.05	.9	.09	2.05			MCAULIFF ST.
30	31	.00156	10	.56	.27	.0	.00	.00	.02	.05	1.0	.20	.25			MCAULIFF ST.
31	32	.00183	10	.61	.29	.0	.00	.00	.02	.05	1.1	.20	.28			MCAULIFF ST.
32	33	.00156	12	.91	.46	.0	.00	.00	.02	.05	.9	.15	.44			MINEAL KING AVE.
33	34	.00158	12	.92	.47	.0	.00	.00	.02	.05	.9	.15	.45			MINERAL KING AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl. Rel'f	Identification
34	1356	.00176	12	.97	.50	.0	.00	.00	.02	.05	1.0	.15	.48		MINERAL KING AVE.
1356	25	.00071	12	.61	.30	.0	.00	.00	.02	.05	.8	.20	.28		MINERAL KING AVE.
26	25								.05	.00 U					
25	1326	.00069	15	1.10	.57	.0	.00	.00	.07	.17	1.0	.26	.50		MINERAL KING AVE.
1326	22	.00048	15	.91	.47	.0	.00	.00	.07	.17	.9	.29	.40		MINERAL KING AVE.
20	22								.00	.00 U					
22	23	.04078	12	4.65	2.84	.0	.00	.00	.07	.17	4.3	.13	2.77		LOVERS LANE

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl. Rel'f	Identification
1835	1834	.00089	12	.69	.34	21.4	.02	.00	.02	.04	.8	.17	.32		AKERS RD
1834	1833	.00081	12	.66	.32	76.2	.04	.00	.05	.13	1.0	.29	.27		AKERS RD.
1833	1832	.00032	12	.41	.19	.0	.00	.00	.05	.13	.7	.38	.14		AKERS RD.
1832	1831	.00152	12	.90	.46	.0	.00	.00	.05	.13	1.3	.26	.40		AKERS RD.
1831	1518	.00097	12	.72	.36	.0	.00	.00	.05	.13	1.1	.29	.30		AKERS RD.
1518	1517	.00104	12	.74	.37	.0	.00	.00	.05	.13	1.1	.29	.32		AKERS RD.
1517	1516	.00098	12	.72	.36	23.9	.02	.00	.08	.18	1.2	.35	.28		AKERS RD.
1516	1513	.00202	12	1.03	.53	.0	.00	.00	.08	.18	1.6	.29	.46		AKERS RD.
1513	1512	.00452	36	28.98	21.67	.0	.00	.00	.08	.18	1.7	.06	21.60		WALNUT AVE.
1512	1511	.07590	36	118.76	103.88	.0	.00	.00	.08	.18	4.7	.03	103.80		WALNUT AVE.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl. Rel'f	Identification
6	7	.00100	12	.73	.36	344.5	.18	.00	.18	.39	1.5	.52	.18		HOUSTON AVE.
7	8	.00100	15	1.32	.70	.0	.00	.04	.22	.47	1.5	.41	.48		HOUSTON AVE.
8	9	.00100	15	1.32	.70	.0	.00	.03	.25	.53	1.6	.44	.45		
9	10	.00100	15	1.32	.70	63.8	.10	.00	.35	.71	1.7	.52	.35		LOVERS LANE
10	11	.00100	15	1.32	.70	.0	.00	.00	.35	.71	1.7	.52	.35		
11	12	.00100	15	1.32	.70	.0	.00	.00	.35	.71	1.7	.52	.35		LOVERS LANE
12	13	.00100	15	1.32	.70	.0	.00	.00	.35	.71	1.7	.52	.35		LOVERS LANE
13	14	.00100	15	1.32	.70	.0	.00	.00	.35	.71	1.7	.52	.35		LOVERS LANE

SERVICE AREA 02

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
1323	14								.14	.00 U						
14	15	.00070	18	1.80	.99	56.1	.06	.00	.55	1.06	1.6	.55	.43			LOVERS LANE
15	24	.00070	18	1.80	.99	.0	.00	.00	.55	1.06	1.6	.55	.43			LOVERS LANE
24	1271	.00100	18	2.15	1.20	55.2	.04	.00	.59	1.14	1.9	.52	.61			LOVERS LANE
1271	1270	.00070	18	1.80	.99	.0	.00	.00	.59	1.14	1.7	.58	.39			LOVERS LANE
1270	18	.00070	18	1.80	.99	.0	.00	.00	.59	1.14	1.7	.58	.39			LOVERS LANE
18	19	.00100	18	2.15	1.20	.0	.00	.00	.59	1.14	1.9	.52	.61			LOVERS LANE
19	21	.00100	18	2.15	1.20	38.3	.03	.00	.62	1.19	1.9	.53	.58			LOVERS LANE
21	23	.00100	18	2.15	1.20	.0	.00	.00	.62	1.19	1.9	.53	.58			LOVERS LANE
22	23								.07	.00 U						
23	35	.00070	21	2.71	1.56	.0	.00	.00	.69	1.31	1.7	.49	.87			LOVERS LANE
35	36	.00070	21	2.71	1.56	17.4	.02	.00	.71	1.34	1.7	.49	.85			LOVERS LANE
36	37	.00070	21	2.71	1.56	.0	.00	.00	.71	1.34	1.7	.49	.85			LOVERS LANE
37	38	.00070	21	2.71	1.56	109.4	.09	.01	.82	1.52	1.8	.53	.74			LOVERS LANE
38	39	.00070	21	2.71	1.56	.0	.00	.00	.82	1.52	1.8	.53	.74			LOVERS LANE
39	40	.00070	21	2.71	1.56	43.9	.04	.00	.85	1.58	1.8	.55	.70			LOVERS LANE
40	48	.00070	21	2.71	1.56	.0	.00	.00	.85	1.58	1.8	.55	.70			LOVERS LANE
48	49	.00070	21	2.71	1.56	.0	.00	.00	.85	1.58	1.8	.55	.70			LOVERS LANE
49	50	.00070	21	2.71	1.56	.0	.00	.00	.85	1.58	1.8	.55	.70			LOVERS LANE
50	58	.00070	21	2.71	1.56	81.9	.05	.00	.91	1.67	1.8	.57	.65			LOVERS LANE
58	59	.00070	21	2.71	1.56	.0	.00	.00	.91	1.67	1.8	.57	.65			LOVERS LANE
59	60	.00070	21	2.71	1.56	.0	.00	.00	.91	1.67	1.8	.57	.65			LOVERS LANE
60	61	.00058	21	2.47	1.40	296.0	.26	.00	1.17	2.10	1.8	.71	.23			LOVERS LANE
61	62	.00083	21	2.95	1.71	.0	.00	.01	1.18	2.11	2.1	.62	.53			WALNUT AVE.
62	68	.00106	21	3.33	1.96	.0	.00	.00	1.18	2.11	2.3	.58	.78			WALNUT AVE.
68	69	.00083	21	2.95	1.71	119.0	.14	.00	1.32	2.33	2.1	.67	.40			WALNUT AVE.
69	70	.00086	21	3.00	1.75	.0	.00	.00	1.32	2.33	2.1	.66	.43			WALNUT AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
70	75	.00080	21	2.90	1.68	.0	.00	.00	1.32	2.33	2.1	.68	.36			WALNUT AVE.
74	75								.33	.00 U						
75	89	.00088	24	4.34	2.63	78.5	.06	.01	1.71	2.94	2.3	.60	.92			WALNUT AVE.
89	88	.00103	24	4.69	2.87	.0	.00	.00	1.71	2.94	2.4	.57	1.16			WALNUT AVE.
88	87	.00102	24	4.67	2.85	15.2	.03	.00	1.73	2.98	2.4	.58	1.12			WALNUT AVE.
85	87								.15	.00 U						
87	86	.00098	24	4.58	2.79	96.5	.09	.00	1.97	3.36	2.5	.64	.81			WALNUT AVE.
86	90	.00095	24	4.51	2.74	.0	.00	.00	1.97	3.36	2.4	.64	.77			
90	91	.00174	24	6.10	3.84	27.5	.03	.00	2.00	3.39	3.1	.53	1.84			WALNUT AVE.
91	536	.00109	24	4.83	2.96	.0	.00	.00	2.00	3.39	2.6	.62	.96			
536	1346	.00110	24	4.85	2.97	21.1	.02	.00	2.02	3.42	2.6	.62	.95			
1346	1347	.00103	24	4.69	2.87	.0	.00	.00	2.02	3.42	2.5	.64	.85			
1347	1348	.00103	24	4.69	2.87	.0	.00	.00	2.02	3.42	2.5	.64	.85			
1348	93	.00122	24	5.11	3.15	.0	.00	.00	2.02	3.42	2.7	.60	1.13			
93	94	.00100	27	6.33	4.00	30.4	.03	.00	2.05	3.47	2.5	.53	1.95			WALNUT AVE.
94	97	.00100	27	6.33	4.00	.0	.00	.00	2.05	3.47	2.5	.53	1.95			WALNUT AVE.
553	97								.02	.00 U						
561	97								.04	.00 U						
97	100	.00103	27	6.42	4.06	13.0	.01	.00	2.11	3.56	2.6	.53	1.95			WALNUT AVE.
1330	100								.16	.00 U						
100	102	.00100	27	6.33	4.00	.0	.00	.00	2.27	3.81	2.6	.56	1.72			WALNUT AVE.
102	103	.00100	27	6.33	4.00	27.7	.03	.00	2.30	3.85	2.6	.56	1.70			WALNUT AVE.
103	121	.00100	27	6.33	4.00	.0	.00	.00	2.30	3.85	2.6	.56	1.70			WALNUT AVE.
121	122	.00100	27	6.33	4.00	.0	.00	.00	2.30	3.85	2.6	.56	1.70			WALNUT AVE.
122	123	.00100	27	6.33	4.00	17.1	.02	.00	2.32	3.88	2.6	.56	1.68			WALNUT AVE.
123	124	.00100	27	6.33	4.00	14.9	.01	.00	2.33	3.90	2.6	.57	1.67			WALNUT AVE.
124	125	.00100	27	6.33	4.00	.0	.00	.00	2.33	3.90	2.6	.57	1.67			WALNUT AVE.
125	126	.00100	27	6.33	4.00	16.2	.02	.00	2.35	3.92	2.6	.57	1.65			WALNUT AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
126	127	.00100	27	6.33	4.00	.0	.00	.00	2.35	3.92	2.6	.57	1.65			WALNUT AVE.
131	127								.07	.00 U						
127	178	.00100	27	6.33	4.00	33.7	.03	.00	2.45	4.08	2.6	.58	1.55			WALNUT AVE.
178	186	.00100	27	6.33	4.00	.0	.00	.00	2.45	4.08	2.6	.58	1.55			WALNUT AVE.
186	179	.00100	27	6.33	4.00	.0	.00	.00	2.45	4.08	2.6	.58	1.55			WALNUT AVE.
179	180	.00100	27	6.33	4.00	30.0	.03	.00	2.48	4.12	2.6	.59	1.52			WALNUT AVE.
180	181	.00100	27	6.33	4.00	18.5	.02	.00	2.50	4.15	2.6	.59	1.49			WALNUT AVE.
181	182	.00100	27	6.33	4.00	.0	.00	.00	2.50	4.15	2.6	.59	1.49			WALNUT AVE.
182	183	.00100	27	6.33	4.00	.0	.00	.00	2.50	4.15	2.6	.59	1.49			WALNUT AVE.
183	184	.00080	30	7.50	4.83	.0	.00	.00	2.50	4.15	2.4	.53	2.32			WALNUT AVE.
184	177	.00080	30	7.50	4.83	.0	.00	.00	2.50	4.15	2.4	.53	2.32			WALNUT AVE.
176	177								.39	.00 U						
177	185	.00313	30	14.83	10.30	15.4	.01	.00	2.91	4.76	4.2	.39	7.38			WALNUT AVE.
185	190	.00077	30	7.36	4.72	19.5	.01	.00	2.92	4.78	2.5	.59	1.80			WALNUT AVE.
190	191	.00049	30	5.87	3.67	.0	.00	.00	2.92	4.78	2.1	.68	.75			WALNUT AVE.
200	191								.01	.00 U						
191	192	.00090	30	7.95	5.15	27.5	.03	.00	2.96	4.83	2.6	.56	2.19			WALNUT AVE.
192	193	.00053	30	6.10	3.84	.0	.00	.00	2.96	4.83	2.1	.67	.88			WALNUT AVE.
193	194	.00079	30	7.45	4.79	.0	.00	.00	2.96	4.83	2.5	.59	1.83			WALNUT AVE.
194	195	.00064	30	6.71	4.26	33.3	.04	.00	3.00	4.89	2.3	.63	1.26			WALNUT AVE.
781	195								.02	.00 U						
195	196	.00175	30	11.09	7.45	11.1	.01	.00	3.03	4.93	3.4	.47	4.42			WALNUT AVE.
196	199	.00050	30	5.93	3.72	.0	.00	.00	3.03	4.93	2.1	.70	.69			WALNUT AVE.
199	197	.00073	30	7.16	4.59	.0	.00	.00	3.03	4.93	2.4	.61	1.55			WALNUT AVE.
197	198	.00123	30	9.30	6.13	.0	.00	.00	3.03	4.93	3.0	.52	3.10			WALNUT AVE.
205	198								.19	.00 U						
198	207	.00068	30	6.91	4.41	.0	.00	.00	3.22	5.21	2.4	.65	1.19			WALNUT AVE.
207	218	.00089	30	7.91	5.12	.0	.00	.00	3.22	5.21	2.7	.59	1.90			WALNUT AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
218	209	.00087	30	7.82	5.06	.0	.00	.00	3.22	5.21	2.6	.60	1.83			WALNUT AVE.
209	216	.00084	30	7.68	4.96	.0	.00	.00	3.22	5.21	2.6	.60	1.74			
206	216								.03	.00 U						
216	210	.00067	30	6.86	4.37	.0	.00	.00	3.25	5.25	2.4	.66	1.13			
210	211	.00063	33	8.58	5.60	30.4	.03	.00	3.28	5.30	2.4	.57	2.32			WALNUT AVE.
211	212	.00058	33	8.23	5.35	.0	.00	.00	3.28	5.30	2.3	.58	2.07			WALNUT AVE.
225	212								.19	.00 U						
212	213	.00047	33	7.41	4.76	4.7	.01	.00	3.47	5.58	2.1	.65	1.29			WALNUT AVE.
213	219	.00082	33	9.79	6.49	18.8	.02	.00	3.49	5.61	2.6	.54	2.99			WALNUT AVE.
219	214	.00081	33	9.73	6.44	.0	.00	.00	3.49	5.61	2.6	.54	2.95			WALNUT AVE.
214	215	.00045	33	7.25	4.65	.0	.00	.00	3.49	5.61	2.1	.66	1.15			WALNUT AVE.
215	242	.00071	33	9.11	5.99	.0	.00	.00	3.49	5.61	2.5	.57	2.49			WALNUT AVE.
242	227	.00055	33	8.02	5.20	.0	.00	.00	3.49	5.61	2.3	.62	1.70			WALNUT AVE.
227	228	.00058	33	8.23	5.35	.0	.00	.00	3.49	5.61	2.3	.60	1.86			WALNUT AVE.
228	229	.00346	33	20.11	14.44	9.3	.00	.00	3.50	5.61	4.5	.36	10.94			WALNUT AVE.
230	229								.03	.00 U						
244	229								.01	.00 U						
229	233	.00311	27	11.16	7.51	.0	.00	.00	3.54	5.67	4.3	.50	3.97			WALNUT AVE.
234	233								.07	.00 U						
246	233								.20	.00 U						
233	249	.00212	27	9.22	6.07	.0	.00	.00	3.80	6.05	3.8	.59	2.27			
1500	249								.04	.00 U						
249	1506	.00568	27	15.09	10.49	.0	.00	.00	3.84	6.11	5.6	.44	6.65			WALNUT AVE.
1506	1507	.00180	27	8.49	5.54	.0	.00	.00	3.84	6.11	3.6	.63	1.70			WALNUT AVE.
1507	1508	.00189	36	18.74	13.35	16.4	.02	.00	3.86	6.13	3.7	.39	9.50			WALNUT AVE.
1508	1509	.00187	36	18.64	13.27	63.1	.07	.00	3.93	6.23	3.7	.40	9.34			WALNUT AVE.
1509	1510	.00220	36	20.22	14.53	.0	.00	.00	3.93	6.23	3.9	.38	10.60			WALNUT AVE.
1510	1511	.00150	36	16.70	11.74	.0	.00	5.74	9.67	14.02	4.1	.70	2.07			WALNUT AVE.
1512	1511								.08	.00 U						
1511	1514	.00150	36	16.70	11.74	.0	.00	.00	9.75	14.12	4.1	.71	2.00			WALNUT AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
1179	1514								.03	.00 U						
1514	1515	.00150	36	16.70	11.74	.0	.00	.00	9.78	14.15	4.1	.71	1.97			WALNUT AVE.
1515	1250	.00150	36	16.70	11.74	.0	.00	.00	9.78	14.15	4.1	.71	1.97			WALNUT AVE.
1250	1251	.00159	36	17.19	12.13	85.4	.08	.00	9.86	14.26	4.2	.70	2.27			WALNUT AVE.
1251	1252	.00141	36	16.19	11.35	.0	.00	.00	9.86	14.26	4.0	.73	1.49			WALNUT AVE.
1252	1253	.00152	36	16.81	11.83	.0	.00	.00	9.86	14.26	4.1	.71	1.97			WALNUT AVE.
1253	1254	.00155	36	16.97	11.96	.0	.00	.00	9.86	14.26	4.2	.70	2.10			WALNUT AVE.
1254	1273	.00555	36	32.11	24.29	.0	.00	.00	9.86	14.26	6.8	.47	14.43			WALNUT AVE.
1273	1255	.00127	36	15.36	10.71	.0	.00	.00	9.86	14.26	3.8	.76	.85			WALNUT AVE.
1255	1272	.00679	42	53.58	42.90	.0	.00	.97	10.83	15.52	7.4	.37	32.07			WALNUT AVE.
1272	1256	-.00140	42	3.11	1.81	.0	.00	3.08	13.91	19.44	3.1	>1.0		45	42	WALNUT AVE.
1256	1257	.00176	42	27.28	20.26	.0	.00	.00	13.91	19.44	4.8	.62	6.36			WALNUT AVE.

+ END OF STRIP +

SERVICE AREA 02

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
1111	1850	.00073	48	25.08	18.46	.0	.00	4.12	4.12	6.50	2.6	.35	14.34			WALNUT AVE.
1183	1850								.02	.00 U						
1850	1851	.00067	48	24.03	17.60	.0	.00	.00	4.14	6.53	2.5	.36	13.47			WALNUT AVE.
1851	1852	.00063	48	23.30	17.01	.0	.00	.00	4.14	6.53	2.5	.36	12.87			WALNUT AVE.
1852	1853	.00072	48	24.91	18.32	.0	.00	.00	4.14	6.53	2.6	.35	14.18			WALNUT AVE.
1853	1854	.00085	48	27.07	20.09	66.8	.06	.00	4.20	6.62	2.8	.34	15.89			WALNUT AVE.
1854	1855	.00078	48	25.93	19.15	.0	.00	.00	4.20	6.62	2.7	.34	14.95			WALNUT AVE.
1855	1856	.00077	48	25.76	19.01	.0	.00	.00	4.20	6.62	2.7	.35	14.82			WALNUT AVE.
1856	1857	.00080	48	26.26	19.42	.0	.00	.00	4.20	6.62	2.7	.34	15.22			WALNUT AVE.
1857	1858	.00087	48	27.38	20.35	.0	.00	.00	4.20	6.62	2.8	.34	16.15			WALNUT AVE.
1858	1859	.00100	48	29.36	21.99	.0	.00	.00	4.20	6.62	2.9	.32	17.79			WALNUT AVE.
1859	1860	.00097	48	28.91	21.62	.0	.00	.00	4.20	6.62	2.9	.33	17.42			WALNUT AVE.
1860	1861	.00101	48	29.50	22.11	.0	.00	.00	4.20	6.62	2.9	.32	17.91			WALNUT AVE.
1861	1862	.00101	48	29.50	22.11	.0	.00	.00	4.20	6.62	2.9	.32	17.91			WALNUT AVE.
1862	1863	.00086	48	27.23	20.22	.0	.00	.00	4.20	6.62	2.8	.34	16.02			WALNUT AVE.
1863	1864	.00092	48	28.16	20.99	.0	.00	.00	4.20	6.62	2.8	.33	16.79			WALNUT AVE.
1864	1865	.00089	48	27.70	20.61	.0	.00	.00	4.20	6.62	2.8	.33	16.41			WALNUT AVE.
1865	1866	.00095	48	28.61	21.37	.0	.00	.00	4.20	6.62	2.9	.33	17.17			WALNUT AVE.
1866	1867	.00090	48	27.85	20.74	.0	.00	.00	4.20	6.62	2.8	.33	16.54			WALNUT AVE.
1867	1868	.00089	48	27.70	20.61	.0	.00	.00	4.20	6.62	2.8	.33	16.41			WALNUT AVE.
1868	1869	.00090	48	27.85	20.74	.0	.00	.00	4.20	6.62	2.8	.33	16.54			WALNUT AVE.
1869	1870	.00073	48	25.08	18.46	.0	.00	.00	4.20	6.62	2.6	.35	14.26			WALNUT AVE.
1870	1871	.00089	48	27.70	20.61	.0	.00	.00	4.20	6.62	2.8	.33	16.41			WALNUT AVE.
1871	1872	.00095	48	28.61	21.37	.0	.00	.00	4.20	6.62	2.9	.33	17.17			WALNUT AVE.
1872	1873	.00090	48	27.85	20.74	.0	.00	.00	4.20	6.62	2.8	.33	16.54			WALNUT AVE.
1873	1874	.00090	48	27.85	20.74	.0	.00	.00	4.20	6.62	2.8	.33	16.54			WALNUT AVE.

SERVICE AREA 02

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
1874	1875	.00092	48	28.16	20.99	.0	.00	.00	4.20	6.62	2.8	.33	16.79			WALNUT AVE.

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 02

RA	32.56
LDR	3055.96
MDR	210.79
HDR	79.94
CC	12.96
CNC	19.71
CSO	107.63
CCM	29.04
CBD	.00
CR	167.94
CH	14.58
CS	10.45
IL	.00
IH	.00
	.00

	3741.56

QUIT

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 03

.00050	RA
.00100	LDR
.00180	MDR
.00250	HDR
.00100	CC
.00100	CNC
.00100	CSO
.00100	CCM
.00100	CBD
.00100	CR
.00100	CH
.00100	CS
.00110	IL
.00190	IH

GEOMETRY
LABELS
COORDINATES
SANITARY

CITY OF VISALIA

SERVICE AREA 03

Input File = C:\SEWPLAN\OUTPUT\03.IN

Summary of SWAN Units and Factors
****

UNITS

Length = feet
Diameter = inches
Flow = MGD
Elevation = feet
Area = acres
Pressure = psi
Head = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

SERVICE AREA 03

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
978	977	.00541	6	.27	.12	.0	.00	.00	.00	.00	.0	.00	.12			THE COURT YARD
+ + + + END OF STRIP + + + +																
707	101	.00098	6	.11	.05	38.9	.04	.00	.04	.10	1.0	.70	.01			CONYER ST.
+ + + + END OF STRIP + + + +																
1012	229	.02980	8	1.35	.72	14.3	.01	.00	.01	.04	2.6	.12	.70			KENT ST.
+ + + + END OF STRIP + + + +																
976	977	.00149	8	.30	.14	35.0	.06	.00	.06	.14	1.3	.47	.08			MEADOW LN.
978	977								.00	.00 U						
977	973	.00290	8	.42	.20	.0	.00	.00	.06	.14	1.7	.41	.14			MEADOW LN.
973	213	.00106	8	.25	.11	30.7	.03	.00	.09	.20	1.3	.70	.02			CHINOWTH RD.
+ + + + END OF STRIP + + + +																
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
908	195	.00851	8	.72	.36	.0	.00	.00	.00	.00	.0	.00	.36			COUNTY CENTER DR.
+ + + + END OF STRIP + + + +																
926	924	.00129	8	.28	.13	32.8	.05	.00	.05	.12	1.2	.47	.08			DEMAREE RD.
924	904	.00176	8	.33	.15	43.0	.05	.00	.10	.22	1.6	.61	.05			DEMAREE RD.
904	903	.00280	8	.41	.19	.0	.00	.00	.10	.22	1.9	.52	.10			TULARE AVE.
903	902	.00280	8	.41	.19	.0	.00	.00	.10	.22	1.9	.52	.10			TULARE AVE.
902	901	.00181	8	.33	.15	.0	.00	.00	.10	.22	1.6	.58	.06			TULARE AVE.
901	196	.12578	8	2.77	1.60	.0	.00	.00	.10	.22	7.3	.19	1.50			TULARE AVE.
+ + + + END OF STRIP + + + +																
899	196	.00450	8	.52	.25	9.7	.01	.00	.01	.03	1.3	.17	.24			TULARE AVE.
+ + + + END OF STRIP + + + +																
898	897	.00119	8	.27	.12	6.7	.01	.00	.01	.02	.7	.17	.11			TULARE AVE.
+ + + + END OF STRIP + + + +																
894	895	.00185	8	.34	.15	8.1	.01	.00	.01	.02	.8	.17	.14			DEMAREE RD.

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
895	896	.00189	8	.34	.15	.0	.00	.00	.01	.02	.9	.17	.15			DEMAREE RD.
896	897	.00288	8	.42	.20	22.9	.02	.00	.03	.08	1.4	.29	.16			DEMAREE RD.
898	897								.01	.00 U						
897	198	.05160	8	1.77	.97	.0	.00	.00	.04	.10	4.2	.16	.93			TULARE AVE.
+ + + + + + + +								END OF STRIP	+ + + +							
840	183	.00170	8	.32	.15	15.9	.01	.00	.01	.03	1.0	.23	.14			PRINCETON DR.
+ + + + + + + +								END OF STRIP	+ + + +							
652	76	.00350	8	.46	.22	53.4	.06	.00	.06	.14	1.8	.38	.16			
+ + + + + + + +								END OF STRIP	+ + + +							
304	305	.00352	8	.46	.22	1.0	.00	.24	.24	.50	2.2	>1.0		12	10	
305	158	.00292	8	.42	.20	.0	.00	.00	.24	.50	2.2	>1.0		12	10	
+ + + + + + + +								END OF STRIP	+ + + +							
204	911	.00302	8	.43	.20	7.7	.01	.00	.01	.02	1.1	.17	.19			WHITNEY DR.
911	906	.00314	8	.44	.21	.0	.00	.00	.01	.02	1.1	.17	.20			WHITNEY DR.
906	194	.00367	8	.47	.22	.0	.00	.00	.01	.02	1.2	.17	.22			WHITNEY DR.
+ + + + + + + +								END OF STRIP	+ + + +							
87	88	.00103	6	.12	.05	9.3	.01	.00	.01	.03	.8	.35	.04			GIDDINGS AVE.
88	89	.00247	6	.18	.08	.0	.00	.00	.01	.03	1.1	.29	.07			GIDDINGS AVE.
89	134	.00216	6	.17	.07	.0	.00	.00	.01	.03	1.0	.29	.06			GIDDINGS AVE.
134	90	.00081	6	.10	.04	.0	.00	.00	.01	.03	.7	.35	.03			GIDDINGS AVE.
90	91	.00081	6	.10	.04	.0	.00	.00	.01	.03	.7	.35	.03			GIDDINGS AVE.
91	92	.00202	6	.16	.07	25.2	.03	.00	.04	.10	1.4	.58	.03			GIDDINGS AVE.
92	94	.00171	6	.15	.06	.0	.00	.00	.04	.10	1.3	.58	.02			GIDDINGS AVE.
94	142	.00171	6	.15	.06	.0	.00	.00	.04	.10	1.3	.58	.02			GIDDINGS AVE.
142	106	.00119	8	.27	.12	.0	.00	.00	.04	.10	1.1	.41	.08			GIDDINGS AVE.
106	107	.00170	8	.32	.15	22.6	.02	.00	.06	.15	1.4	.47	.08			GIDDINGS AVE.

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
107	108	.00152	8	.30	.14	.0	.00	.00	.06	.15	1.3	.49	.08			GIDDINGS AVE.
108	109	.00169	8	.32	.15	.0	.00	.00	.06	.15	1.4	.47	.08			GIDDINGS AVE.
109	114	.00390	8	.49	.23	.0	.00	.00	.06	.15	1.9	.38	.17			GIDDINGS AVE.

+ END OF STRIP +

83	84	.00138	8	.29	.13	67.1	.07	.00	.07	.16	1.3	.52	.06			CONYER ST.
84	85	.00142	8	.29	.13	.0	.00	.00	.07	.16	1.3	.52	.06			CONYER ST.
85	86	.00119	8	.27	.12	.0	.00	.01	.08	.18	1.3	.61	.04			CONYER ST.
86	99	.00132	8	.28	.13	.0	.00	.00	.08	.18	1.3	.58	.05			CONYER ST.
99	100	.00089	8	.23	.10	.0	.00	.00	.08	.18	1.1	.67	.02			CONYER ST.
100	101	.00180	8	.33	.15	26.1	.01	.00	.09	.20	1.5	.55	.07			CONYER ST.
707	101								.04	.00 U						
101	102	.00021	8	.11	.05	.0	.00	.00	.12	.28	1.2	>1.0		15	12	CONYER ST.
102	103	.00495	8	.55	.26	.0	.00	.00	.12	.28	2.5	.51	.14			CONYER ST.
103	104	.00464	8	.53	.26	.0	.00	.00	.12	.28	2.4	.52	.13			CONYER ST.
104	105	.00464	8	.53	.26	.0	.00	.00	.12	.28	2.4	.52	.13			CONYER ST.

+ END OF STRIP +

42	43	.00136	8	.29	.13	26.3	.04	.00	.04	.09	1.2	.41	.09			GARDEN ST.
43	45	.00050	8	.17	.07	.0	.00	.00	.04	.09	.8	.52	.04			GARDEN ST.
45	46	.00050	8	.17	.07	.0	.00	.00	.04	.09	.8	.52	.04			GARDEN ST.
46	47	.00050	8	.17	.07	24.8	.03	.00	.07	.16	.9	.76	.01			GARDEN ST.

+ END OF STRIP +

5	7	.00149	8	.30	.14	36.3	.03	.00	.03	.08	1.1	.35	.10			PARADISE
7	8	.00149	8	.30	.14	.0	.00	.00	.03	.08	1.1	.35	.10			PARADISE
8	9	.00152	8	.30	.14	.0	.00	.00	.03	.08	1.1	.35	.11			PARADISE
9	10	.00149	8	.30	.14	35.2	.03	.00	.07	.16	1.4	.52	.07			PARADISE
10	11	.00152	8	.30	.14	.0	.00	.00	.07	.16	1.4	.52	.07			PARADISE

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
11	12	.00189	8	.34	.15	.0	.00	.00	.07	.16	1.5	.47	.09			PARADISE
12	13	.00112	8	.26	.12	.0	.00	.00	.07	.16	1.2	.55	.05			SANTA FE AVE.
13	14	.00298	8	.43	.20	.0	.00	.00	.07	.16	1.7	.42	.13			SANTA FE AVE.
14	15	.00179	8	.33	.15	13.8	.02	.00	.08	.20	1.5	.55	.07			SANTA FE AVE.
15	16	.00130	8	.28	.13	.0	.00	.00	.08	.20	1.3	.61	.04			SANTA FE AVE.
16	17	.00154	8	.31	.14	.0	.00	.00	.08	.20	1.4	.58	.05			SANTA FE AVE.
+ END OF STRIP +																
188	189	.00195	10	.63	.31	26.0	.03	.00	.03	.07	1.2	.23	.28			MOUNTAIN DR.
189	190	.00199	10	.63	.31	.0	.00	.00	.03	.07	1.2	.23	.28			MOUNTAIN DR.
190	191	.00202	10	.64	.31	11.7	.01	.00	.04	.09	1.3	.26	.27			MOUNTAIN DR.
191	192	.00201	10	.63	.31	.0	.00	.00	.04	.09	1.3	.26	.27			MOUNTAIN DR.
192	193	.00199	10	.63	.31	16.9	.02	.00	.05	.13	1.4	.32	.25			MOUNTAIN DR.
+ END OF STRIP +																
117	123	.00100	10	.45	.21	26.1	.02	.00	.02	.05	.9	.23	.19			
123	124	.00173	10	.59	.29	9.3	.01	.00	.03	.07	1.1	.23	.26			DIVISADERO ST.
124	125	.00478	10	.98	.50	.0	.00	.00	.03	.07	1.6	.17	.48			DIVISADERO ST.
125	126	.00484	10	.99	.51	.0	.00	.00	.03	.07	1.6	.17	.48			DIVISADERO ST.
126	128	.00485	10	.99	.51	.0	.00	.00	.03	.07	1.6	.17	.48			DIVISADERO ST.
+ END OF STRIP +																
639	65	.00130	12	.83	.42	52.0	.00	.04	.04	.10	1.1	.23	.38			SEQUOIA AVE.
+ END OF STRIP +																
234	221	.00167	12	.94	.48	28.9	.03	.00	.03	.08	1.1	.19	.45			MYRTLE
221	220	.00075	12	.63	.31	32.1	.04	.00	.06	.15	1.0	.33	.24			LINWOOD AVE.
220	219	.00063	12	.58	.28	29.8	.04	.00	.10	.24	1.1	.45	.17			LINWOOD AVE.
219	218	.00025	12	.36	.17	.0	.00	.00	.10	.24	.8	.58	.06			LINWOOD AVE.
218	217	.00071	12	.61	.30	.0	.00	.00	.10	.24	1.1	.44	.19			LINWOOD AVE.
+ END OF STRIP +																

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
143	144	.00140	12	.86	.44	26.9	.02	.00	.02	.06	1.0	.17	.41			DIVISADERO ST.
144	145	.00154	12	.90	.46	.0	.00	.00	.02	.06	1.0	.17	.44			DIVISADERO ST.
145	147	.00149	12	.89	.45	19.5	.01	.00	.04	.09	1.1	.22	.42			DIVISADERO ST.
147	153	.00238	12	1.12	.59	.0	.00	.00	.04	.09	1.3	.19	.55			DIVISADERO ST.
153	152	.00225	12	1.09	.57	17.5	.01	.00	.05	.12	1.4	.23	.52			NOBLE AVE.
+ END OF STRIP +																
37	38	.00600	8	.60	.29	43.3	.05	.00	.05	.11	2.0	.29	.25			SANTA FE AVE.
38	70	.00600	8	.60	.29	.0	.00	.00	.05	.11	2.0	.29	.25			NOBLE AVE.
70	71	.00300	12	1.26	.67	16.2	.01	.00	.06	.14	1.7	.23	.61			NOBLE AVE.
71	72	.00300	12	1.26	.67	.0	.00	.00	.06	.14	1.7	.23	.61			NOBLE AVE.
72	73	.00300	12	1.26	.67	37.8	.03	.00	.09	.20	1.8	.28	.58			NOBLE AVE.
+ END OF STRIP +																
44	55	.00100	10	.45	.21	18.5	.01	.00	.01	.04	.7	.17	.20			WATSON AVE.
55	56	.00099	12	.72	.36	.0	.00	.00	.01	.04	.7	.15	.35			WATSON AVE.
56	57	.00099	12	.72	.36	.0	.00	.00	.01	.04	.7	.15	.35			HOWARD AVE.
57	58	.00099	12	.72	.36	26.9	.02	.00	.03	.08	1.0	.23	.33			
58	60	.00101	12	.73	.36	.0	.00	.00	.03	.08	1.0	.23	.33			TULARE AVE.
60	63	.00101	12	.73	.36	.0	.00	.00	.03	.08	1.0	.23	.33			ENCINA ST.
63	64	.00098	12	.72	.36	.0	.00	.00	.03	.08	1.0	.23	.33			ENCINA ST.
64	65	.00102	12	.74	.37	.0	.00	.00	.03	.08	1.0	.23	.33			ENCINA ST.
639	65								.04	.00 U						
65	66	.00098	12	.72	.36	.0	.00	.00	.07	.17	1.2	.33	.28			ENCINA ST.
66	75	.00101	12	.73	.36	.0	.00	.00	.07	.17	1.2	.33	.29			ENCINA ST.
75	76	.00099	12	.72	.36	.0	.00	.00	.07	.17	1.2	.33	.29			ENCINA ST.
652	76								.06	.00 U						
76	77	.00100	12	.73	.36	.0	.00	.00	.13	.29	1.3	.44	.23			ENCINA ST.
77	78	.00099	12	.72	.36	.0	.00	.00	.13	.29	1.3	.44	.23			ENCINA ST.

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
78	80	.00095	12	.71	.35	.0	.00	.00	.13	.29	1.3	.45	.22			ENCINA ST.
+ END OF STRIP +																
27	501	.00227	10	.67	.33	59.1	.05	.28	.33	.68	2.2	.81		12	12	LAUREL AVE.
501	31	.00120	10	.49	.23	.0	.00	.00	.33	.68	1.9	>1.0		15	12	LAUREL AVE.
31	32	.00119	12	.79	.40	.0	.00	.00	.33	.68	1.8	.71	.06			LAUREL AVE.
32	33	.00122	12	.80	.40	.0	.00	.00	.33	.68	1.8	.70	.07			LAUREL AVE.
33	34	.00120	12	.80	.40	34.5	.04	.00	.37	.74	1.8	.77	.03			LAUREL AVE.
34	35	.00120	12	.80	.40	.0	.00	.00	.37	.74	1.8	.77	.03			LAUREL AVE.
35	36	.00118	12	.79	.40	.0	.00	.00	.37	.74	1.8	.77	.03			LAUREL AVE.
36	18	.00119	12	.79	.40	.0	.00	.00	.37	.74	1.8	.77	.03			SANTA FE AVE.
+ END OF STRIP +																
207	208	.00030	12	.40	.19	16.4	.02	.00	.02	.05	.5	.23	.17			CHINOWTH RD.
208	209	.00074	15	1.14	.59	21.9	.02	.00	.04	.10	.9	.20	.55			CHINOWTH RD.
209	210	.00079	15	1.17	.61	.0	.00	.00	.04	.10	.9	.19	.58			CHINOWTH RD.
210	213	.00057	15	1.00	.51	18.4	.02	.00	.06	.14	.9	.25	.46			CHINOWTH RD.
+ END OF STRIP +																
181	182	.00155	12	.91	.46	8.8	.01	.00	.01	.03	.8	.12	.45			WOODLAND DR.
182	183	.00131	12	.83	.42	.0	.00	.00	.01	.03	.7	.12	.41			WOODLAND DR.
840	183								.01	.00 U						
183	184	.00127	12	.82	.41	8.6	.01	.00	.03	.07	1.0	.20	.39			WOODLAND DR.
184	185	.00069	12	.60	.29	.0	.00	.00	.03	.07	.8	.23	.27			WOODLAND DR.
185	186	.01604	12	2.92	1.69	27.8	.02	.00	.05	.13	2.9	.15	1.64			WOODLAND DR.
186	187	.00149	12	.89	.45	.0	.00	.00	.05	.13	1.3	.26	.40			WOODLAND DR.
187	167	.00276	12	1.21	.64	12.8	.01	.00	.06	.14	1.6	.23	.58			WOODLAND DR.
167	168	.00085	15	1.22	.64	.0	.00	.00	.06	.14	1.0	.23	.58			WOODLAND DR.
168	169	.00119	15	1.44	.77	.0	.00	.00	.06	.14	1.2	.21	.71			WOODLAND DR.

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
169	170	.00103	15	1.34	.71	22.4	.01	.01	.08	.18	1.2	.25	.64			WOODLAND DR.
170	159	.00106	15	1.36	.72	7.7	.01	.00	.08	.20	1.2	.26	.64			WOODLAND DR.
159	158	.00550	15	3.10	1.81	8.2	.01	.00	.09	.21	2.2	.17	1.72			

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
19	20	.00153	12	.90	.46	11.2	.00	.00	.00	.00	.5	.06	.46			TULARE AVE.
20	21	.00157	12	.91	.46	.0	.00	.00	.00	.00	.5	.06	.46			TULARE AVE.
21	22	.00181	12	.98	.50	9.7	.01	.00	.01	.03	.9	.12	.49			TULARE AVE.
22	23	.00126	12	.82	.41	.0	.00	.00	.01	.03	.7	.12	.40			TULARE AVE.
23	24	.00154	12	.90	.46	29.1	.04	.00	.05	.12	1.2	.25	.41			TULARE AVE.
24	17	.00153	12	.90	.46	.0	.00	.00	.05	.12	1.2	.25	.41			TULARE AVE.
16	17								.08	.00 U						
17	18	.00418	12	1.49	.80	.0	.00	.00	.13	.29	2.3	.31	.67			TULARE AVE.
36	18								.37	.00 U						
18	48	.00144	12	.87	.44	.0	.00	.00	.50	.98	1.9	>1.0		15	12	TULARE AVE.
48	47	.00351	21	6.07	3.81	.0	.00	.00	.50	.98	2.8	.27	3.31			TULARE AVE.
46	47								.07	.00 U						
47	51	.00100	21	3.24	1.90	.0	.00	.00	.57	1.10	1.9	.40	1.33			TULARE AVE.
51	61	.00102	21	3.27	1.92	.0	.00	.00	.57	1.10	1.9	.40	1.35			CHURCH ST.
61	62	.00120	18	2.35	1.33	.0	.00	.00	.57	1.10	2.0	.48	.76			CHURCH ST.
62	67	.00118	18	2.33	1.32	.0	.00	.00	.57	1.10	2.0	.48	.75			CHURCH ST.
67	68	.00121	18	2.36	1.34	.0	.00	.00	.57	1.10	2.0	.48	.77			CHURCH ST.
68	69	.00121	18	2.36	1.34	.0	.00	.00	.57	1.10	2.0	.48	.77			CHURCH ST.
69	73	.00114	18	2.29	1.29	.0	.00	.00	.57	1.10	2.0	.49	.72			CHURCH ST.
72	73								.09	.00 U						
73	74	.00191	15	1.82	1.00	.0	.00	.00	.66	1.25	2.5	.61	.35			NOBLE AVE.
74	82	.00192	15	1.83	1.01	31.1	.03	.00	.68	1.29	2.5	.62	.32			NOBLE AVE.
82	79	.00204	15	1.89	1.04	.0	.00	.00	.68	1.29	2.6	.61	.36			NOBLE AVE.
79	80	.00301	15	2.29	1.29	.0	.00	.00	.68	1.29	3.0	.54	.61			NOBLE AVE.

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
78	80								.13	.00 U						
80	81	.00070	18	1.80	.99	.0	.00	.00	.81	1.51	1.8	.70	.17			NOBLE AVE.
81	95	.00070	18	1.80	.99	.0	.00	.00	.81	1.51	1.8	.70	.17			NOBLE AVE.
95	96	.00070	18	1.80	.99	.0	.00	.00	.81	1.51	1.8	.70	.17			NOBLE AVE.
96	97	.00070	18	1.80	.99	.0	.00	.00	.81	1.51	1.8	.70	.17			NOBLE AVE.
97	98	.00070	18	1.80	.99	.0	.00	.00	.81	1.51	1.8	.70	.17			NOBLE AVE.
98	105	.00070	18	1.80	.99	.0	.00	.00	.81	1.51	1.8	.70	.17			NOBLE AVE.
104	105								.12	.00 U						
105	110	.00120	18	2.35	1.33	.0	.00	.00	.94	1.71	2.2	.63	.39			NOBLE AVE.
110	111	.00120	18	2.35	1.33	.0	.00	.00	.94	1.71	2.2	.63	.39			NOBLE AVE.
111	112	.00120	18	2.35	1.33	.0	.00	.00	.94	1.71	2.2	.63	.39			NOBLE AVE.
112	113	.00120	18	2.35	1.33	16.6	.02	.00	.95	1.74	2.3	.64	.38			NOBLE AVE.
113	114	.00120	18	2.35	1.33	.0	.00	.00	.95	1.74	2.3	.64	.38			NOBLE AVE.
109	114								.06	.00 U						
114	148	.00160	18	2.72	1.56	.0	.00	.00	1.02	1.84	2.6	.60	.55			NOBLE AVE.
148	149	.00160	18	2.72	1.56	.0	.00	.00	1.02	1.84	2.6	.60	.55			NOBLE AVE.
149	150	.00160	18	2.72	1.56	.0	.00	.00	1.02	1.84	2.6	.60	.55			NOBLE AVE.
150	151	.00160	18	2.72	1.56	.0	.00	.00	1.02	1.84	2.6	.60	.55			NOBLE AVE.
151	152	.00160	18	2.72	1.56	.0	.00	.00	1.02	1.84	2.6	.60	.55			NOBLE AVE.
153	152								.05	.00 U						
152	146	.00094	21	3.14	1.83	.0	.00	.00	1.07	1.93	2.1	.57	.77			DIVISADERO ST.
146	141	.00094	21	3.14	1.83	.0	.00	.00	1.07	1.93	2.1	.57	.77			DIVISADERO ST.
141	140	.00094	21	3.14	1.83	.0	.00	.00	1.07	1.93	2.1	.57	.77			DIVISADERO ST.
140	138	.00094	21	3.14	1.83	.0	.00	.00	1.07	1.93	2.1	.57	.77			DIVISADERO ST.
138	136	.00094	21	3.14	1.83	.0	.00	.00	1.07	1.93	2.1	.57	.77			DIVISADERO ST.
136	135	.00094	21	3.14	1.83	18.4	.02	.00	1.08	1.95	2.1	.57	.75			DIVISADERO ST.
135	128	.00094	21	3.14	1.83	23.5	.02	.00	1.11	1.99	2.1	.58	.73			DIVISADERO ST.

+ END OF STRIP +

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
120	121	.00158	12	.92	.47	19.5	.02	.00	.02	.05	.9	.15	.45			DOLLNER ST.
121	122	.00731	12	1.97	1.09	.0	.00	.00	.02	.05	1.7	.12	1.07			DOLLNER ST.
122	127	.00110	21	3.40	2.00	.0	.00	.00	.02	.05	.8	.09	1.98			TULARE AVE.
127	128	.00182	21	4.37	2.65	19.7	.00	.03	.04	.11	1.2	.11	2.60			TULARE AVE.
126	128								.03	.00 U						
135	128								1.11	.00 U						
128	129	.00070	27	5.30	3.28	.0	.00	.00	1.18	2.11	2.0	.44	2.10			TULARE AVE.
129	130	.00070	27	5.30	3.28	.0	.00	.00	1.18	2.11	2.0	.44	2.10			TULARE AVE.
130	131	.00070	27	5.30	3.28	11.3	.01	.00	1.19	2.12	2.0	.44	2.09			TULARE AVE.
131	132	.00070	27	5.30	3.28	17.4	.02	.00	1.21	2.16	2.0	.45	2.07			TULARE AVE.
132	133	.00070	27	5.30	3.28	.0	.00	.00	1.21	2.16	2.0	.45	2.07			TULARE AVE.
133	154	.00070	27	5.30	3.28	10.5	.01	.00	1.22	2.18	2.0	.45	2.06			TULARE AVE.
154	155	.00070	27	5.30	3.28	.0	.00	.00	1.22	2.18	2.0	.45	2.06			TULARE AVE.
155	156	.00070	27	5.30	3.28	12.1	.01	.00	1.23	2.19	2.0	.45	2.05			TULARE AVE.
156	157	.00050	30	5.93	3.72	.0	.00	.00	1.23	2.19	1.7	.42	2.49			TULARE AVE.
157	158	.00050	30	5.93	3.72	.0	.00	.00	1.23	2.19	1.7	.42	2.49			TULARE AVE.
159	158								.09	.00 U						
305	158								.24	.00 U						
158	161	.00050	30	5.93	3.72	.0	.00	.00	1.56	2.71	1.8	.47	2.16			TULARE AVE.
161	162	.00050	30	5.93	3.72	.0	.00	.00	1.56	2.71	1.8	.47	2.16			TULARE AVE.
162	163	.00050	30	5.93	3.72	.0	.00	.00	1.56	2.71	1.8	.47	2.16			TULARE AVE.
163	164	.00050	30	5.93	3.72	.0	.00	.00	1.56	2.71	1.8	.47	2.16			TULARE AVE.
164	165	.00050	30	5.93	3.72	14.0	.01	.00	1.57	2.74	1.8	.48	2.14			TULARE AVE.
165	193	.00050	33	7.64	4.93	.0	.00	.00	1.57	2.74	1.8	.41	3.36			MOUNTAIN DR.
192	193								.05	.00 U						
193	201	.00050	33	7.64	4.93	7.7	.01	.00	1.64	2.83	1.8	.42	3.29			TULARE AVE.
201	194	.00050	33	7.64	4.93	.0	.00	.00	1.64	2.83	1.8	.42	3.29			TULARE AVE.
906	194								.01	.00 U						
194	200	.00050	33	7.64	4.93	9.2	.01	.00	1.65	2.86	1.8	.42	3.28			TULARE AVE.

SERVICE AREA 03

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
200	199	.00050	33	7.64	4.93	12.2	.01	.00	1.67	2.88	1.8	.43	3.26			TULARE AVE.
199	195	.00050	33	7.64	4.93	.0	.00	.00	1.67	2.88	1.8	.43	3.26			TULARE AVE.
908	195								.00	.00 U						
195	196	.00050	33	7.64	4.93	10.5	.01	.00	1.68	2.89	1.8	.43	3.25			TULARE AVE.
899	196								.01	.00 U						
901	196								.10	.00 U						
196	197	.00050	33	7.64	4.93	.0	.00	.00	1.78	3.06	1.9	.44	3.15			TULARE AVE.
197	198	.00050	33	7.64	4.93	.0	.00	.00	1.78	3.06	1.9	.44	3.15			TULARE AVE.
897	198								.04	.00 U						
198	211	.00050	33	7.64	4.93	.0	.00	.00	1.82	3.12	1.9	.45	3.11			TULARE AVE.
211	212	.00050	33	7.64	4.93	10.5	.01	.00	1.83	3.13	1.9	.45	3.10			TULARE AVE.
212	213	.00050	33	7.64	4.93	.0	.00	.00	1.83	3.13	1.9	.45	3.10			TULARE AVE.
210	213								.06	.00 U						
973	213								.09	.00 U						
213	214	.00050	33	7.64	4.93	9.9	.01	.00	1.98	3.37	1.9	.47	2.95			TULARE AVE.
214	215	.00050	33	7.64	4.93	.0	.00	.00	1.98	3.37	1.9	.47	2.95			
215	216	.00050	33	7.64	4.93	.0	.00	.00	1.98	3.37	1.9	.47	2.95			TULARE AVE.
216	217	.00050	33	7.64	4.93	10.9	.00	.01	2.00	3.40	1.9	.47	2.93			
218	217								.10	.00 U						
217	227	.00050	33	7.64	4.93	.0	.00	.00	2.11	3.55	2.0	.48	2.82			LAUREL AVE.
227	228	.00120	33	11.84	8.02	10.0	.00	.00	2.11	3.56	2.7	.38	5.91			LAUREL AVE.
228	229	.00050	33	7.64	4.93	.0	.00	.00	2.11	3.56	2.0	.48	2.82			LAUREL AVE.
1012	229								.01	.00 U						
229	232	.00050	33	7.64	4.93	.0	.00	.00	2.12	3.58	2.0	.48	2.80			LAUREL AVE.
232	230	.00041	33	6.92	4.41	16.2	.02	.00	2.14	3.61	1.8	.51	2.27			LAUREL AVE.
230	231	.00141	33	12.84	8.77	.0	.00	.00	2.14	3.61	2.9	.36	6.62			LAUREL AVE.
231	1003	.00176	33	14.34	9.92	.0	.00	.00	2.14	3.61	3.1	.34	7.77			

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 03

RA	.00
LDR	1064.03
MDR	133.08
HDR	39.84
CC	2.61
CNC	2.40
CSO	18.37
CCM	34.80
CBD	.00
CR	16.02
CH	7.15
CS	18.38
IL	16.57
IH	.00
	.00

	1353.24

QUIT

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 04

```
.00050  RA
.00100  LDR
.00180  MDR
.00250  HDR
.00100  CC
.00100  CNC
.00100  CSO
.00100  CCM
.00100  CBD
.00100  CR
.00100  CH
.00100  CS
.00110  IL
.00190  IH
GEOMETRY
***WARNING*** SLOPE IS ADVERSE  124  125  -.002020

***WARNING*** SLOPE IS ADVERSE 1014 1013  -.074420

***WARNING*** SLOPE IS ADVERSE 1038 1039  -.005980

LABELS
COORDINATES
SANITARY
```

CITY OF VISALIA

SERVICE AREA 04

Input File = C:\SEWPLAN\OUTPUT\04.IN

Summary of SWAN Units and Factors
****

UNITS

Length = feet
Diameter = inches
Flow = MGD
Elevation = feet
Area = acres
Pressure = psi
Head = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
978	283	.00939	8	.76	.38	42.2	.02	.00	.02	.07	2.1	.20	.35			
+ + + END OF STRIP + + +																
888	882	.00110	8	.26	.11	8.3	.01	.00	.01	.02	.8	.23	.11			
882	232	.00110	8	.26	.11	34.6	.03	.00	.04	.09	1.0	.41	.08			
+ + + END OF STRIP + + +																
630	627	.00099	8	.25	.11	33.3	.03	.00	.03	.07	.9	.35	.08			SANTA FE AVE.
627	626	.00102	8	.25	.11	29.4	.03	.00	.06	.14	1.1	.52	.05			SANTA FED AVE.
626	100	.00125	8	.28	.12	.0	.00	.00	.06	.14	1.2	.49	.07			SANTA FE AVE.
+ + + END OF STRIP + + +																
576	44	.02711	8	1.29	.68	45.6	.05	.00	.05	.11	3.5	.20	.63			CAIN ST.
+ + + END OF STRIP + + +																
569	37	.03017	8	1.36	.72	61.5	.05	.00	.05	.11	3.7	.20	.68			EAST MAIN ST. EXT.
+ + + END OF STRIP + + +																
904	243	.00102	8	.25	.11	24.9	.02	.00	.02	.06	.9	.35	.09			GREEN ACRES DR.
243	242	.00102	8	.25	.11	.0	.00	.00	.02	.06	.9	.35	.09			FAIRWAY AVE.
242	230	.00100	8	.25	.11	10.1	.01	.00	.03	.07	1.0	.38	.08			FAIRWAY AVE.
230	228	.00101	8	.25	.11	.0	.00	.00	.03	.07	1.0	.38	.08			FAIRWAY AVE.
+ + + END OF STRIP + + +																
87	76	.00069	8	.21	.09	33.4	.01	.00	.01	.02	.6	.23	.08			DOUGLAS AVE.
76	78	.00136	8	.29	.13	.0	.00	.00	.01	.02	.7	.17	.12			DOUGLAS AVE.
78	79	.00127	8	.28	.12	.0	.00	.00	.01	.02	.7	.17	.12			DOUGLAS AVE.
79	80	.00122	8	.27	.12	.0	.00	.00	.01	.02	.7	.17	.12			DOUGLAS AVE.
80	86	.80403	8	7.00	4.47	.0	.00	.00	.01	.02	5.6	.03	4.47			DOUGLAS AVE.
+ + + END OF STRIP + + +																
60	86	.00140	8	.29	.13	59.3	.05	.05	.11	.24	1.4	.70	.03			DOUGLAS AVE.
+ + + END OF STRIP + + +																

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
6	532	.00333	8	.45	.21	29.8	.03	.00	.03	.09	1.5	.29	.18			DARTMOUTH AVE.
532	530	.00274	8	.41	.19	.0	.00	.00	.03	.09	1.5	.32	.16			DARTMOUTH AVE.
530	529	.00281	8	.41	.19	14.3	.01	.00	.05	.12	1.6	.38	.14			DARTMOUTH AVE.
529	528	.00322	8	.44	.21	.0	.00	.00	.05	.12	1.7	.35	.16			DARTMOUTH AVE.
528	526	.00307	8	.43	.20	.0	.00	.00	.05	.12	1.6	.35	.15			
526	14	.00500	8	.55	.27	.0	.00	.00	.05	.12	2.0	.32	.22			FEEMSTER CT.
+ + + + + + +								END OF STRIP	+ + + + + + +							
1040	1038	.00120	10	.49	.23	72.8	.05	.00	.05	.13	1.2	.35	.18			JOHNS PKWY.
+ + + + + + +								END OF STRIP	+ + + + + + +							
1017	1018	.00206	8	.35	.16	29.6	.02	.00	.02	.05	1.1	.26	.14			CAIN ST.
1018	1019	.00252	8	.39	.18	.0	.00	.00	.02	.05	1.2	.23	.16			CAIN ST.
1019	1020	.00229	8	.37	.17	.0	.00	.00	.02	.05	1.2	.26	.15			CAIN ST.
1020	1025	.00139	10	.53	.25	65.0	.05	.00	.07	.17	1.4	.41	.18			CAIN ST.
1025	1021	.00140	10	.53	.25	.0	.00	.00	.07	.17	1.3	.39	.18			CAIN ST.
1021	1022	.00154	10	.56	.27	.0	.00	.00	.07	.17	1.4	.38	.19			CAIN ST.
1022	1023	.00136	10	.52	.25	43.6	.04	.00	.12	.26	1.5	.51	.13			CAIN ST.
1023	1024	.00305	10	.78	.39	.0	.00	.00	.12	.26	2.0	.41	.27			CAIN ST.
+ + + + + + +								END OF STRIP	+ + + + + + +							
1885	1006	.00213	10	.65	.32	20.7	.02	.00	.02	.06	1.2	.20	.30			NORMAN DR.
1006	1007	.00114	10	.48	.23	.0	.00	.00	.02	.06	.9	.23	.21			NORMAN DR.
1007	1008	.00195	10	.63	.31	.0	.00	.00	.02	.06	1.1	.20	.28			NORMAN DR.
1008	1009	.00195	10	.63	.31	11.3	.01	.00	.03	.08	1.2	.23	.27			NORMAN DR.
1009	1010	.00147	10	.54	.26	.0	.00	.00	.03	.08	1.1	.26	.23			NORMAN DR.
1010	1012	.00252	10	.71	.35	9.3	.01	.00	.04	.10	1.4	.26	.31			NORMAN DR.
+ + + + + + +								END OF STRIP	+ + + + + + +							
244	237	.00108	10	.47	.22	8.5	.01	.00	.01	.03	.7	.17	.21			SWITZER ST.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
237	236	.00143	10	.54	.26	16.5	.02	.00	.02	.06	1.0	.23	.23			SWITZER ST.
236	201	.00091	10	.43	.20	.0	.00	.00	.02	.06	.9	.26	.18			GOSHEN AVE.
201	200	.00317	8	.44	.21	.0	.00	.00	.02	.06	1.4	.26	.18			GIDDINGS AVE.
200	234	.00127	8	.28	.12	6.0	.01	.00	.03	.08	1.0	.35	.09			GIDDINGS AVED.
234	235	.00062	8	.19	.08	.0	.00	.00	.03	.08	.8	.47	.05			GIDDINGS AVE.
235	199	.00190	8	.34	.16	.0	.00	.00	.03	.08	1.2	.32	.13			GIDDINGS AVE.
199	192	.00063	8	.20	.08	45.9	.03	.00	.06	.15	1.0	.64	.02			GIDDINGS AVE.
192	191	.00156	8	.31	.14	19.7	.01	.00	.07	.16	1.4	.52	.07			GIDDINGS AVE.
191	190	.00056	8	.18	.08	7.8	.01	.00	.07	.18	.9	.81	.00			GIDDINGS AVE.
190	189	.00079	8	.22	.10	.0	.00	.00	.07	.18	1.1	.70	.02			GIDDINGS AVE.
189	188	.00085	10	.41	.19	23.5	.00	.04	.12	.27	1.2	.58	.07			GIDDINGS AVE.
188	215	.00214	10	.66	.32	.0	.00	.00	.12	.27	1.8	.45	.20			GIDDINGS AVE.
+ END OF STRIP +																
172	170	.00084	10	.41	.19	29.3	.02	.00	.02	.06	.8	.26	.17			COURT ST.
170	169	.00067	10	.37	.17	.0	.00	.00	.02	.06	.7	.26	.15			COURR ST.
169	168	.00173	10	.59	.29	45.5	.04	.00	.06	.15	1.4	.35	.22			N.E. THIRD AVE.
168	167	.00167	10	.58	.28	.0	.00	.00	.06	.15	1.4	.35	.22			N.E. SECOND AVE.
167	166	.00123	10	.50	.24	26.3	.03	.00	.09	.20	1.3	.44	.15			COURT ST.
166	144	.00154	10	.56	.27	21.0	.02	.00	.11	.25	1.5	.47	.16			COURT ST.
+ END OF STRIP +																
137	138	.00199	8	.35	.16	20.3	.02	.00	.02	.05	1.1	.26	.14			GARDEN ST.
138	139	.00225	8	.37	.17	.0	.00	.00	.02	.05	1.2	.26	.15			GARDEN ST.
139	141	.00141	8	.29	.13	28.7	.03	.00	.05	.12	1.3	.47	.08			GARDEN ST.
141	143	.00130	10	.51	.24	.0	.00	.00	.05	.12	1.2	.32	.19			MURRAY ST.
143	145	.00124	10	.50	.24	.0	.00	.00	.05	.12	1.2	.33	.19			MURRAY ST.
145	164	.00155	10	.56	.27	.0	.00	.00	.05	.12	1.3	.32	.22			MURRAY ST.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
164	161	.00150	10	.55	.26	14.9	.01	.00	.06	.15	1.3	.36	.20			MURRAY ST.
161	159	.00160	10	.57	.27	.0	.00	.00	.06	.15	1.4	.35	.21			MURRAY ST.
159	155	.00118	10	.49	.23	.0	.00	.00	.06	.15	1.2	.38	.17			MURRAY ST.

+ END OF STRIP +

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
1213	1039	.00111	12	.77	.38	.0	.00	.00	.00	.00	.0	.00	.38			BURKE ST.
1039	1038	-.00598	12	.25	.11	31.7	.03	.00	.03	.08	.5	.35	.08			BURKE ST.
1040	1038								.05	.00 U						
1038	1037	.00100	12	.73	.36	34.5	.03	.00	.12	.27	1.3	.42	.24			BURKE ST.
1037	1052	.00072	12	.62	.30	.0	.00	.00	.12	.27	1.2	.47	.18			
1052	1051	.00130	12	.83	.42	.0	.00	.00	.12	.27	1.5	.39	.30			BURKE ST.
1051	1050	.00242	12	1.13	.59	36.1	.04	.00	.16	.34	2.0	.38	.44			BURKE ST.
1050	1049	.00093	12	.70	.35	.0	.00	.00	.16	.34	1.4	.49	.19			BURKE ST.
1049	1045	.00058	12	.55	.27	10.1	.01	.00	.17	.36	1.2	.58	.10			BURKE ST.
1045	1044	.00074	12	.63	.31	16.6	.01	.00	.18	.39	1.3	.57	.13			BURKE ST.
1044	1043	.00085	12	.67	.33	10.1	.01	.00	.19	.40	1.4	.55	.14			BURKE ST.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
209	210	.00166	10	.58	.28	8.0	.01	.00	.01	.02	.7	.12	.27			TURNER ST.
210	211	.00138	10	.53	.25	2.5	.00	.00	.01	.03	.8	.17	.24			
211	212	.00160	10	.57	.27	.0	.00	.00	.01	.03	.9	.17	.26			
212	252	.00160	12	.92	.47	53.0	.01	.02	.03	.09	1.1	.20	.43			
252	253	.00170	12	.95	.49	12.7	.01	.00	.05	.11	1.3	.23	.44			
253	249	.00139	12	.86	.43	27.4	.03	.00	.07	.17	1.3	.31	.36			RINALDI ST.
249	250	.00134	12	.84	.43	.0	.00	.00	.07	.17	1.3	.31	.35			SADY LANE
250	248	.00131	12	.83	.42	.0	.00	.00	.07	.17	1.3	.31	.35			SADY LANE
248	247	.00140	12	.86	.44	43.0	.05	.00	.12	.27	1.5	.38	.32			DIVISADERO ST.
247	246	.00140	12	.86	.44	.0	.00	.00	.12	.27	1.5	.38	.32			DIVISADERO ST.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
246	245	.00139	12	.86	.43	.0	.00	.00	.12	.27	1.5	.38	.32			DIVISADERO ST.
245	241	.00138	12	.86	.43	.0	.00	.12	.24	.50	1.8	.55	.20			
241	240	.00118	12	.79	.40	.0	.00	.00	.24	.50	1.6	.57	.16			DIVISADERO ST.
240	239	.00184	12	.99	.51	.0	.00	.00	.24	.50	2.0	.50	.27			DIVISADERO ST.
239	238	.00130	12	.83	.42	9.0	.01	.00	.24	.51	1.7	.57	.17			DIVISADERO ST.
238	229	.00134	12	.84	.43	6.8	.01	.00	.25	.53	1.7	.57	.17			DIVISADERO ST.
229	228	.00160	12	.92	.47	.0	.00	.00	.25	.53	1.9	.54	.22			DIVISADERO ST.
230	228								.03	.00 U						
228	227	.00140	12	.86	.44	.0	.00	.00	.28	.58	1.8	.60	.15			DIVISADERO ST.
227	226	.00140	12	.86	.44	.0	.00	.00	.28	.58	1.8	.60	.15			DIVISADERO ST.
226	223	.00140	12	.86	.44	.0	.00	.00	.28	.58	1.8	.60	.15			DIVISADERO ST.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
833	207	.00099	8	.25	.11	24.5	.02	.00	.02	.06	.9	.35	.08			
207	206	.00099	12	.72	.36	13.4	.01	.00	.04	.10	1.0	.25	.32			STEVENSON ST.
206	205	.00165	12	.94	.48	.0	.00	.00	.04	.10	1.2	.22	.44			STEVENSON ST.
205	204	.00127	12	.82	.41	9.0	.01	.01	.06	.15	1.2	.29	.35			GROVE ST.
204	203	.00194	12	1.01	.52	15.1	.02	.00	.08	.18	1.5	.29	.45			HIGHLAND AVE.
203	202	.00090	12	.69	.34	.0	.00	.00	.08	.18	1.1	.35	.27			HIGHLAND AVE.
202	197	.00078	12	.64	.32	6.7	.00	.00	.08	.19	1.1	.38	.23			HIGHLAND AVE.
197	196	.00859	12	2.13	1.19	26.7	.04	.00	.12	.28	2.9	.25	1.07			JOHNSON ST.
196	195	.00154	12	.90	.46	.0	.00	.00	.12	.28	1.6	.38	.34			JOHNSON ST.
195	194	.00119	12	.79	.40	15.3	.02	.00	.14	.31	1.5	.44	.26			JOHNSON ST.
194	193	.00128	12	.82	.41	8.5	.01	.00	.15	.33	1.5	.44	.27			JOHNSON ST.
193	187	.00152	12	.90	.46	10.4	.01	.00	.16	.34	1.6	.43	.30			JOHNSON ST.
187	178	.00152	12	.90	.46	63.3	.01	.00	.16	.36	1.7	.44	.29			JOHNSON ST.
178	179	.00126	12	.82	.41	10.2	.01	.00	.17	.37	1.6	.48	.24			JOHNSON ST.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
179	174	.00167	12	.94	.48	6.7	.01	.00	.18	.39	1.8	.45	.30			ACEQUIA ST.
174	1311	.00101	12	.73	.36	9.2	.01	.00	.19	.40	1.5	.52	.18			WILLOW ST.
1311	122	.00101	12	.73	.36	.0	.00	.00	.19	.40	1.5	.52	.18			WILLOW ST.
+ END OF STRIP +																
154	152	.00095	12	.71	.35	29.4	.03	.00	.03	.07	.9	.20	.32			WEST ST.
152	151	.00135	12	.85	.43	.0	.00	.00	.03	.07	1.0	.20	.40			WEST ST.
151	149	.00101	12	.73	.36	7.3	.01	.00	.04	.09	1.0	.23	.33			WEST ST.
149	148	.00148	12	.89	.45	.0	.00	.00	.04	.09	1.1	.20	.41			WEST ST.
148	146	.00072	12	.62	.30	15.1	.02	.00	.05	.12	1.0	.31	.25			WEST ST.
146	131	.00072	12	.62	.30	.0	.00	.00	.05	.12	1.0	.31	.25			WEST ST.
131	129	.00071	12	.61	.30	8.4	.01	.00	.06	.14	1.0	.32	.24			WEST ST.
129	128	.00130	12	.83	.42	.0	.00	.00	.06	.14	1.2	.28	.36			WEST ST.
128	126	.00222	12	1.08	.56	10.3	.01	.00	.07	.16	1.5	.26	.49			WEST ST.
126	125	.00414	12	1.48	.80	.0	.00	.00	.07	.16	1.9	.23	.73			WEST ST.
125	124	-.00202	12	.25	.11	.0	.00	.00	.07	.16	.5	.64	.04			WEST ST.
124	122	.01313	12	2.64	1.51	.0	.00	.00	.07	.16	2.8	.17	1.44			WEST ST.
+ END OF STRIP +																
34	35	.00065	12	.59	.28	18.9	.02	.00	.02	.05	.7	.20	.27			MINERAL KING AVE.
35	36	.00140	12	.86	.44	6.9	.01	.00	.02	.06	1.0	.17	.41			MINERAL KING AVE.
36	37	.00069	12	.60	.29	.0	.00	.00	.02	.06	.8	.23	.27			EAST MAIN ST. EXT.
569	37								.05	.00 U						
37	38	.00014	12	.27	.12	.0	.00	.00	.07	.17	.6	.58	.05			EAST MAIN ST. EXT.
38	39	.00257	12	1.17	.61	.0	.00	.00	.07	.17	1.7	.26	.54			EAST MAIN ST. EXT.
39	42	.47818	12	15.92	11.14	.0	.00	.00	.07	.17	10.3	.07	11.07			EAST MAIN ST. EXT.
42	43	.00102	12	.74	.37	39.3	.03	.00	.11	.24	1.3	.39	.26			EAST MAIN ST. EXT.
43	44	.00119	12	.79	.40	.0	.00	.00	.11	.24	1.4	.38	.29			EAST MAIN ST. EXT.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
576	44								.05	.00 U						
44	45	.00113	12	.77	.39	26.2	.02	.00	.17	.38	1.5	.49	.21			EAST MAIN ST. EXT.
45	46	.00132	12	.84	.42	28.2	.02	.00	.19	.41	1.6	.49	.23			EAST MAIN ST. EXT.
46	47	.00135	12	.85	.43	.0	.00	.00	.19	.41	1.7	.49	.23			BEN MADDOX WAY
47	48	.00428	12	1.51	.81	.0	.00	.00	.19	.41	2.6	.36	.62			BEN MADDOX WAY
48	53	.00119	12	.79	.40	21.7	.01	.00	.21	.44	1.6	.54	.19			BEN MADDOX WAY

+ END OF STRIP +

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

1036	1035	.00139	10	.53	.25	.0	.00	.00	.00	.00	.0	.00	.25			JOHNS PKWY.

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

1035	1034	.00240	10	.69	.34	.0	.00	.00	.00	.00	.0	.00	.34			JOHNS PKWY.

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

1034	1033	.00103	12	.74	.37	.0	.00	.00	.00	.00	.0	.00	.37			BEN MADDOX WAY
1033	1032	.00120	12	.80	.40	50.0	.02	.00	.02	.07	1.0	.20	.38			BEN MADDOX WAY
1032	1031	.00133	12	.84	.42	.0	.00	.00	.02	.07	1.0	.19	.40			BEN MADDOX WAY
1031	1030	.00105	12	.75	.37	.0	.00	.00	.02	.07	.9	.20	.35			BEN MADDOX WAY
1030	1029	.00124	12	.81	.41	43.1	.04	.00	.07	.16	1.3	.31	.34			BEN MADDOX WAY
1029	1028	.00090	15	1.25	.66	.0	.00	.00	.07	.16	1.1	.25	.59			BEN MADDOX WAY
1028	1027	.00088	15	1.24	.65	.0	.00	.00	.07	.16	1.1	.25	.58			BEN MADDOX WAY
1027	1042	.00200	15	1.87	1.03	.0	.00	.00	.07	.16	1.5	.20	.96			BEN MADDOX WAY
1042	1026	.00209	15	1.91	1.06	17.4	.02	.00	.09	.20	1.6	.22	.97			BEN MADDOX WAY

+ END OF STRIP +

261	262	.00120	10	.49	.23	19.4	.02	.00	.02	.05	.9	.20	.22			WOODLAND DR.
262	263	.00229	10	.68	.33	.0	.00	.00	.02	.05	1.1	.17	.32			WOODLAND DR.
263	264	.00144	10	.54	.26	12.8	.01	.00	.03	.08	1.1	.26	.23			WOODLAND DR.
264	265	.00142	10	.53	.26	.0	.00	.00	.03	.08	1.1	.26	.23			WOODLAND DR.
265	266	.00149	10	.55	.26	.0	.00	.00	.03	.08	1.1	.26	.23			WOODLAND DR.
266	314	.00147	10	.54	.26	.0	.00	.00	.03	.08	1.1	.26	.23			WOODLAND DR.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
314	267	.00144	10	.54	.26	.0	.00	.00	.03	.08	1.1	.26	.23			
267	268	.00144	10	.54	.26	11.0	.01	.00	.04	.10	1.2	.29	.22			WOODLAND DR.
268	269	.00148	10	.54	.26	.0	.00	.00	.04	.10	1.2	.29	.22			WOODLAND DR.
269	270	.00142	10	.53	.26	.0	.00	.00	.04	.10	1.2	.29	.21			WOODLAND DR.
270	271	.00055	12	.54	.26	.0	.00	.00	.04	.10	.8	.29	.22			STATE HIGHWAY 198
271	272	.00055	12	.54	.26	.0	.00	.00	.04	.10	.8	.29	.22			STATE HIGHWAY 198
272	273	.00055	12	.54	.26	.0	.00	.00	.04	.10	.8	.29	.22			STATE HIGHWAY 198
273	280	.00055	15	.98	.50	31.3	.03	.00	.07	.17	.9	.29	.43			STATE HIGHWAY 198

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
95	94	.00087	12	.68	.33	14.4	.01	.00	.01	.03	.7	.15	.32			SANTA FE AVE.
94	86	.00220	12	1.08	.56	.0	.00	.00	.01	.03	.9	.12	.55			SANTA FE AVE.
60	86								.11	.00 U						
80	86								.01	.00 U						
86	85	.00303	12	1.27	.67	19.7	.02	.00	.14	.32	2.1	.34	.53			DOUGLAS AVE.
85	84	.00145	12	.88	.44	.0	.00	.00	.14	.32	1.6	.42	.30			SANTA FE AVE.
84	83	.00177	12	.97	.50	.0	.00	.00	.14	.32	1.7	.39	.35			SANTA FE AVE.
83	82	.00148	12	.89	.45	13.4	.01	.00	.16	.34	1.6	.44	.29			SANTA FE AVE.
82	81	.00169	12	.95	.48	.0	.00	.00	.16	.34	1.7	.42	.33			SANTA FE AVE.
81	73	.00143	12	.87	.44	33.1	.02	.00	.18	.39	1.7	.47	.26			SANTA FE AVE.
73	653	.00130	12	.83	.42	.0	.00	.00	.18	.39	1.6	.48	.24			SANTA FE AVE.
653	97	.00167	12	.94	.48	.0	.00	.00	.18	.39	1.8	.45	.30			MURRAY ST.
97	135	.00113	15	1.40	.75	5.8	.00	.00	.18	.40	1.5	.36	.57			MURRAY ST.
135	140	.00122	15	1.46	.78	10.2	.01	.00	.19	.41	1.6	.36	.59			MURRAY ST.
140	142	.00131	15	1.51	.81	8.7	.01	.00	.20	.43	1.6	.36	.61			MURRAY ST.
142	144	.00169	15	1.72	.94	7.7	.01	.00	.20	.44	1.8	.34	.73			MURRAY ST.
166	144								.11	.00 U						
144	165	.00050	15	.93	.48	5.0	.00	.00	.32	.65	1.3	.61	.16			MURRAY ST.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
165	163	.00174	15	1.74	.95	.0	.00	.00	.32	.65	2.0	.42	.63			MURRAY ST.
163	162	.00174	15	1.74	.95	7.6	.01	.00	.33	.67	2.0	.43	.63			MURRAY ST.
162	160	.00041	15	.85	.43	.0	.00	.00	.33	.67	1.2	.67	.10			ENCINA ST.
160	158	.00192	15	1.83	1.01	9.7	.01	.00	.34	.68	2.1	.42	.67			MURRAY ST.
158	156	.00046	15	.90	.46	23.0	.02	.00	.36	.72	1.3	.68	.10			MURRAY ST.
156	155	.00308	15	2.32	1.31	.0	.00	.00	.36	.72	2.6	.39	.95			WEST ST.
159	155								.06	.00 U						
155	153	.00095	15	1.29	.68	.0	.00	.00	.42	.84	1.7	.59	.26			WEST ST.
153	150	.00096	15	1.29	.68	7.3	.01	.00	.43	.85	1.7	.59	.26			WEST ST.
150	147	.00099	15	1.31	.70	.0	.00	.00	.43	.85	1.8	.58	.27			WEST ST.
147	130	.00099	15	1.31	.70	.0	.00	.00	.43	.85	1.8	.58	.27			WEST ST.
130	127	.00178	15	1.76	.97	.0	.00	.00	.43	.85	2.2	.49	.54			WEST ST.
127	123	.00093	15	1.27	.67	.0	.00	.00	.43	.85	1.7	.60	.24			WEST ST.
123	122	.01400	15	4.94	3.03	.0	.00	.00	.43	.85	4.7	.28	2.61			
124	122								.07	.00 U						
1311	122								.19	.00 U						
122	121	.01936	12	3.20	1.88	.0	.00	.00	.68	1.29	6.0	.44	1.19			WEST ST.

+ END OF STRIP +

WARNING ZERO OR NEGATIVE FLOW IN THIS REACH

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
40	41	.00078	12	.64	.32	.0	.00	.00	.00	.00	.0	.00	.32			EAST GOSHEN AVE.
41	49	.00099	15	1.31	.70	74.2	.07	.00	.07	.16	1.1	.23	.63			EAST GOSHEN AVE.
49	50	.00106	15	1.36	.72	55.2	.06	.00	.12	.28	1.3	.31	.60			EAST GOSHEN AVE.
50	51	.00094	15	1.28	.68	.4	.00	.00	.12	.28	1.3	.32	.55			EAST GOSHEN AVE.
51	52	.00070	15	1.10	.57	44.7	.04	.00	.17	.37	1.2	.39	.41			EAST GOSHEN AVE.
52	53	.00448	15	2.79	1.61	.0	.00	.00	.17	.37	2.5	.25	1.44			EAST GOSHEN AVE.
48	53								.21	.00 U						
53	54	.00516	15	3.00	1.74	.0	.00	.00	.37	.75	3.1	.34	1.37			EAST GOSHEN AVE.
54	67	.00252	15	2.10	1.17	3.7	.00	.00	.37	.75	2.4	.41	.80			GOSHEN AVE.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
67	68	.00108	15	1.37	.73	22.1	.01	.00	.38	.77	1.8	.54	.35			GOSHEN AVE.
68	71	.00218	15	1.95	1.08	.0	.00	.00	.38	.77	2.3	.44	.70			GOSHEN AVE.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
330	182	.00060	24	3.58	2.12	.0	.00	1.00	1.00	1.82	1.8	.50	1.12			
182	184	.00060	24	3.58	2.12	.0	.00	.00	1.00	1.82	1.8	.50	1.12			MINERAL KING AVE.
184	213	.00060	24	3.58	2.12	.0	.00	.00	1.00	1.82	1.8	.50	1.12			
213	217	.00060	24	3.58	2.12	.0	.00	.00	1.00	1.82	1.8	.50	1.12			MINERAL KING AVE.
217	219	.00060	24	3.58	2.12	.0	.00	.00	1.00	1.82	1.8	.50	1.12			MINERAL KING AVE.
219	221	.00060	24	3.58	2.12	.0	.00	.00	1.00	1.82	1.8	.50	1.12			MINERAL KING AVE.
221	225	.00060	24	3.58	2.12	.0	.00	.00	1.00	1.82	1.8	.50	1.12			MINERAL KING AVE.
225	231	.00060	24	3.58	2.12	.0	.00	.00	1.00	1.82	1.8	.50	1.12			MINERAL KING AVE.

+ END OF STRIP +

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
1011	1012	.00188	15	1.81	.99	.0	.00	.00	.00	.00	.0	.00	.99			HOUSTON AVE.
1010	1012								.04	.00 U						
1012	1013	.00788	15	3.71	2.21	.0	.00	.00	.04	.10	2.1	.12	2.16			HOUSTON AVE.
1013	1014	-.07442	15	.40	.18	.0	.00	.00	.04	.10	.5	.29	.14			HOUSTON AVE.
1014	1015	.00147	15	1.60	.87	.0	.00	.00	.04	.10	1.1	.17	.83			HOUSTON AVE.
1015	1016	.00135	15	1.53	.83	63.7	.05	.00	.09	.21	1.4	.25	.73			HOUSTON AVE.
1016	1024	.00254	15	2.10	1.18	53.8	.05	.00	.15	.32	1.9	.26	1.03			HOUSTON AVE.
1023	1024								.12	.00 U						
1024	1026	.00088	18	2.01	1.12	46.3	.05	.00	.31	.64	1.6	.39	.81			HOUSTON AVE.
1042	1026								.09	.00 U						
1026	1043	.00120	18	2.35	1.33	20.5	.02	.00	.41	.82	1.9	.41	.92			HOUSTON AVE.
1044	1043								.19	.00 U						
1043	93	.00060	18	1.66	.91	.0	.00	.00	.60	1.15	1.6	.61	.31			BURKE CT.
93	92	.00070	18	1.80	.99	12.1	.01	.00	.61	1.16	1.7	.58	.38			
92	91	.00070	18	1.80	.99	.0	.00	.00	.61	1.16	1.7	.58	.38			BURKE ST.
91	75	.00070	18	1.80	.99	.0	.00	.00	.61	1.16	1.7	.58	.38			BURKE ST.
75	74	.00070	18	1.80	.99	.0	.00	.00	.61	1.16	1.7	.58	.38			BURKE ST.
74	71	.00070	18	1.80	.99	.0	.00	.00	.61	1.16	1.7	.58	.38			BURKE ST.
68	71								.38	.00 U						
71	70	.00070	21	2.71	1.56	.0	.00	.00	.99	1.80	1.9	.60	.57			BURKE ST.
70	69	.00070	21	2.71	1.56	28.7	.01	.00	1.00	1.82	1.9	.60	.55			BURKE ST.
69	63	.00070	21	2.71	1.56	.0	.00	.00	1.00	1.82	1.9	.60	.55			BURKE ST.
63	62	.00070	21	2.71	1.56	.0	.00	.00	1.00	1.82	1.9	.60	.55			BURKE ST.
62	61	.00070	21	2.71	1.56	.0	.00	.00	1.00	1.82	1.9	.60	.55			BURKE ST.
61	64	.00070	21	2.71	1.56	.0	.00	.00	1.00	1.82	1.9	.60	.55			MINERAL KING AVE.
64	65	.00070	21	2.71	1.56	.0	.00	.00	1.00	1.82	1.9	.60	.55			MINERAL KING AVE.
65	100	.00070	21	2.71	1.56	.0	.00	.03	1.04	1.88	1.9	.61	.52			SANTA FE AVE.
626	100								.06	.00 U						

SERVICE AREA 04

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
100	101	.00091	24	4.41	2.68	.0	.00	.00	1.09	1.97	2.1	.47	1.58			WILLOW ST.
101	102	.00088	24	4.34	2.63	.0	.00	.00	1.09	1.97	2.1	.47	1.53			WILLOW ST.
102	103	.00092	24	4.43	2.69	.0	.00	.00	1.09	1.97	2.1	.47	1.60			
103	104	.00090	24	4.39	2.66	.0	.00	.00	1.09	1.97	2.1	.47	1.57			
104	105	.00090	24	4.39	2.66	.0	.00	.00	1.09	1.97	2.1	.47	1.57			
105	106	.00079	24	4.11	2.47	.0	.00	.00	1.09	1.97	2.0	.49	1.38			MINERAL KING AVE.
106	112	.00080	24	4.14	2.49	.0	.00	.00	1.09	1.97	2.0	.49	1.40			MINERAL KING AVE.
112	111	.00060	24	3.58	2.12	77.3	.08	.00	1.17	2.09	1.8	.55	.95			MINERAL KING AVE.
111	117	.00077	24	4.06	2.44	.0	.00	.00	1.17	2.09	2.0	.51	1.27			MINERAL KING AVE.
117	118	.00069	24	3.84	2.29	.0	.00	.00	1.17	2.09	1.9	.53	1.12			MINERAL KING AVE.
118	120	.00097	24	4.55	2.77	.0	.00	.00	1.17	2.09	2.2	.48	1.60			MINERAL KING AVE.
120	121	.00077	24	4.06	2.44	.0	.00	.00	1.17	2.09	2.0	.51	1.27			MINERAL KING AVE.
122	121								.68	.00 U						
121	180	.00077	18	1.88	1.04	7.6	.01	-.90	.96	1.76	1.9	.76	.08			MINERAL KING AVE.
180	181	.00074	18	1.85	1.02	.0	.00	.00	.96	1.76	1.8	.78	.06			MINERAL KING AVE.
181	183	.00073	18	1.83	1.01	.0	.00	.00	.96	1.76	1.8	.78	.05			MINERAL KING AVE.
183	185	.00075	18	1.86	1.02	.0	.00	.00	.96	1.76	1.9	.77	.06			MINERAL KING AVE.
185	186	.00079	18	1.91	1.05	9.1	.00	.00	.96	1.76	1.9	.76	.09			MINERAL KING AVE.
186	215	.00074	18	1.85	1.02	.0	.00	.00	.96	1.76	1.8	.78	.05			
188	215								.12	.00 U						
215	214	.00072	18	1.82	1.00	.0	.00	.00	1.09	1.96	1.7	>1.0		21	12	MINERAL KING AVE.
214	216	.00072	18	1.82	1.00	.0	.00	.00	1.09	1.96	1.7	>1.0		21	12	MINERAL KING AVE.
216	218	.00076	18	1.87	1.03	10.0	.00	.00	1.09	1.96	1.9	.87		21	12	MINERAL KING AVE.
218	220	.00076	18	1.87	1.03	.0	.00	.00	1.09	1.96	1.9	.87		21	12	MINERAL KING AVE.
220	222	.00073	18	1.83	1.01	.0	.00	.00	1.09	1.96	1.8	.90		21	12	MINERAL KING AVE.
222	223	.00090	18	2.04	1.13	.0	.00	.00	1.09	1.96	2.0	.78	.05			MINERAL KING AVE.
226	223								.28	.00 U						
223	224	.00065	30	6.76	4.30	.0	.00	.00	1.37	2.41	1.9	.41	2.93			MINERAL KING AVE.

SERVICE AREA 04

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
224	231	.00075	30	7.26	4.66	.0	.00	.00	1.37	2.41	2.1	.40	3.29			MINERAL KING AVE.
225	231								1.00	.00 U						
231	232	.00075	30	7.26	4.66	.0	.00	.00	2.37	3.95	2.3	.52	2.29			STATE HIGHWAY
882	232								.04	.00 U						
232	233	.00074	30	7.21	4.62	.0	.00	.00	2.40	4.00	2.3	.53	2.22			STATE HIGHWAY 198
233	274	.00019	30	3.65	2.17	.0	.00	.00	2.40	4.00	1.3	>1.0		33	18	STATE HIGHWAY 198
274	275	.00019	30	3.65	2.17	.0	.00	.00	2.40	4.00	1.3	>1.0		33	18	STATE HIGHWAY 198
275	276	.00019	30	3.65	2.17	23.7	.00	.00	2.40	4.01	1.3	>1.0		33	18	STATE HIGHWAY 198
276	277	.00019	30	3.65	2.17	.0	.00	.00	2.40	4.01	1.3	>1.0		33	18	STATE HIGHWAY 198
277	278	.00019	30	3.65	2.17	19.5	.00	.00	2.41	4.01	1.3	>1.0		33	18	STATE HIGHWAY 198
278	1005	.00019	30	3.65	2.17	.0	.00	.00	2.41	4.01	1.3	>1.0		33	18	STATE HIGHWAY 198
1005	280	.00019	30	3.65	2.17	.0	.00	.89	3.30	5.32	1.7	>1.0		36	27	STATE HIGHWAY 198
273	280								.07	.00 U						
280	281	.00019	30	3.65	2.17	.0	.00	.00	3.37	5.43	1.7	>1.0		39	27	STATE HIGHWAY 198
281	286	.00019	30	3.65	2.17	.0	.00	.00	3.37	5.43	1.7	>1.0		39	27	STATE HIGHWAY 198
286	285	.00019	30	3.65	2.17	.0	.00	.00	3.37	5.43	1.7	>1.0		39	27	STATE HIGHWAY 198
285	282	.00031	30	4.67	2.85	.0	.00	.00	3.37	5.43	1.7	>1.0		33	21	
282	283	.00031	30	4.67	2.85	39.3	.04	.00	3.41	5.49	1.7	>1.0		36	21	STATE HIGHWAY 198
978	283								.02	.00 U						
283	284	.00031	30	4.67	2.85	.0	.00	.00	3.44	5.52	1.7	>1.0		36	21	STATE HIGHWAY 198
284	312	.00031	30	4.67	2.85	.0	.00	.00	3.44	5.52	1.7	>1.0		36	21	
312	311	.00031	30	4.67	2.85	.0	.00	.00	3.44	5.52	1.7	>1.0		36	21	
311	310	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	
310	309	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	
309	308	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	
308	307	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	
307	306	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	
306	305	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	

SERVICE AREA 04

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
305	304	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	
304	33	.00033	30	4.82	2.95	.0	.00	.00	3.44	5.52	1.7	>1.0		33	21	
33	23	.00408	30	16.93	11.93	.0	.00	.00	3.44	5.52	4.8	.39	8.49			
23	1003	.00920	30	25.43	18.74	.0	.00	.00	3.44	5.52	6.4	.32	15.30			TULARE AVE.
1003	8	.00140	30	9.92	6.58	.0	.00	2.14	5.58	8.54	3.5	.72	1.01			TULARE AVE.
8	20	.00130	30	9.56	6.32	.0	.00	.00	5.58	8.54	3.4	.74	.74			TULARE AVE.
20	21	.00130	30	9.56	6.32	19.1	.02	.00	5.60	8.57	3.4	.74	.72			TULARE AVE.
21	19	.00130	30	9.56	6.32	21.7	.02	.00	5.62	8.60	3.4	.74	.70			TULARE AVE.
19	18	.00133	30	9.67	6.40	18.4	.00	.00	5.62	8.60	3.4	.74	.78			AKERS ROAD
18	16	.00129	30	9.52	6.29	.0	.00	.00	5.62	8.60	3.4	.74	.67			AKERS ROAD
16	15	.00134	30	9.70	6.43	.0	.00	.00	5.62	8.60	3.5	.73	.80			
15	14	.00134	30	9.70	6.43	40.0	.04	.00	5.66	8.66	3.5	.74	.76			AKERS ROAD
526	14								.05	.00 U						
14	12	.00133	30	9.67	6.40	.0	.00	.00	5.71	8.73	3.5	.74	.69			AKERS ROAD
12	11	.00155	30	10.44	6.97	12.4	.01	.00	5.72	8.74	3.7	.70	1.25			AKERS ROAD
11	10	.00169	30	10.90	7.31	5.7	.01	.00	5.73	8.75	3.8	.68	1.58			AKERS ROAD
10	9	.00119	30	9.15	6.02	9.8	.01	.00	5.74	8.76	3.3	.78	.28			AKERS ROAD
9	1510	.00217	30	12.35	8.40	.0	.00	.00	5.74	8.76	4.2	.62	2.66			

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 04

RA	.00
LDR	1335.03
MDR	57.18
HDR	23.20
CC	.00
CNC	13.01
CSO	132.11
CCM	.00
CBD	262.08
CR	18.69
CH	37.91
CS	361.00
IL	7.00
IH	.00
	.01

	2247.23

QUIT

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 05

.00050	RA
.00100	LDR
.00180	MDR
.00250	HDR
.00100	CC
.00100	CNC
.00100	CSO
.00100	CCM
.00100	CBD
.00100	CR
.00100	CH
.00100	CS
.00110	IL
.00190	IH

GEOMETRY
WARNING SLOPE IS ADVERSE   54   55   -.001220

LABELS
COORDINATES
SANITARY

CITY OF VISALIA

SERVICE AREA 05 Input File = C:\SEWPLAN\OUTPUT\05.IN

Summary of SWAN Units and Factors
****

UNITS

Length = feet
Diameter = inches
Flow = MGD
Elevation = feet
Area = acres
Pressure = psi
Head = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

Sewer Analysis Sanitary Load Applications

SERVICE AREA 05

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
870	141	.00233	8	.38	.17	27.3	.03	.00	.03	.07	1.3	.29	.15			
+ + + + + END OF STRIP + + + + +																
823	824	.00101	8	.25	.11	39.9	.02	.03	.04	.11	1.1	.47	.07			MOONEY BLVD.
824	825	.00099	8	.25	.11	.0	.00	.00	.04	.11	1.1	.47	.07			MOONEY BLVD.
825	828	.00098	8	.24	.11	.0	.00	.00	.04	.11	1.0	.47	.06			MOONEY BLVD.
828	829	.00104	8	.25	.11	32.0	.04	.00	.08	.20	1.2	.67	.03			MOONEY BLVD.
829	832	.00099	8	.25	.11	.0	.00	.00	.08	.20	1.2	.70	.02			MOONEY BLVD.
832	94	.00402	8	.50	.24	.0	.00	.00	.08	.20	2.1	.44	.15			MOONEY BLVD.
+ + + + + END OF STRIP + + + + +																
766	767	.00212	8	.36	.17	14.0	.01	.00	.01	.04	1.1	.23	.15			ELOWIN AVE.
767	775	.00194	8	.34	.16	.0	.00	.00	.01	.04	1.0	.23	.14			ELOWIN AVE.
775	779	.00297	8	.43	.20	18.0	.02	.00	.03	.08	1.4	.29	.17			ELOWIN AVE.
779	780	.00200	8	.35	.16	.0	.00	.00	.03	.08	1.3	.35	.13			ELOWIN AVE.
780	786	.00239	8	.38	.18	.0	.00	.00	.03	.08	1.4	.32	.14			ELOWIN AVE.
786	790	.00299	8	.43	.20	19.2	.02	.00	.05	.13	1.7	.38	.15			NORTH ELM ST.
790	102	.00207	8	.36	.16	.0	.00	.00	.05	.13	1.4	.41	.11			NORTH ELM ST.
+ + + + + END OF STRIP + + + + +																
103	98	.00194	8	.34	.16	39.2	.04	.00	.04	.10	1.3	.35	.12			MOONEY BLVD.
98	97	.00553	8	.58	.28	.0	.00	.00	.04	.10	2.0	.29	.24			MOONEY BLVD.
97	96	.00193	8	.34	.16	.0	.00	.00	.04	.10	1.3	.38	.12			MOONEY BLVD.
96	95	.00225	8	.37	.17	.0	.00	.00	.04	.10	1.4	.35	.13			MOONEY BLVD.
95	94	.00159	8	.31	.14	.0	.00	.00	.04	.10	1.2	.38	.10			MOONEY BLVD.
+ + + + + END OF STRIP + + + + +																
72	73	.00207	8	.36	.16	15.9	.02	.00	.02	.04	1.1	.23	.15			SWEET ST.
73	74	.00422	8	.51	.24	.0	.00	.00	.02	.04	1.4	.20	.23			WILLIS ST.
+ + + + + END OF STRIP + + + + +																

SERVICE AREA 05

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
851	850	.00207	8	.36	.16	29.2	.02	.00	.02	.06	1.2	.29	.14			HILLSDALE DR.
850	849	.00149	8	.30	.14	.0	.00	.00	.02	.06	1.0	.29	.11			HILLSDALE DR.
849	141	.00485	8	.54	.26	.0	.00	.00	.02	.06	1.6	.23	.24			HILLSDALE DR.
870	141								.03	.00 U						
141	140	.00186	10	.61	.30	17.1	.02	.00	.07	.16	1.5	.35	.23			MILL CREEK RD.
140	139	.00379	10	.87	.44	.0	.00	.00	.07	.16	1.9	.29	.37			MILL CREEK RD.
139	138	.00179	10	.60	.29	14.8	.00	.00	.07	.17	1.5	.36	.22			
138	137	.00733	8	.67	.33	.0	.00	.00	.07	.17	2.5	.35	.26			MAIN ST.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
142	134	.00198	8	.35	.16	50.4	.05	.00	.05	.12	1.4	.41	.11			BORDER LINKS RD.
134	133	.00213	10	.65	.32	.0	.00	.00	.05	.12	1.4	.29	.27			BORDER LINKS RD.
133	132	.00200	10	.63	.31	.0	.00	.00	.05	.12	1.4	.29	.26			BORDER LINKS RD.
132	131	.00200	10	.63	.31	.0	.00	.00	.05	.12	1.4	.29	.26			BORDER LINKS RD.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
82	81	.00057	10	.34	.15	38.3	.03	.00	.03	.08	.8	.35	.12			CONYER ST.
81	80	.00063	10	.36	.16	.0	.00	.00	.03	.08	.8	.32	.13			CONYER ST.
80	79	.00126	10	.50	.24	28.7	.03	.00	.07	.16	1.3	.38	.17			CONYER ST.
79	78	.00155	10	.56	.27	11.6	.01	.00	.08	.18	1.4	.39	.19			CONYER ST.
78	77	.00285	10	.76	.38	21.5	.01	.00	.09	.21	1.8	.36	.28			CONYER ST.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
676	55	.00218	8	.36	.17	26.0	.02	.00	.02	.06	1.2	.29	.14			SUNNYVIEW AVE.
55	54	-.00122	10	.18	.07	94.5	.09	.00	.11	.25	.7	>1.0		12	10	COURT ST.
54	53	.00095	10	.44	.20	9.2	.01	.00	.12	.27	1.3	.57	.09			COURT ST.
53	71	.00100	10	.45	.21	16.0	.01	.01	.14	.31	1.4	.61	.07			COURT ST.
71	70	.00100	10	.45	.21	.0	.00	.00	.14	.31	1.4	.61	.07			COURT ST.
70	69	.00093	10	.43	.20	21.3	.02	.00	.16	.36	1.4	.70	.04			COURT ST.

SERVICE AREA 05

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
69	68	.00090	10	.42	.20	7.6	.01	.00	.17	.37	1.4	.73	.03			COURT ST.
68	63	.00108	10	.47	.22	7.1	.01	.00	.18	.38	1.5	.70	.04			COURT ST.
63	62	.00107	10	.46	.22	.0	.00	.00	.18	.38	1.5	.70	.04			COURT ST.
62	61	.00104	10	.46	.22	.0	.00	.00	.18	.38	1.4	.70	.04			COURT ST.
61	60	.00379	10	.87	.44	25.1	.03	.00	.20	.43	2.5	.49	.24			COURT ST.
+ END OF STRIP +																
105	106	.00072	12	.62	.30	.0	.00	.47	.47	.92	1.8	>1.0		18	12	
106	107	.00054	12	.54	.26	.0	.00	.00	.47	.92	1.8	>1.0		18	15	GOSHEN AVE.
107	108	.00060	12	.56	.27	.0	.00	.00	.47	.92	1.8	>1.0		18	15	GOSHEN AVE.
108	109	.00130	12	.83	.42	.0	.00	.00	.47	.92	1.8	>1.0		15	12	GOSHEN AVE.
109	110	.00132	12	.84	.42	.0	.00	.00	.47	.92	1.8	>1.0		15	12	GOSHEN AVE.
110	111	.00062	12	.57	.28	.0	.00	.00	.47	.92	1.8	>1.0		18	15	GOSHEN AVE.
+ END OF STRIP +																

SERVICE AREA 05

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
46	47	.00108	12	.76	.38	12.6	.01	.00	.01	.04	.8	.15	.36			HOUSTON AVE.
47	56	.00337	12	1.34	.71	32.0	.03	.00	.05	.11	1.6	.20	.66			HOUSTON AVE.
56	57	.00205	12	1.04	.54	.0	.00	.00	.05	.11	1.4	.23	.49			HOUSTON AVE.
57	58	.00151	12	.89	.45	37.2	.04	.00	.08	.19	1.4	.32	.37			HOUSTON AVE.
58	59	.00185	12	.99	.51	9.1	.00	.00	.09	.20	1.5	.31	.42			HOUSTON AVE.
59	60	.00178	12	.97	.50	.0	.00	.00	.09	.20	1.5	.31	.41			HOUSTON AVE.
61	60								.20	.00 U						
60	64	.00050	15	.93	.48	.0	.00	.00	.29	.60	1.2	.58	.19			HOUSTON AVE.
64	65	.00051	15	.94	.48	14.4	.01	.00	.30	.62	1.3	.60	.18			HOUSTON AVE.
65	66	.00052	15	.95	.49	48.5	.04	.00	.35	.70	1.3	.64	.14			HOUSTON AVE.
66	67	.00042	15	.86	.43	.0	.00	.00	.35	.70	1.2	.69	.09			HOUSTON AVE.
67	74	.00311	15	2.33	1.32	.0	.00	.00	.35	.70	2.6	.38	.97			HOUSTON AVE.
73	74								.02	.00 U						
74	75	.00097	15	1.30	.69	.0	.00	.00	.36	.73	1.7	.54	.33			HOUSTON AVE.
75	76	.00080	15	1.18	.62	.0	.00	.00	.36	.73	1.6	.57	.26			HOUSTON AVE.
76	77	.00084	15	1.21	.64	.0	.00	.00	.36	.73	1.6	.56	.27			HOUSTON AVE.
78	77								.09	.00 U						
77	84	.00081	18	1.93	1.07	.0	.00	.00	.46	.90	1.7	.48	.61			HOUSTON AVE.
84	85	.00067	18	1.76	.96	.0	.00	.00	.46	.90	1.5	.51	.51			HOUSTON AVE.
85	86	.00077	18	1.88	1.04	27.7	.02	.00	.48	.94	1.7	.50	.56			HOUSTON AVE.
86	209	.00065	18	1.73	.95	.0	.00	.00	.48	.94	1.5	.52	.47			
209	208	.00091	18	2.05	1.14	.0	.00	.00	.48	.94	1.7	.48	.66			
208	207	.00097	18	2.11	1.18	.0	.00	.00	.48	.94	1.8	.47	.70			
207	206	.00109	18	2.24	1.26	.0	.00	.00	.48	.94	1.9	.45	.78			
206	205	.00095	18	2.09	1.17	.0	.00	.00	.48	.94	1.8	.47	.69			
205	204	.00111	18	2.26	1.27	.0	.00	.00	.48	.94	1.9	.45	.79			
204	99	.00100	18	2.15	1.20	.0	.00	.00	.48	.94	1.8	.46	.72			

SERVICE AREA 05

MH Up	MH Down	Slope	Dia- meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel- ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
99	100	.00100	18	2.15	1.20	.0	.00	.00	.48	.94	1.8	.46	.72			HOUSTON AVE.
100	101	.00050	18	1.52	.82	.0	.00	.00	.48	.94	1.4	.57	.34			HOUSTON AVE.
101	102	.00140	18	2.54	1.45	.0	.00	.00	.48	.94	2.1	.42	.97			HOUSTON AVE.
790	102								.05	.00 U						
102	94	.00140	18	2.54	1.45	.0	.00	.00	.53	1.03	2.1	.44	.92			HOUSTON AVE.
95	94								.04	.00 U						
832	94								.08	.00 U						
94	126	.00051	18	1.53	.83	19.6	.01	.00	.67	1.26	1.5	.69	.16			HOUSTON AVE.
126	125	.00050	18	1.52	.82	.0	.00	.00	.67	1.26	1.5	.70	.15			HOUSTON AVE.
125	121	.00051	18	1.53	.83	.0	.00	.00	.67	1.26	1.5	.69	.16			HOUSTON AVE.
121	120	.00050	18	1.52	.82	.0	.00	.00	.67	1.26	1.5	.70	.15			HOUSTON AVE.
120	119	.00050	18	1.52	.82	.0	.00	.00	.67	1.26	1.5	.70	.15			HOUSTON AVE.
119	117	.00046	18	1.46	.78	171.5	.19	.00	.86	1.58	1.4	>1.0		21	12	
117	116	.00036	18	1.29	.68	.0	.00	-.75	.11	.24	.9	.29	.58			
116	115	.00036	18	1.29	.68	.0	.00	.00	.11	.24	.9	.29	.58			
115	114	.00036	18	1.29	.68	.0	.00	.00	.11	.24	.9	.29	.58			
114	111	.00036	18	1.29	.68	84.1	.10	.00	.20	.43	1.0	.40	.48			
110	111								.47	.00 U						
111	112	.00060	18	1.66	.91	.0	.00	.00	.67	1.27	1.6	.65	.24			
112	113	.00056	18	1.61	.87	.0	.00	.00	.67	1.27	1.6	.67	.20			
113	131	.00056	18	1.61	.87	140.9	.01	.00	.68	1.29	1.6	.68	.19			
132	131								.05	.00 U						
131	130	.00049	18	1.50	.81	12.7	.01	.00	.74	1.39	1.5	.76	.07			RANCH RD.
130	129	.00045	18	1.44	.77	10.7	.01	.00	.75	1.41	1.4	.80	.02			RANCH RD.
129	137	.00048	18	1.49	.80	10.7	.01	.00	.76	1.43	1.5	.78	.04			RANCH RD.
138	137								.07	.00 U						
137	136	.00380	18	4.19	2.52	25.6	.02	.00	.85	1.58	3.4	.43	1.67			
136	135	.00054	18	1.58	.85	.0	.00	.00	.85	1.58	1.6	.82		21	10	
135	1005	.00054	18	1.58	.85	22.9	.00	.04	.89	1.64	1.6	.86		21	12	

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 05

RA	.00
LDR	813.36
MDR	91.65
HDR	.00
CC	3.65
CNC	.00
CSO	25.54
CCM	57.07
CBD	.00
CR	.00
CH	19.38
CS	.00
IL	10.42
IH	.00
	.00

	1021.07

QUIT

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 06

.00050	RA
.00100	LDR
.00180	MDR
.00250	HDR
.00100	CC
.00100	CNC
.00100	CSO
.00100	CCM
.00100	CBD
.00100	CR
.00100	CH
.00100	CS
.00110	IL
.00190	IH

GEOMETRY
LABELS
COORDINATES
SANITARY

CITY OF VISALIA

SERVICE AREA 06

Input File = C:\SEWPLAN\OUTPUT\06.IN

Summary of SWAN Units and Factors
****

UNITS

Length   = feet
Diameter = inches
Flow   = MGD
Elevation = feet
Area   = acres
Pressure = psi
Head   = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

SERVICE AREA 06

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
636	635	.00177	8	.33	.15	4.2	.00	.00	.00	.01	.6	.12	.15			DOUGLAS AVE.
635	39	.00519	8	.56	.27	.0	.00	.00	.00	.01	1.1	.12	.27			DOUGLAS AVE.
+ END OF STRIP +																
604	603	.00662	8	.64	.31	29.7	.03	.00	.03	.08	1.9	.23	.28			CHINOWTH RD.
603	425	.00192	8	.34	.16	.0	.00	.00	.03	.08	1.2	.32	.13			CHINOWTH RD.
425	599	.00157	8	.31	.14	.0	.00	.00	.03	.08	1.2	.35	.11			
599	579	.00207	8	.36	.16	27.6	.03	.00	.06	.14	1.5	.44	.11			CHINOWTH RD.
579	580	.00186	8	.34	.15	13.4	.01	.00	.07	.17	1.5	.49	.08			CHINOWTH RD.
580	581	.00213	8	.36	.17	18.5	.02	.00	.09	.20	1.7	.55	.08			CHINOWTH RD.
581	582	.00194	8	.34	.16	.0	.00	.00	.09	.20	1.6	.55	.07			CHINOWTH RD.
582	35	.00204	8	.35	.16	30.3	.03	.00	.12	.27	1.7	.64	.04			CHINOWTH RD.
+ END OF STRIP +																
568	422	.00292	8	.42	.20	20.7	.02	.00	.02	.05	1.3	.23	.18			NICHOLAS DR.
422	629	.00259	8	.40	.18	.0	.00	.00	.02	.05	1.2	.23	.17			NICHOLAS DR.
629	630	.00261	8	.40	.19	28.5	.03	.00	.05	.12	1.6	.38	.14			NICHOLAS DR.
630	41	.00645	8	.63	.31	.0	.00	.00	.05	.12	2.1	.29	.26			NICHOLAS DR.
+ END OF STRIP +																
634	39	.00166	10	.58	.28	10.8	.01	.00	.01	.02	.7	.12	.27			CHINOWTH RD.
+ END OF STRIP +																
69	68	.00226	10	.67	.33	18.9	.04	.00	.04	.11	1.4	.26	.29			KENT ST.
68	67	.00164	10	.57	.28	14.9	.02	.00	.06	.14	1.4	.35	.22			KENT ST.
67	66	.00150	10	.55	.26	.0	.00	.00	.06	.14	1.3	.35	.21			KENT ST.
66	65	.00163	10	.57	.28	22.7	.02	.00	.08	.19	1.4	.39	.20			KENT ST.
65	64	.00171	10	.59	.28	.0	.00	.00	.08	.19	1.5	.39	.20			KENT ST.
64	63	.00169	10	.58	.28	.0	.00	.00	.08	.19	1.5	.39	.20			NICHOLAS ST.
63	62	.00216	10	.66	.32	.0	.00	.00	.08	.19	1.6	.36	.24			

SERVICE AREA 06

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
62	61	.00144	10	.54	.26	28.4	.03	.00	.11	.25	1.5	.48	.15			
61	55	.00169	10	.58	.28	.0	.00	.00	.11	.25	1.6	.47	.17			
+ + + + + + + + END OF STRIP + + + + + + + +																
15	16	.00145	10	.54	.26	37.9	.04	.00	.04	.09	1.2	.29	.22			DIVISADERO ST.
16	17	.00145	10	.54	.26	.0	.00	.00	.04	.09	1.2	.29	.22			DIVISADERO ST.
17	28	.00153	10	.55	.27	38.1	.03	.00	.07	.16	1.4	.38	.20			DIVISADERO ST.
28	27	.00149	10	.55	.26	.0	.00	.00	.07	.16	1.4	.38	.20			DIVISADERO ST.
27	26	.00144	10	.54	.26	63.6	.05	.00	.12	.27	1.5	.51	.14			SUNNY VIEW AVE.
26	25	.00138	10	.53	.25	.0	.00	.00	.12	.27	1.5	.51	.13			SUNNY VIEW AVE.
25	24	.00153	10	.55	.27	.0	.00	.00	.12	.27	1.6	.49	.15			SUNNY VIEW AVE.
24	19	.00151	10	.55	.26	.0	.00	.00	.12	.27	1.6	.49	.14			SUNNY VIEW AVE.
+ + + + + + + + END OF STRIP + + + + + + + +																
851	852	.00146	10	.54	.26	47.3	.00	.00	.00	.01	.7	.12	.26			CYPRESS AVE.
852	854	.00187	10	.61	.30	.0	.00	.00	.00	.01	.8	.12	.29			CYPRESS AVE.
854	857	.00082	12	.66	.32	.0	.00	.00	.00	.01	.6	.12	.32			AKERS ROAD
857	858	.70974	12	19.40	13.87	.0	.00	.00	.00	.01	4.4	.01	13.87			AKERS ROAD
858	859	.00610	12	1.80	.99	.0	.00	.00	.00	.01	1.0	.06	.98			AKERS ROAD
+ + + + + + + + END OF STRIP + + + + + + + +																
693	692	.00027	12	.38	.17	51.0	.05	.00	.05	.13	.7	.41	.12			AKERS RD.
692	58	.00126	12	.82	.41	173.5	.13	.00	.19	.40	1.6	.49	.22			
58	57	.00104	15	1.35	.72	102.4	.09	.00	.28	.58	1.6	.46	.44			AKERS RD.
57	56	.00085	15	1.22	.64	.0	.00	.00	.28	.58	1.5	.49	.36			AKERS RD.
56	52	.00086	15	1.22	.64	28.4	.03	.01	.32	.65	1.6	.52	.32			AKERS RD.
52	51	.00088	15	1.24	.65	.0	.00	.00	.32	.65	1.6	.52	.33			AKERS RD.
51	50	.00087	15	1.23	.65	.0	.00	.00	.32	.65	1.6	.52	.33			AKERS RD.
50	49	.00046	15	.90	.46	65.6	.03	.00	.35	.70	1.3	.67	.11			AKERS RD.
+ + + + + + + + END OF STRIP + + + + + + + +																

SERVICE AREA 06

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
8	9	.00200	10	.63	.31	63.7	.05	.00	.05	.13	1.4	.32	.25			ROBIN DR.
9	10	.00200	10	.63	.31	.0	.00	.00	.05	.13	1.4	.32	.25			ROBIN DR.
10	11	.00214	10	.66	.32	14.6	.00	.02	.07	.17	1.6	.35	.25			ROBIN DR.
11	12	.00204	10	.64	.31	35.8	.03	.00	.11	.24	1.7	.42	.21			ROBIN DR.
12	18	.00148	12	.89	.45	.0	.00	.00	.11	.24	1.5	.36	.34			GIDDINGS AVE.
18	19	.00028	12	.39	.18	7.1	.01	.00	.11	.25	.8	.58	.07			GIDDINGS AVE.
24	19								.12	.00 U						
19	20	.00175	12	.96	.49	39.1	.04	.00	.27	.56	2.0	.55	.22			GIDDINGS AVE.
20	21	.00220	12	1.08	.56	.0	.00	.00	.27	.56	2.1	.51	.29			GIDDINGS AVE.
21	401	.00600	15	3.23	1.90	.0	.00	.00	.27	.56	3.1	.28	1.62			GIDDINGS AVE.
401	402	.00219	15	1.95	1.08	.0	.00	.00	.27	.56	2.1	.37	.81			GIDDINGS AVE.
402	407	.00049	15	.92	.47	.0	.00	.00	.27	.56	1.2	.57	.20			GIDDINGS AVE.
407	403	.00062	15	1.04	.54	.0	.00	.00	.27	.56	1.3	.52	.27			
403	404	.00066	15	1.07	.56	19.7	.02	.00	.30	.61	1.4	.54	.26			GIDDINGS AVE.
404	405	.00048	15	.91	.47	23.3	.02	.00	.32	.65	1.3	.62	.15			
405	29	.00049	15	.92	.47	10.2	.01	.00	.33	.67	1.3	.62	.14			
29	408	.00078	15	1.17	.61	29.7	.03	.00	.36	.72	1.5	.57	.25			GIDDINGS AVE.
408	409	.00218	12	1.08	.56	.0	.00	.00	.36	.72	2.3	.60	.20			
409	410	.00219	12	1.08	.56	.0	.00	.00	.36	.72	2.3	.60	.20			
410	411	.00219	12	1.08	.56	.0	.00	.00	.36	.72	2.3	.60	.20			
411	412	.00226	12	1.09	.57	.0	.00	.00	.36	.72	2.3	.60	.21			
412	413	.00192	12	1.01	.52	.0	.00	.00	.36	.72	2.2	.62	.16			
413	414	.00135	15	1.53	.83	.0	.00	.00	.36	.72	1.9	.48	.47			
414	415	.00139	15	1.56	.84	.0	.00	.00	.36	.72	1.9	.48	.48			
415	416	.00139	15	1.56	.84	.0	.00	.00	.36	.72	1.9	.48	.48			
416	417	.00137	15	1.55	.83	.0	.00	.00	.36	.72	1.9	.48	.48			

SERVICE AREA 06

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
417	418	.00139	15	1.56	.84	.0	.00	.00	.36	.72	1.9	.48	.48			
418	350	.00150	18	2.63	1.51	.0	.00	.75	1.11	2.00	2.5	.65	.40			HOUSTON AVE.
350	351	.00150	18	2.63	1.51	.0	.00	.00	1.11	2.00	2.5	.65	.40			HOUSTON AVE.
351	352	.00150	18	2.63	1.51	.0	.00	.00	1.11	2.00	2.5	.65	.40			HOUSTON AVE.
352	30	.00150	18	2.63	1.51	.0	.00	.00	1.11	2.00	2.5	.65	.40			HOUSTON AVE.
30	31	.00150	18	2.63	1.51	.0	.00	.00	1.11	2.00	2.5	.65	.40			HOUSTON AVE.
31	32	.00150	18	2.63	1.51	.0	.00	.00	1.11	2.00	2.5	.65	.40			HOUSTON AVE.
32	33	.00070	21	2.71	1.56	.0	.00	.00	1.11	2.00	1.9	.64	.45			DEMAREE RD.
33	34	.00070	21	2.71	1.56	.0	.00	.00	1.11	2.00	1.9	.64	.45			DEMAREE RD.
34	37	.00070	21	2.71	1.56	79.7	.08	.00	1.19	2.12	1.9	.67	.37			
37	38	.00070	21	2.71	1.56	.0	.00	.00	1.19	2.12	1.9	.67	.37			
38	39	.00070	21	2.71	1.56	13.2	.01	.00	1.20	2.14	1.9	.67	.36			DOUGLAS AVE.
634	39								.01	.00 U						
635	39								.00	.00 U						
39	40	.00080	21	2.90	1.68	5.6	.01	.00	1.22	2.17	2.0	.65	.46			CHINOWTH RD.
40	41	.00080	21	2.90	1.68	.0	.00	.00	1.22	2.17	2.0	.65	.46			CHINOWTH RD.
630	41								.05	.00 U						
41	35	.00090	21	3.07	1.79	32.7	.03	.00	1.30	2.30	2.2	.64	.50			CHINOWTH RD.
582	35								.12	.00 U						
35	36	.00100	21	3.24	1.90	.0	.00	.00	1.41	2.48	2.3	.66	.48			HURLEY AVE.
36	60	.00100	21	3.24	1.90	7.8	.01	.00	1.42	2.50	2.3	.66	.48			HURLEY AVE.
60	59	.00100	21	3.24	1.90	.0	.00	.00	1.42	2.50	2.3	.66	.48			HURLEY RD.
59	55	.00100	21	3.24	1.90	.0	.00	.00	1.42	2.50	2.3	.66	.48			HURLEY RD.
61	55								.11	.00 U						
55	54	.00100	21	3.24	1.90	.0	.00	.00	1.53	2.67	2.3	.69	.37			CRENSHAW RD.
54	53	.00120	21	3.55	2.10	56.2	.04	.00	1.57	2.73	2.5	.66	.53			CRENSHAW RD.
53	45	.00120	21	3.55	2.10	38.7	.01	.00	1.58	2.75	2.5	.66	.52			CRENSHAW RD.
45	44	.00120	21	3.55	2.10	29.3	.02	.00	1.60	2.77	2.5	.66	.50			CRENSHAW RD.

SERVICE AREA 06

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Repl.	Capac: Rel'f	Identification
44	46	.00120	21	3.55	2.10	.0	.00	.00	1.60	2.77	2.5	.66	.50			CRENSHAW RD.
46	43	.00120	21	3.55	2.10	18.3	.01	.00	1.60	2.78	2.5	.67	.50			CRENSHAW RD.
43	47	.00130	21	3.69	2.20	57.1	.01	.00	1.62	2.80	2.6	.65	.58			MINERAL KING AVE.
47	48	.00130	21	3.69	2.20	.0	.00	.00	1.62	2.80	2.6	.65	.58			MINERAL KING AVE.
48	49	.00130	21	3.69	2.20	11.4	.00	.00	1.62	2.81	2.6	.65	.57			MINERAL KING AVE.
50	49								.35	.00 U						
49	859	.00363	24	8.81	5.77	.0	.00	.00	1.97	3.35	4.0	.43	3.80			AKERS ROAD
858	859								.00	.00 U						
859	860	.00117	27	6.85	4.36	.0	.00	.00	1.98	3.36	2.7	.49	2.39			AKERS ROAD
860	861	.00064	27	5.06	3.12	.0	.00	.00	1.98	3.36	2.1	.59	1.14			AKERS ROAD
861	862	.00064	27	5.06	3.12	.0	.00	.00	1.98	3.36	2.1	.59	1.14			AKERS ROAD
862	863	.00076	27	5.52	3.43	.0	.00	.00	1.98	3.36	2.2	.56	1.46			AKERS ROAD
863	864	.00064	27	5.06	3.12	.0	.00	.00	1.98	3.36	2.1	.59	1.14			AKERS ROAD
864	865	.00079	27	5.63	3.51	.0	.00	.00	1.98	3.36	2.3	.56	1.53			AKERS ROAD
865	866	.00542	24	10.76	7.21	78.5	.00	.00	1.98	3.36	4.7	.38	5.24			
866	354	.00263	24	7.50	4.83	.0	.00	.00	1.98	3.36	3.6	.47	2.85			AKERS RD.
354	867	.00270	24	7.60	4.90	.0	.00	.00	1.98	3.36	3.6	.47	2.92			AKERS RD.
867	353	.00264	24	7.51	4.84	.0	.00	.00	1.98	3.36	3.6	.47	2.86			AKERS RD.
353	1111	.00271	24	7.61	4.91	.0	.00	.00	1.98	3.36	3.6	.47	2.93			AKERS RD.

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 06

RA	162.38
LDR	946.91
MDR	33.69
HDR	27.90
CC	.00
CNC	.00
CSO	7.78
CCM	13.05
CBD	.00
CR	.00
CH	14.63
CS	.00
IL	.00
IH	.00
	14.62

	1220.95

QUIT

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 07

.00050	RA
.00100	LDR
.00180	MDR
.00250	HDR
.00100	CC
.00100	CNC
.00100	CSO
.00100	CCM
.00100	CBD
.00100	CR
.00100	CH
.00100	CS
.00110	IL
.00190	IH

GEOMETRY
LABELS
COORDINATES
SANITARY

CITY OF VISALIA

SERVICE AREA 07 Input File = C:\SEWPLAN\OUTPUT\07.IN

Summary of SWAN Units and Factors
****

UNITS

Length = feet
Diameter = inches
Flow = MGD
Elevation = feet
Area = acres
Pressure = psi
Head = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

SERVICE AREA 07

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
82	83	.00257	8	.40	.18	.0	.00	.00	.00	.00	.0	.00	.18			ROOSEVELT AVE.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
83	84	.00329	8	.45	.21	.0	.00	.00	.00	.00	.0	.00	.21			ROOSEVELT AVE.
+ + + + + + + END OF STRIP + + + + + + +																
129	112	.00168	12	.94	.48	48.4	.05	.00	.05	.13	1.3	.25	.43			GOSHEN AVE.
112	113	.00153	12	.90	.46	.0	.00	.00	.05	.13	1.3	.26	.40			GOSHEN AVE.
113	114	.00170	12	.95	.49	.0	.00	.00	.05	.13	1.3	.25	.43			GOSHEN AVE.
114	88	.00212	12	1.06	.55	74.6	.10	.00	.16	.34	1.9	.39	.39			GOSHEN AVE.
88	87	.00171	12	.95	.49	.0	.00	.00	.16	.34	1.7	.41	.33			GOSHEN AVE.
87	2	.00176	12	.97	.50	.0	.00	.00	.16	.34	1.7	.41	.34			GOSHEN AVE.
+ + + + + + + END OF STRIP + + + + + + +																
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
141	77	.00511	8	.56	.27	.0	.00	.00	.00	.00	.0	.00	.27			PLACER AVE.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
77	76	.00231	8	.38	.17	.0	.00	.00	.00	.00	.0	.00	.17			CENTURY ST.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
76	75	.00196	8	.35	.16	.0	.00	.00	.00	.00	.0	.00	.16			CENTURY ST.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
75	74	.00094	8	.24	.11	.0	.00	.00	.00	.00	.0	.00	.11			CENTURY ST.
74	73	.56102	8	5.85	3.66	106.1	.18	.00	.18	.40	15.4	.18	3.48			GOSHEN AVE.
73	70	.00760	8	.68	.34	.0	.00	.00	.18	.40	3.1	.55	.15			GOSHEN AVE.
70	71	.00784	12	2.04	1.14	.0	.00	.00	.18	.40	3.1	.30	.95			GOSHEN AVE.
71	72	.00388	12	1.43	.77	.0	.00	.00	.18	.40	2.4	.36	.58			GOSHEN AVE.
72	79	.00101	12	.73	.36	.0	.00	.00	.18	.40	1.5	.52	.18			GOSHEN AVE.
79	106	.00081	12	.66	.32	.0	.00	.00	.18	.40	1.4	.57	.14			AVENUE 304
106	80	.00155	12	.91	.46	89.5	.15	.00	.33	.68	2.0	.64	.13			
80	2	.00157	12	.91	.46	.0	.00	.00	.33	.68	2.0	.64	.13			GOSHEN AVE.
+ + + + + + + END OF STRIP + + + + + + +																

SERVICE AREA 07

MH Up	MH Down	Slope	Diameter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Velocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
117	116	.00433	8	.51	.25	.0	.00	.00	.00	.00	.0	.00	.25			ELDWIN CT.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
116	115	.00433	8	.51	.25	.0	.00	.00	.00	.00	.0	.00	.25			ELDWIN CT.
115	1	.00100	15	1.32	.70	42.0	.08	.00	.08	.19	1.2	.25	.62			KELSEY ST.
1	2	.00100	15	1.32	.70	37.0	.05	.00	.13	.29	1.3	.32	.57			ROAD 84
80	2								.33	.00 U						
87	2								.16	.00 U						
2	84	.00111	18	2.26	1.27	.0	.00	.11	.72	1.36	2.1	.56	.55			ROAD 84
83	84								.00	.00 U						
84	3	.00139	18	2.53	1.44	62.2	.07	.00	.79	1.48	2.3	.55	.65			ROAD 84
3	4	.00104	18	2.19	1.23	.0	.00	.00	.79	1.48	2.1	.60	.44			ROAD 84
4	5	.00090	18	2.04	1.13	.0	.00	.00	.79	1.48	1.9	.63	.34			ROAD 84
5	6	.00090	21	3.07	1.79	95.7	.11	.00	.90	1.65	2.0	.52	.89			ROAD 84
6	7	.00090	21	3.07	1.79	78.6	.00	.00	.90	1.65	2.0	.52	.89			ROAD 84
7	8	.00090	21	3.07	1.79	86.8	.04	.00	.94	1.72	2.0	.53	.85			ROAD 84
8	9	.00129	21	3.68	2.19	.0	.00	.00	.94	1.72	2.3	.48	1.25			ROAD 84
9	10	.00129	21	3.68	2.19	.0	.00	.00	.94	1.72	2.3	.48	1.25			ROAD 84
10	11	.00129	21	3.68	2.19	.0	.00	.00	.94	1.72	2.3	.48	1.25			ROAD 84
11	12	.00129	21	3.68	2.19	630.4	.03	.00	.97	1.76	2.3	.49	1.22			ROAD 84
12	13	.00116	21	3.49	2.06	.0	.00	.00	.97	1.76	2.2	.50	1.09			ROAD 84
13	14	.00134	21	3.75	2.23	.0	.00	.00	.97	1.76	2.4	.48	1.27			ROAD 84
14	15	.00145	21	3.90	2.33	.0	.00	.00	.97	1.76	2.4	.47	1.37			ROAD 84

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 07

RA	.00
LDR	.00
MDR	.00
HDR	.00
CC	.00
CNC	.00
CSO	.00
CCM	.00
CBD	.00
CR	.00
CH	30.08
CS	38.24
IL	328.61
IH	226.95
	.00

	623.89

QUIT

CITY OF VISALIA

Sewer Analysis Land Use Codes

SERVICE AREA 08

.00050	RA
.00100	LDR
.00180	MDR
.00250	HDR
.00100	CC
.00100	CNC
.00100	CSO
.00100	CCM
.00100	CBD
.00100	CR
.00100	CH
.00100	CS
.00110	IL
.00190	IH

GEOMETRY
LABELS
COORDINATES
SANITARY

CITY OF VISALIA

SERVICE AREA 08 Input File = C:\SEWPLAN\OUTPUT\08.IN

Summary of SWAN Units and Factors
****

UNITS

Length = feet
Diameter = inches
Flow = MGD
Elevation = feet
Area = acres
Pressure = psi
Head = feet

DESIGN CRITERIA		ANALYSIS CRITERIA	
d/D	diam	d/D	diam
.50	10.	1.00	10.
.66	16.	1.00	16.
.75	99.	1.00	99.

PEAKING FACTORS

K = 1.90
Ro = .90

SERVICE AREA 08

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
63	62	.00119	8	.27	.12	.0	.00	.00	.00	.00	.0	.00	.12			MILLER PARK ST.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
62	61	.00163	8	.32	.14	.0	.00	.00	.00	.00	.0	.00	.14			MILLER PARK ST.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
61	60	.00174	8	.33	.15	.0	.00	.00	.00	.00	.0	.00	.15			MILLER PARK ST.
+ + + + + END OF STRIP + + + + +																
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
128	127	.00264	10	.73	.36	.0	.00	.00	.00	.00	.0	.00	.36			CLANCY DR.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
127	126	.00226	10	.67	.33	.0	.00	.00	.00	.00	.0	.00	.33			CLANCY DR.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
126	118	.00249	10	.71	.35	.0	.00	.00	.00	.00	.0	.00	.35			CLANCY DR.
+ + + + + END OF STRIP + + + + +																
92	93	.00474	10	.97	.50	41.1	.04	.00	.04	.10	1.8	.22	.46			MARCIN ST.
93	95	.00473	10	.97	.50	.0	.00	.00	.04	.10	1.8	.22	.46			MARCIN ST.
+ + + + + END OF STRIP + + + + +																
98	97	.00275	8	.41	.19	82.8	.04	.00	.04	.10	1.5	.32	.15			GOSHEN AVE.
97	96	.00275	8	.41	.19	.0	.00	.00	.04	.10	1.5	.32	.15			GOSHEN AVE.
96	95	.00284	12	1.23	.65	65.0	.00	.00	.04	.10	1.4	.19	.61			GOSHEN AVE.
93	95								.04	.00 U						
95	94	.00244	12	1.14	.59	.0	.00	.00	.08	.18	1.7	.28	.52			GOSHEN AVE.
94	89	.00085	12	.67	.33	.0	.00	.00	.08	.18	1.1	.35	.25			GOSHEN AVE.
+ + + + + END OF STRIP + + + + +																
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
69	68	.00070	12	.61	.30	.0	.00	.00	.00	.00	.0	.00	.30			GOSHEN AVE.
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
68	22	.00568	12	1.74	.95	.0	.00	.00	.00	.00	.0	.00	.95			GOSHEN AVE.
+ + + + + END OF STRIP + + + + +																
WARNING ZERO OR NEGATIVE FLOW IN THIS REACH																
59	60	.00163	12	.93	.47	.0	.00	.00	.00	.00	.0	.00	.47			GOSHEN AVE.

SERVICE AREA 08

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
61	60								.00	.00 U						
60	64	.00163	12	.93	.47	54.6	.07	.00	.07	.17	1.4	.29	.40			GOSHEN AVE.
64	65	.00061	12	.57	.27	.0	.00	.00	.07	.17	1.0	.38	.20			GOSHEN AVE.
65	22	.03731	12	4.45	2.70	.0	.00	.00	.07	.17	4.2	.13	2.63			GOSHEN AVE.

+ END OF STRIP +

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
91	90	.00259	12	1.17	.61	161.4	.12	.00	.12	.26	1.9	.32	.50			SHIRK RD.
90	89	.00263	12	1.18	.62	.0	.00	.00	.12	.26	1.9	.32	.50			SHIRK RD.
94	89								.08	.00 U						
89	123	.00263	12	1.18	.62	38.3	.03	.00	.23	.48	2.2	.44	.39			SHIRK RD.
123	122	.00260	12	1.17	.61	44.6	.08	.00	.31	.63	2.4	.52	.31			DOE AVE.
122	121	.00260	12	1.17	.61	.0	.00	.00	.31	.63	2.4	.52	.31			
121	120	.00260	12	1.17	.61	31.3	.06	.00	.37	.74	2.5	.58	.25			DOE AVE.
120	119	.00260	12	1.17	.61	.0	.00	.00	.37	.74	2.5	.58	.25			DOE AVE.
119	118	.00260	12	1.17	.61	.0	.00	.49	.86	1.59	3.1	>1.0		15	12	DOE AVE.
126	118								.00	.00 U						
118	111	.00260	12	1.17	.61	85.8	.16	.00	1.03	1.86	3.7	>1.0		18	15	DOE AVE.
111	109	.00260	12	1.17	.61	.0	.00	.00	1.03	1.86	3.7	>1.0		18	15	
109	108	.00260	12	1.17	.61	.0	.00	.00	1.03	1.86	3.7	>1.0		18	15	DOE AVE.
108	11	.00260	12	1.17	.61	78.4	.15	.00	1.18	2.10	4.1	>1.0		18	15	DOE AVE.
11	12	.00100	15	1.32	.70	.0	.00	.00	1.18	2.10	2.7	>1.0		21	18	ROAD 84
12	10	.00102	15	1.33	.71	.0	.00	.00	1.18	2.10	2.7	>1.0		21	18	ROAD 84

+ END OF STRIP +

SERVICE AREA 08

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
1	2	.00088	30	7.86	5.09	43.8	.08	.00	.08	.19	1.0	.11	5.00			SUNNYVIEW AVE.
2	3	.00080	30	7.50	4.83	.0	.00	.00	.08	.19	1.0	.11	4.74			SUNNYVIEW AVE.
3	4	.00080	30	7.50	4.83	125.2	.24	.00	.32	.65	1.5	.20	4.50			SUNNYVIEW AVE.
4	5	.00081	30	7.54	4.86	.0	.00	.00	.32	.65	1.5	.20	4.54			SUNNYVIEW AVE.
5	6	.00085	30	7.73	4.99	.0	.00	.00	.32	.65	1.5	.20	4.67			SUNNYVIEW AVE.
6	7	.00080	30	7.50	4.83	.0	.00	.00	.32	.65	1.5	.20	4.50			SUNNYVIEW AVE.
7	8	.00081	30	7.54	4.86	164.3	.31	.00	.63	1.21	1.7	.27	4.23			SUNNYVIEW AVE.
8	9	.00080	30	7.50	4.83	.0	.00	.00	.63	1.21	1.7	.27	4.19			SUNNYVIEW AVE.
9	10	.00080	30	7.50	4.83	.0	.00	.00	.63	1.21	1.7	.27	4.19			
12	10								1.18	.00 U						
10	13	.00114	30	8.95	5.87	.0	.00	.00	1.81	3.10	2.6	.41	4.07			FIELD DR.
13	14	.00107	30	8.67	5.67	239.4	.45	.00	2.26	3.79	2.6	.46	3.41			FIELD DR.
14	15	.00051	36	9.74	6.45	.0	.00	.00	2.26	3.79	2.0	.43	4.19			FIELD DR.
15	16	.00051	36	9.74	6.45	.0	.00	.00	2.26	3.79	2.0	.43	4.19			FIELD DR.
16	17	.00051	36	9.74	6.45	237.0	.45	.00	2.71	4.47	2.1	.48	3.74			FIELD DR.
17	18	.00051	36	9.74	6.45	.0	.00	.00	2.71	4.47	2.1	.48	3.74			FIELD DR.
18	19	.00076	36	11.88	8.05	.0	.00	.00	2.71	4.47	2.4	.43	5.34			ROAD 76
19	20	.00070	36	11.41	7.69	.0	.00	.00	2.71	4.47	2.3	.43	4.98			ROAD 76
20	21	.00072	36	11.57	7.81	.0	.00	.00	2.71	4.47	2.4	.43	5.10			ROAD 76
21	22	.00058	36	10.38	6.93	.0	.00	.00	2.71	4.47	2.2	.46	4.21			ROAD 76
65	22								.07	.00 U						
68	22								.00	.00 U						
22	23	.00076	36	11.88	8.05	.0	.00	.00	2.79	4.57	2.4	.43	5.26			ROAD 76
23	24	.00080	36	12.19	8.28	67.0	.11	.00	2.89	4.73	2.5	.43	5.39			ROAD 76
24	25	.00081	36	12.27	8.34	.0	.00	.00	2.89	4.73	2.5	.43	5.45			ROAD 76
25	26	.00082	36	12.34	8.40	163.0	.19	.00	3.08	5.01	2.6	.44	5.31			ROAD 76
26	27	.00081	36	12.27	8.34	.0	.00	.00	3.08	5.01	2.6	.45	5.26			ROAD 76

SERVICE AREA 08

MH Up	MH Down	Slope	Dia-meter	Capacities: Peak	Avg.	Area	Flow Input	Point Source	Avg. Flow	Total Flow	Vel-ocity	Depth Ratio	Excess Avg Cap	Under Capac: Repl.	Rel'f	Identification
27	28	.00081	36	12.27	8.34	.0	.00	.00	3.08	5.01	2.6	.45	5.26			ROAD 76
28	29	.00048	42	14.25	9.85	.0	.00	.00	3.08	5.01	2.1	.41	6.76			FRONTAGE RD.
29	30	.00057	42	15.52	10.83	.0	.00	.00	3.08	5.01	2.2	.39	7.75			FRONTAGE RD.
30	31	.00094	42	19.94	14.30	.0	.00	.00	3.08	5.01	2.7	.34	11.22			FRONTAGE RD.
31	32	.00090	42	19.51	13.96	.0	.00	.00	3.08	5.01	2.6	.35	10.88			FRONTAGE RD.
32	33	.00090	42	19.51	13.96	.0	.00	.00	3.08	5.01	2.6	.35	10.88			FRONTAGE RD.
33	34	.00080	42	18.39	13.08	.0	.00	.00	3.08	5.01	2.5	.36	9.99			FRONTAGE RD.
34	35	.00105	36	13.97	9.63	.0	.00	.00	3.08	5.01	2.8	.41	6.55			FRONTAGE RD.
35	36	.00091	36	13.00	8.90	.0	.00	.00	3.08	5.01	2.7	.43	5.81			FRONTAGE RD.
36	37	.00136	36	15.90	11.12	.0	.00	.00	3.08	5.01	3.1	.39	8.04			FRONTAGE RD.
37	38	.00122	36	15.06	10.47	.0	.00	.00	3.08	5.01	3.0	.40	7.39			FRONTAGE RD.
38	39	.00118	36	14.81	10.28	.0	.00	.00	3.08	5.01	2.9	.40	7.19			FRONTAGE RD.
39	40	.00120	36	14.93	10.37	.0	.00	.00	3.08	5.01	2.9	.40	7.29			FRONTAGE RD.
40	41	.00115	36	14.62	10.13	.0	.00	.00	3.08	5.01	2.9	.41	7.05			FRONTAGE RD.
41	42	.00120	36	14.93	10.37	.0	.00	.00	3.08	5.01	2.9	.40	7.29			FRONTAGE RD.
42	43	.00127	36	15.36	10.71	.0	.00	.00	3.08	5.01	3.0	.39	7.62			FRONTAGE RD.
43	44	.00137	36	15.96	11.17	.0	.00	.00	3.08	5.01	3.1	.39	8.08			FRONTAGE RD.
44	45	.00159	36	17.19	12.13	.0	.00	.00	3.08	5.01	3.3	.37	9.05			WALNUT AVE.
45	46	.00044	36	9.04	5.94	.0	.00	.00	3.08	5.01	2.0	.53	2.86			WALNUT AVE.

+ END OF AREA +

CITY OF VISALIA

Land Use Area Summary

SERVICE AREA 08

RA	121.56
LDR	62.79
MDR	.00
HDR	.00
CC	.00
CNC	.00
CSO	.00
CCM	.00
CBD	.00
CR	.00
CH	.00
CS	.00
IL	274.82
IH	1138.31
	.00

	1597.49

QUIT

APPENDIX G
PROPOSED GOLF COURSE/TREATMENT PLANT

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PROPOSED GOLF COURSE/TREATMENT PLANT

City staff have indicated that a developer is proposing a 160-acre golf course in the southeast expansion area of the city, near the intersection of Avenue 272 and Ben Maddox Way. The developer is also proposing the construction of a wastewater treatment plant near that intersection to intercept wastewater flows from future developments along Avenue 272 and Road 148. The proposed plant will supposedly intercept flows from the proposed Avenue 272-Road 148 Trunk. The developer is considering two design alternatives:

- Intercept all wastewater flows tributary to the proposed plant.

- Intercept liquid wastewater only and keep solid waste flowing in the sewer system to the existing wastewater treatment plant.

The obvious advantage of the proposed treatment plant is the conservation of water by reusing treated wastewater for irrigation. However, additional factors must be considered by the City:

- Visalia's Wastewater Treatment Plant Master Plan, which was adopted by the City Council, was structured for a central wastewater treatment plant for the entire city and did not address a multiplant system.

- The effluent from the City of Visalia Water Conservation Plant is presently discharged to Mill Creek or to 123 acres of percolation/evaporation ponds.

  Since the effluent from the proposed wastewater treatment plant will be used to irrigate the proposed golf course, the effluent will require higher levels of treatment (tertiary treatment) that are comparatively very costly. Title 22 of the California Code of Regulations states that "reclaimed water used for the irrigation of golf courses shall be at all times disinfected, oxidized wastewater. The wastewater shall be adequately disinfected if the median number of coliform organisms in the effluent does not exceed 23 per 100 milliliters, as determined from bacteriological results of the last 7 days for which analysis have been completed, and the number of organisms does not exceed 240 per 100 milliliters in any two consecutive samples.

- A proposed wastewater treatment plant will require significant additional operation and maintenance by City personnel.

If a multiplant treatment scheme is utilized by the city, additional analyses should be performed to determine impacts to the collection system and revisions to the staged growth capital improvement program presented in this master plan. Additionally, this study recommends a present worth analysis be performed to evaluate the benefit over 20- or 30-year periods of the proposed wastewater treatment plant, taking into consideration the resulting operation and maintenance costs.