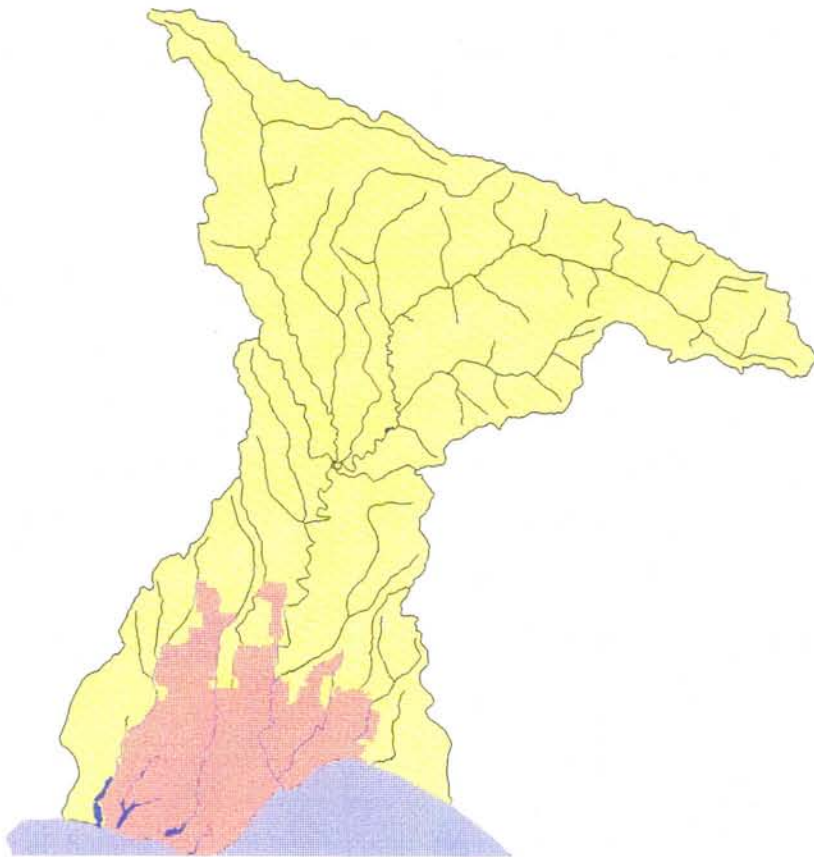


County of Santa Cruz

Storm Water Master Plan
and Management Program

Volume 1

Zone 5 Master Drainage Plan



KVL Consultants, Inc.



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September 3, 2003

SUBJECT: PUBLIC ACCESS TO THE ZONE 5 MASTER DRAINAGE PLAN

The Zone 5 Master Drainage Plan contained within this binder is made available to the general public as a source of basic drainage infrastructure information for the urbanized area of the mid-county, including Live Oak, Soquel and Capitola. The plan was based on limited information and broadly applied assumptions. This means that additional information not available from County records may be needed to obtain a complete understanding of any specific site, and additional engineering calculations may be necessary to address various desired uses. Full discussion of the basis of the Plan design and its calculations is found within the body of this binder in Section 2. Some of the more important limitations and assumptions are listed below:

1. The Plan was completed in 1998 using existing incomplete drainage inventory data last updated in 1990.
2. Not all of the pipe systems in the inventory were analyzed in the completion of the Plan.
3. Hydraulic calculations used Manning's equation for estimating conveyance capacity; no allowance was made for potential pressure flow capacity.

All access to, and use of, this Master Drainage Plan is governed by the Disclaimers and Conditions for Access and Use as set forth below.

THOMAS L. BOLICH
Director of Public Works

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Don Hill
County of Santa Cruz
Public Works Department
701 Ocean Street
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October 20th, 1998

Zone 5 Master Drainage Plan

KVL Consultants, Inc. is pleased to present the final Master Drainage Plan for Zone 5 in the County of Santa Cruz. The report contains an Introduction, Basis of Design, an analysis of the Existing Conditions, an overview of the Facilities Management System, Proposed Improvements and general requirements for NPDES compliance.

It has been a pleasure working with County staff on this project, particularly Mr. Don Hill and Mr. Steven Stiles. The County's GIS staff has also been helpful in providing digital data for the project.

In addition to this Master Plan document, KVL is providing the County with a computerized Facilities Management System that contains all of the data for modeling and generating cost estimates for proposed improvements. The management system is an integral part of the Master Plan because it provides a means to update the Plan on a regular basis.

The analysis shows that about 80% of the modeled system has a level of protection greater than the design storm of 10 years and over 90% of the system has at least a 2 year protection. In comparison to other cities' drainage systems, this overall standard of protection is quite high.

If you have any questions, either now or in the future, please do not hesitate to call.

Yours truly,



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38-55

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County of Santa Cruz

Storm Water Master Plan and Management Program

Volume 1 Zone 5 Master Drainage Plan

KVL Consultants, Inc.



Kenneth V. Lewis
10/20/98

Acknowledgments

This Master Drainage Plan was prepared by KVL Consultants, Inc. for the County of Santa Cruz. KVL would like to acknowledge the following participants for their help in providing digital data and general guidance in the formation of the document.

Don Hill Department of Public Works

Steve Stiles Department of Public Works

County's GIS Staff

Lynx Technologies, Inc.

Table of Contents

1.	Introduction	
	Background.....	1-1
	Study Area	1-1
	Study Approach	1-1
2.	Basis of Design	
	Level of Protection	2-1
	Hydrologic Analysis.....	2-1
	Hydraulic Analysis.....	2-8
3.	Existing Conditions	
	Major Basins	3-1
	Conveyance Facilities	3-3
4.	Facility Management System	
	System Overview	4-1
5.	Proposed Improvements	
	Sub-Standard Sections	5-1
	County's Current CIP	5-4
6.	NPDES	
	General Requirements	6-1

List of Figures

1-1	Study Area	1-2
2-1	P60 Isopleths	2-3
2-2	Land Use Summary	2-5
2-3	Hydrologic Soil Groups	2-7
3-1	Major Basins	3-2
4-1	System Integration	4-1
5-1	Sub-Standard Sections	5-4
5-1	Zone 5 Programmed and Unplanned Projects	5-6

Table of Contents (Continued)

List of Tables

2-1	Level of Protection	2-1
2-2	Rainfall Intensity Duration Formulas.....	2-2
2-3	Rainfall Depths Used in Study.....	2-2
2-4	Land Use Classifications.....	2-4
2-5	SCS Curve Numbers	2-6
2-6	Overland Flow Parameters	2-8
2-7	Manning's n values	2-8
2-8	Conveyance Coefficients for Roads and Right of Way	2-9
3-1	Land Use and Soils Summary.....	3-1
3-2	Conveyance Length in Feet	3-3
3-3	Existing Level of Protection Summary.....	3-3
3-4	Sections With Less Than Design Standard	
	- Less Than 2 year Capacity	3-4
	- Greater Than 2 Year and Less Than 5 Year Capacity.....	3-5
	- Greater Than 5 Year and Less Than 10 Year Capacity.....	3-6
5-1	Unit Cost rates	5-1
5-2	Sub-Standard Improvements Cost Estimate	5-2
5-3	County's Current CIP	5-4

List of Sheets

Modeled Storm Water System – Sheet 1
Modeled Storm Water System – Sheet 2
Modeled Storm Water System – Sheet 3
Modeled Storm Water System – Sheet 4

Basin Wide Summary Reports

Major Basins
Unit Cost Rates
Proposed Improvements
Capital Improvement Plan
Land Use
Land Use Factors
Rainfall Data

Basin Reports

Conveyance Facilities
Storage Facilities
Drainage Area Factors
HEC-1 Input Data – 10 Year Storm

1. Introduction

Background

The County of Santa Cruz Public Works Department is responsible for operating and maintaining the storm drainage facilities in the areas between the cities of Santa Cruz and Watsonville. The area includes the communities of Live Oak, Capitola, Soquel and Aptos, referred to as Zone 5. There are a number of locations within these areas that require system improvements to mitigate drainage problems and the County is committed to upgrade the drainage system on an ongoing basis within budget limitations.

To assist the County in developing a capital improvement plan for drainage improvements, KVL Consultants, Inc. was hired in September 1997 to develop a Storm Drain Master Plan for Zone 5. The Master Plan includes the hydrologic and hydraulic analysis of modeled facilities, proposed improvements and cost estimates to upgrade system deficiencies and a capital improvement plan to carry out the improvements over a period of time.

Study Area

The study area (Figure 1-1) is the Zone 5 watershed. The study includes the hydrologic analysis of all areas contributing runoff to Zone 5 and the hydraulic evaluation of conveyance systems within Zone 5 equivalent to pipe sizes of 30" diameter and larger. Capacities of existing storm drains smaller than 30", that have been mapped and for which there is data, have been analyzed to establish their capacity and how they can be incorporated into the overall master drainage plan.

Study Approach

To facilitate the management of future changes, a computerized Storm Water Facilities Management System has been developed on a Personal Computer to integrate system modeling, cost estimates and capital improvement plans of proposed improvements. The system includes a PC based Geographic Information System for graphic viewing of system facilities, model results, proposed improvements and facility maps.

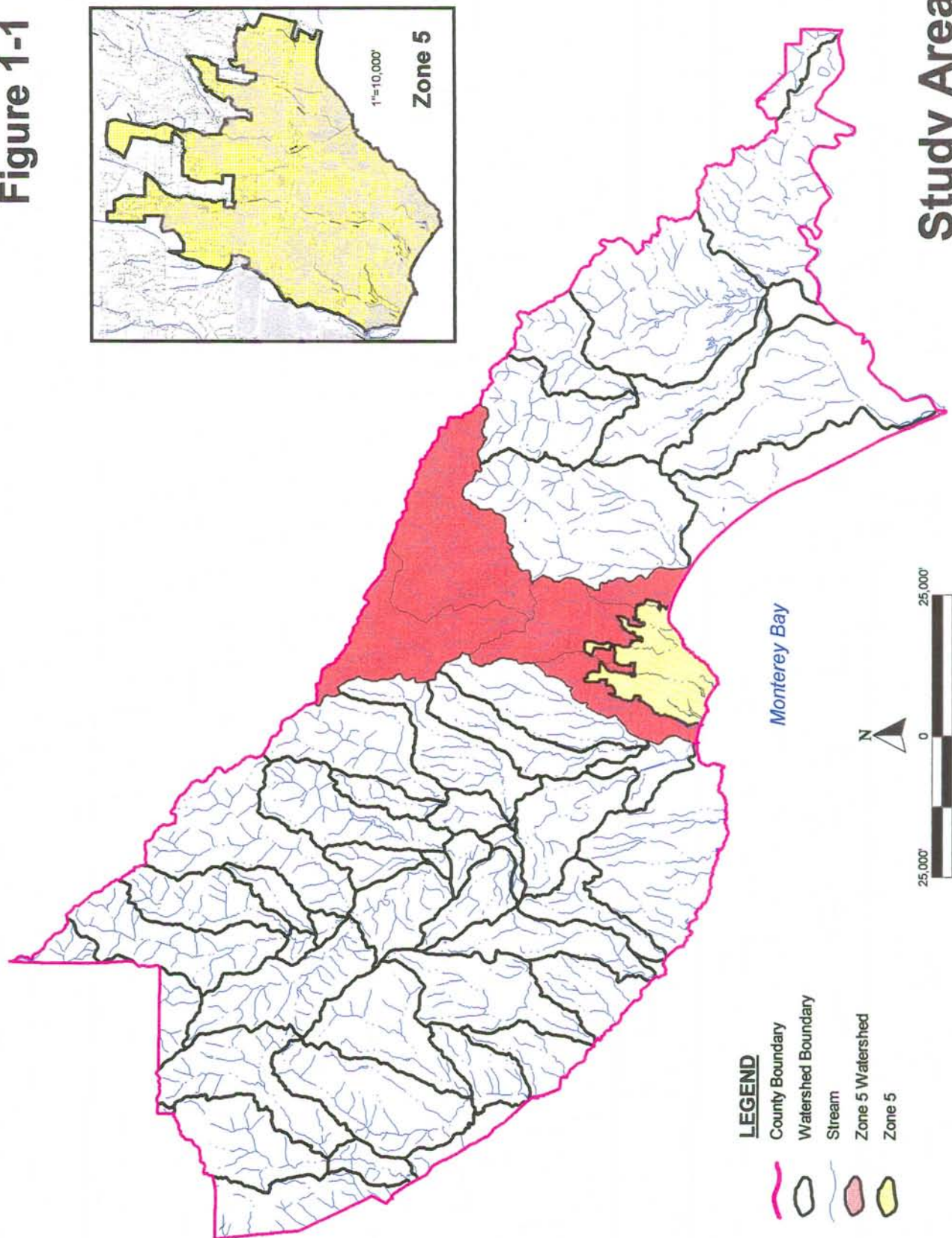
With the County's move toward managing their infrastructure in digital format, the data developed for the master plan is compatible with the existing infrastructure mapping program and can also be transferred to the County's IBM 3090 mainframe system.

The results of the study are presented in the following documents and computer programs:

Volume 1	Zone 5 Storm Drain Master Plan
Volume 2	Stormwater Facilities Management System User's Manual
Program	Stormwater Facilities Management System

This document is Volume 1 – Zone 5 Storm Drain Master Plan.

Figure 1-1



2. Basis of Design

Level of Protection

A common drainage standard is to provide a system that will limit major damage from a major storm expected to occur once in 25-100 years and to limit nuisance flooding from storm events that would occur on average once in 2-10 years. The County's current design standards require all on site drainage improvements to convey a minimum 10-year storm and provide a means to convey flood overflows for return periods ranging from 25 to 100 years. On-site detention is also required to limit site runoff to pre-development 10 year return period levels.

The County's standards are reasonable and in general agreement with other jurisdictional agencies around the country. It may be found, however, that the cost to retro-fit drainage improvements in existing built-up areas may be high and that the design level of protection may be reduced. This will depend on specific site needs.

Table 2-1 summarizes the level of protection adopted for this study.

Table 2-1 Level of Protection

Item	Tributary Drainage Area (acres)	Primary System Return Period (Years)	Flood Overflow Return Period (Years)
Storm Drains	0 - 100	10	25
	100 - 400	10	50
	> than 400	10	100
Culverts		10	100
Bridges			100 Year or Flood of Record
Storage	Storage to limit outfall from 10 year storm to pre development 10 year storm		

Hydrologic Analysis

Modeling Approach

The U.S. Army Corps of Engineers Flood Hydrograph Package (HEC-1) has been adopted to model hydrology in the County of Santa Cruz, Zone 5 watershed. The Soil Conservation Service (SCS) Curve Number approach has been adopted to estimate losses and the kinematic wave overland flow plane methodology to compute sub basin runoff. Channel routing uses the kinematic wave option. Primary variables in the analysis are rainfall, land use, rainfall losses and overland flow parameters.

Rainfall

One hour rainfall depths used in this study were taken from the Isopleths provided in the County's Design Criteria Manual. Rainfall depth-duration values, for various return periods, were developed from formulas derived from the County's Rainfall Intensity Duration curves and return period factors. A map of the P60 Isopleths for the Zone 5 Watershed is shown in Figure 2-1 and the calculated Rainfall Intensity Duration formulas for the 10 year Return Period are shown in Table 2-2. A summary of the derived rainfall depths for the duration and return periods used in this study, is shown in Table 2-3.

Table 2-2 Rainfall Intensity Duration Formulas
Intensity (I) = a(Duration in Minutes)^b

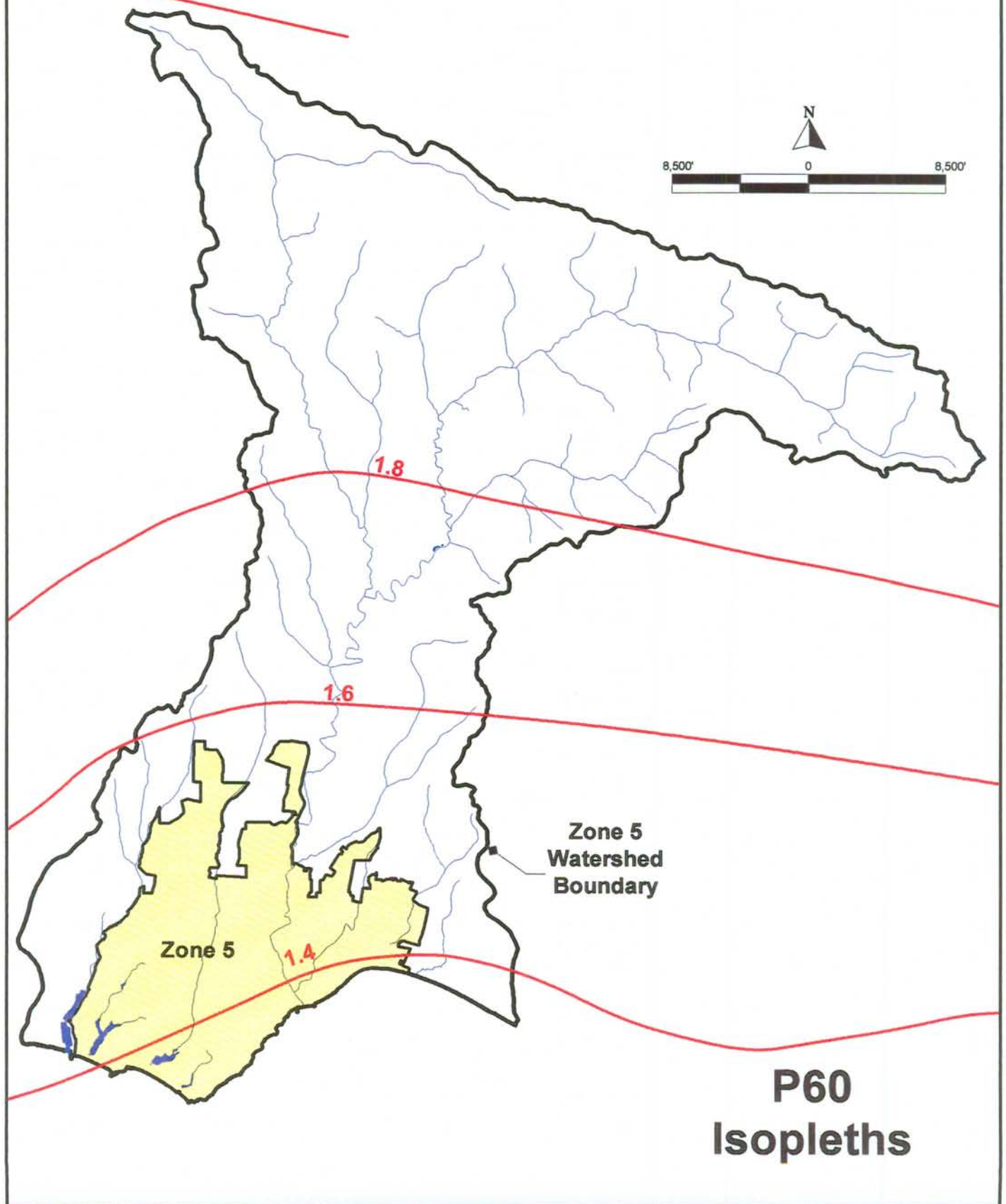
60 Minute Rainfall (Inches)	a	b
1.4	5.36453659	-0.42781133
1.6	5.59517025	-0.40654796
1.8	5.83712541	-0.38687395
2.0	6.15214744	-0.37334494

Table 2-3 Rainfall Depths Used in Study

P60 Value (inches)	Return Period (Years)	Factor	Duration (Minutes)							
			5	10	15	30	60	120	180	360
1.4	2	0.64	0.14	0.20	0.25	0.38	0.56	0.84	1.06	1.57
	5	0.84	0.19	0.28	0.35	0.53	0.78	1.16	1.47	2.18
	10	1.00	0.22	0.33	0.42	0.63	0.93	1.38	1.74	2.59
	25	1.20	0.27	0.40	0.51	0.75	1.12	1.66	2.09	3.11
	50	1.34	0.30	0.45	0.56	0.84	1.25	1.85	2.34	3.48
	100	1.49	0.33	0.50	0.63	0.93	1.39	2.06	2.60	3.87
1.5 *	2	0.64	0.14	0.21	0.27	0.40	0.60	0.90	1.14	1.71
	5	0.84	0.20	0.30	0.37	0.56	0.84	1.25	1.59	2.38
	10	1.00	0.23	0.35	0.45	0.67	1.00	1.49	1.89	2.83
	25	1.20	0.28	0.42	0.54	0.80	1.20	1.79	2.27	3.40
	50	1.34	0.31	0.47	0.59	0.89	1.34	2.00	2.53	3.80
	100	1.49	0.35	0.52	0.66	0.99	1.49	2.22	2.82	4.22
1.6	2	0.64	0.14	0.22	0.28	0.42	0.64	0.96	1.23	1.86
	5	0.84	0.20	0.31	0.39	0.59	0.89	1.34	1.71	2.58
	10	1.00	0.24	0.37	0.47	0.70	1.06	1.60	2.03	3.07
	25	1.20	0.29	0.44	0.56	0.84	1.27	1.92	2.44	3.68
	50	1.34	0.32	0.49	0.62	0.94	1.42	2.14	2.72	4.11
	100	1.49	0.36	0.54	0.69	1.05	1.58	2.38	3.03	4.57

* Interpolated values from 1.4 and 1.6

Figure 2-1



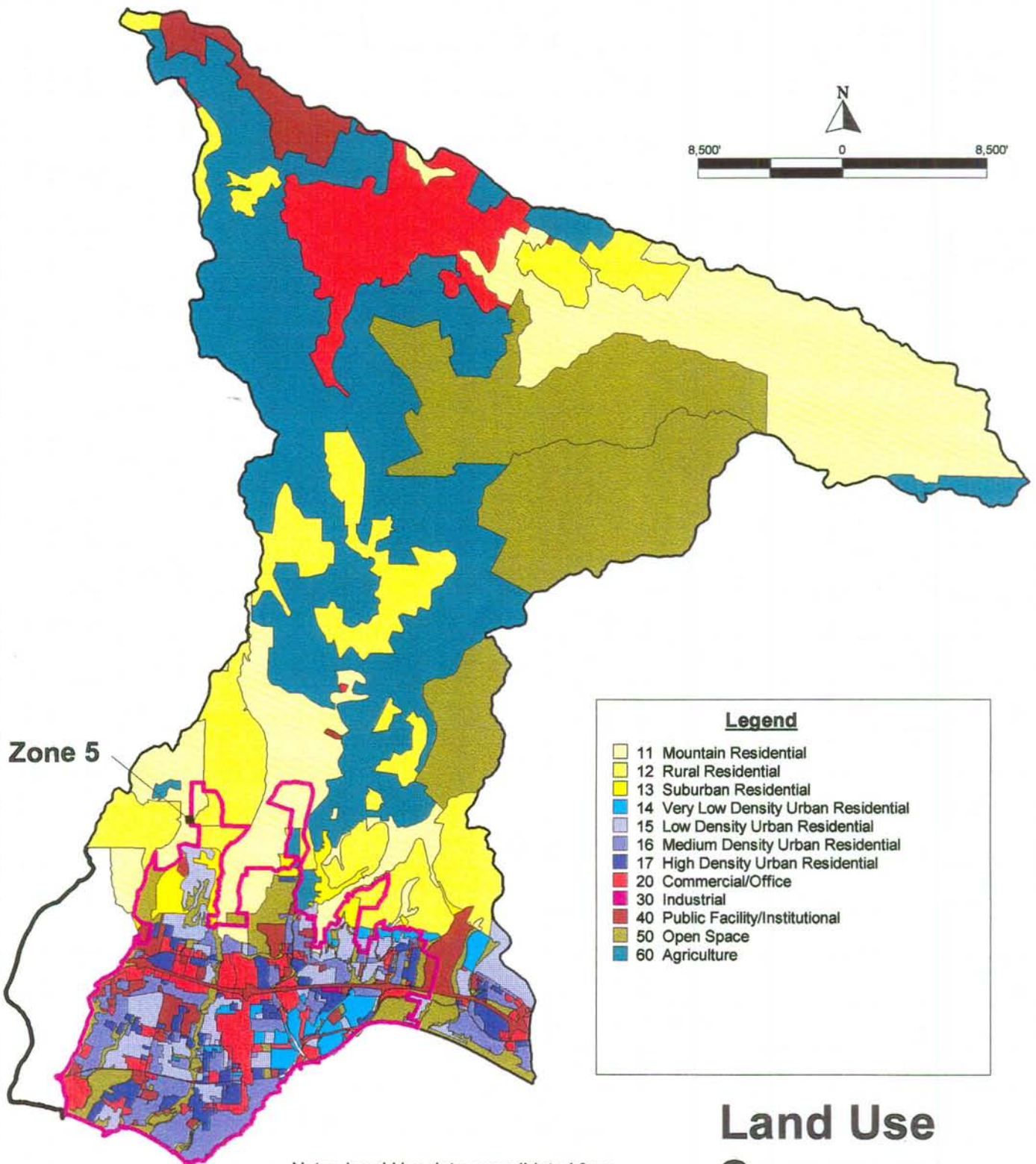
Land Use

Land use classifications for Zone 5 Watershed were obtained from County of Santa Cruz and City of Capitola digital land use files. Specific land use codes and classifications from the two sources differed and were too detailed for the purposes of this study. It was therefore decided to consolidate the data into a single land use map. The consolidated classifications are shown in Table 2-4 and the Land Use map used in the study is shown Figure 2-2.

Table 2-4 Land Use Classifications

County Land Use Code	City of Capitola Land Use Code	Master Plan Land Use Code	Description
R-M		11	Mountain Residential
R-R		12	Rural Residential -
R-S		13	Suburban Residential
R-UVL		14	Urban Very Low Density Residential
	R-1	14	Urban Very Low Density Residential
R-UL		15	Urban Low Density Residential
R-UM		16	Urban Medium Density Residential
R-UH		17	Urban High Density Residential
C-S		20	Commercial
C-V		20	Commercial
C-C		20	Commercial
C-O		20	Commercial
C-N		20	Commercial
P		40	Public Facility/Institutional
O-U		50	Open Space
O-L		50	Open Space
P/OS		50	Open Space
O-C		50	Open Space
O-R		50	Open Space
AG		60	Agriculture

Figure 2-2



Note: Land Use data consolidated from County of Santa Cruz and City of Capitola digital land use files.

Losses

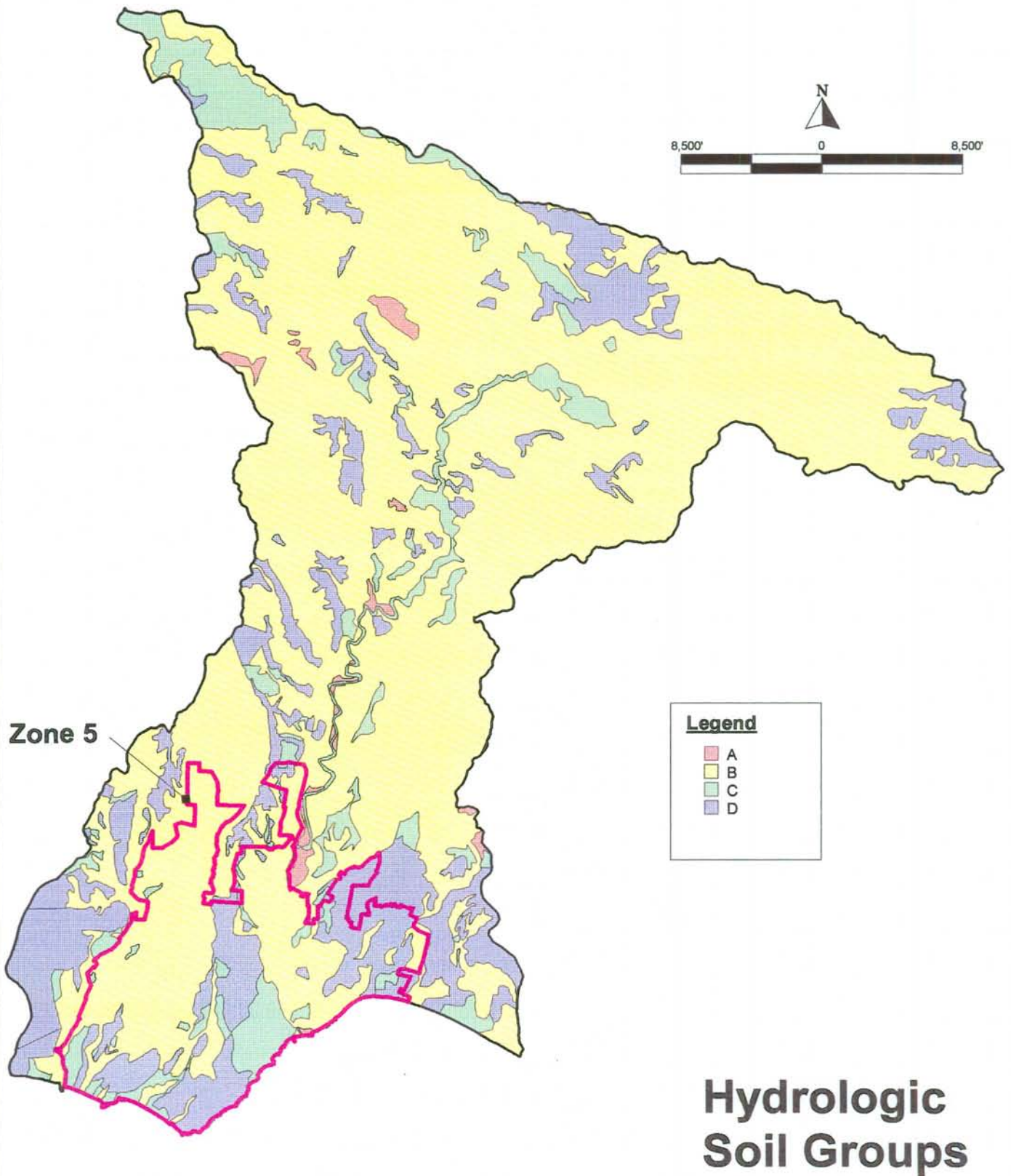
Rainfall losses within Zone 5 of the County of Santa Cruz are modeled using the SCS Curve Number (CN) approach. The CN concept provides flexibility in the representation of various combinations of land use, hydrologic soil groups and character of cover on pervious surfaces.

The TR-55 manual, which describes the SCS procedure in detail, provides representative CN values that were used as a guide for this project. Table 2-5 summarizes CN values and land use codes adopted for this study and compares them to TR-55 values. A map of the hydrologic soil groups consolidated from a digital soils map provided by the County is shown in Figure 2-3. The specific Curve Number for each drainage area is derived from a weighted average of each land use and soil group within each drainage area.

Table 2-5 SCS Curve Numbers

Land Use Code	Description	Residential Density	Curve Number for Hydrologic Soil Group			
			A	B	C	D
Storm Water Master Plan Values						
11	Mountain Residential	0.025 - 0.1 Units per acre	43	65	76	82
12	Rural Residential	0.05 - 0.4 Units per acre	46	65	77	82
13	Suburban Residential	0.2 - 1.0 Units per acre	49	69	79	84
14	Urban Very Low Density Residential	1.0 - 4.3 Units per acre	56	72	81	86
15	Urban Low Density Residential	4.4 - 7.2 Units per acre	69	80	87	90
16	Urban Medium Density Residential	7.3 - 10.8 Units per acre	77	85	90	92
17	Urban High Density Residential	10.9 - 17.4 Units per acre	81	88	91	93
20	Commercial		89	92	94	95
40	Public Facility/Institutional		81	88	91	93
50	Open Space		49	69	79	84
60	Agriculture		36	60	73	79
TR-55 Values						
	Urban Open Space		49	69	79	84
	Urban Districts					
	Commercial and Business		89	92	94	95
	Industrial		81	88	91	93
	Residential Districts					
	1/8 acre or less		77	85	90	92
	1/4 acre		61	75	83	87
	1/3 acre		57	72	81	86
	1/2 acre		54	70	80	85
	1 acre		51	68	79	84
	2 acre		46	65	77	82

Figure 2-3



Runoff

Runoff is computed using the HEC-1 model and, more specifically, the kinematic wave overland flow plane runoff computation option. This methodology uses overland flow planes to simulate basin response. A single overland flow plane is utilized to represent runoff from each drainage area and the modeling assumes that the overland flow portion has a uniform slope.

Typical overland flow planes were developed for each land use. The specific basin representation assigned to a sub basin in the model is determined based on the weighted average of the land use within the individual sub basin. A summary of overland flow parameters as a function of land use used in the modeling process is shown in Table 2-6.

Table 2-6 Overland Flow Parameters

Land Use Code	Description	Overland Flow Parameters		
		Length	Slope	Roughness
11	Mountain Residential	300	0.01	0.4
12	Rural Residential	300	0.01	0.4
13	Suburban Residential	300	0.01	0.3
14	Urban Very Low Density Residential	300	0.01	0.2
15	Urban Low Density Residential	300	0.01	0.2
16	Urban Medium Density Residential	100	0.01	0.2
17	Urban High Density Residential	50	0.01	0.2
20	Commercial	50	0.01	0.2
40	Public Facility/Institutional	100	0.01	0.2
50	Open Space	300	0.01	0.4
60	Agriculture	300	0.01	0.4

Hydraulic Analysis

Hydraulic calculations in this application use the Manning's equation for estimating conveyance capacity.

$$Q = (1.486/n)(A)(R^{2/3})(S^{1/2}) \quad \text{Where:} \quad \begin{array}{l} A = \text{Area in square feet} \\ R = \text{Hydraulic radius in feet} \\ S = \text{Slope in feet/feet} \end{array}$$

n = Manning's roughness factor

Areas for pipes and boxes were calculated from the section dimensions. For natural channels, cross sections were taken at assumed typical sections and the areas were calculated based on an assumed depth in the cross section.

The hydraulic radius includes the area and the wetted perimeter. The wetted perimeters for pipes and boxes were calculated from the section dimensions. For natural channels, the wetted perimeter was calculated for the section and assumed depth used for the area calculations.

Slopes were developed from invert elevations where the inverts were available. Otherwise ground elevations taken from available topographic maps were used.

Manning's n values were used in accordance with the section type as shown in Table 2-7.

Table 2-7 Manning's n Values

Section	n
RCP	0.015
Concrete Box	0.013
CMP	0.024
Natural Channel	0.035

Roads and Right of Way

The hydraulic capacity of a roadway and right of way is based on typical roadway widths for a given right of way assuming:

- Curb line to property line cross slope is 2.08%.
- Street cross slope is 2.0% for streets.
- The gutter cross slope is assumed to be equal to the street cross slope.
- All curb heights are 6".
- Manning's n for street (curb to curb) is 0.016.
- Manning's n for curb to edge of right of way is 0.019.
- Total section capacity is calculated by summing the capacities of individual sections.

Given the above assumptions, the formula for the roadway and right of way capacity can be reduced to:

$$Q_{road} = K_{road} S^{1/2}$$

$$Q_{row} = K_{row} S^{1/2} \quad \text{Where:}$$

Q = Capacity of roadway or right of way in cfs
S = Roadway Slope in feet/feet
K_{road} = Roadway conveyance coefficient as provided in Table 2-8.
K_{row} = Right of way conveyance coefficient as provided in Table 2-8.

Table 2-8 Conveyance Coefficients for Roads and Right of Way

Right of Way (feet)	K Road	K ROW
<10	-	-
10 - <20	220	220
20 - <30	316	376
30 - <40	367	538
40 - <50	446	683
50 - <60	462	892
60 - <80	446	601
80 - <100	428	974
100 - <120	428	967
>120	428	1474

3. Existing Conditions

Major Basins

The watershed for Zone 5 in the County of Santa Cruz was divided into 7 major drainage basins as shown in Figure 3-1. The boundaries were delineated from contour maps provided by the County. For areas contributing runoff outside Zone 5, USGS topographic maps were used.

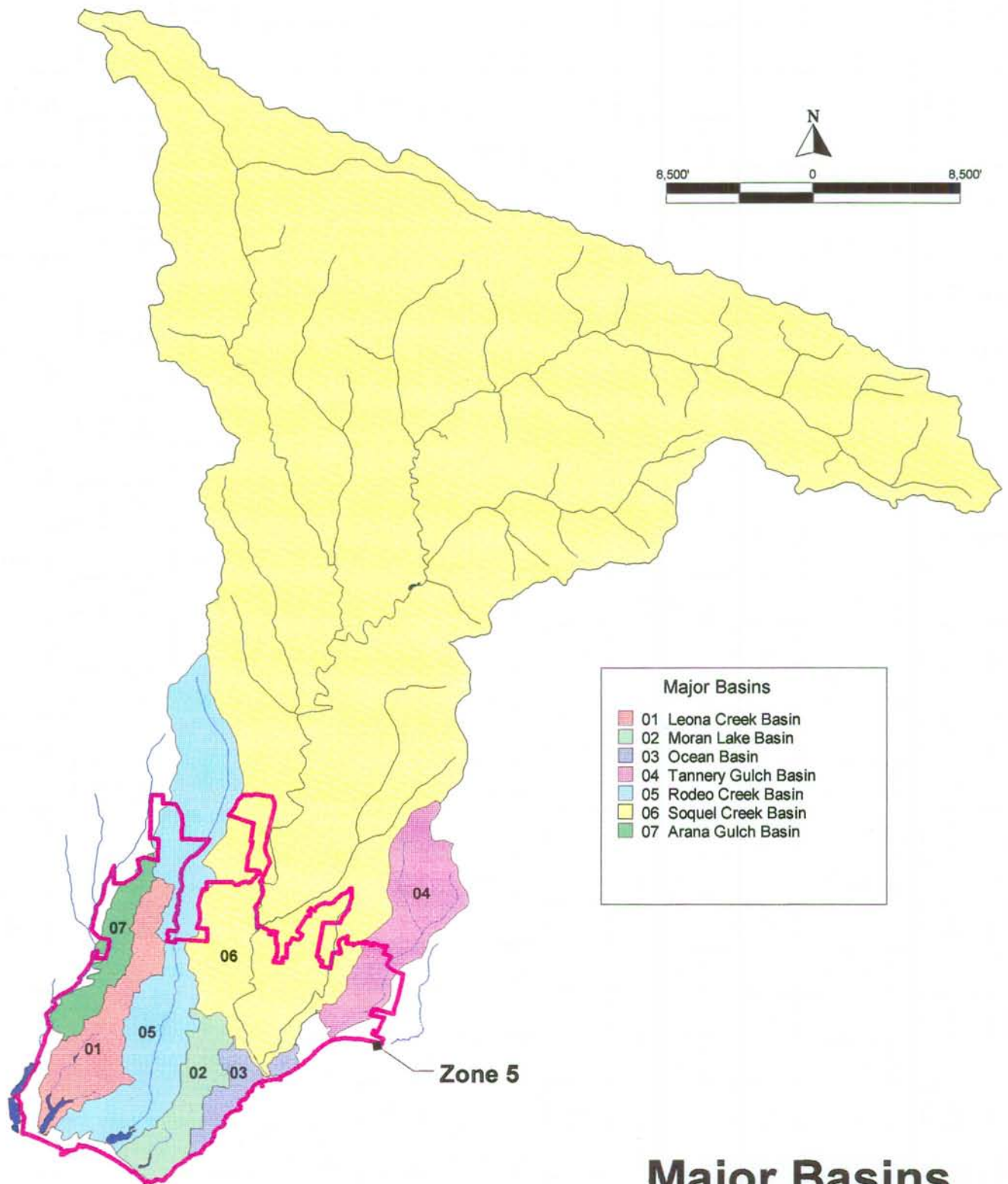
Within each major basin, sub-basins were established for drainage areas contributing runoff to an analysis node. In general, except for areas outside of Zone 5, the sub-basin areas were kept to less than 25 acres. Four atlas sheets were developed to show sub-basin areas, analysis nodes and the modeled drainage system. Because these maps will be referenced a number of times, they have been included at the back of this report.

The significant parameters that characterize a drainage area's contribution to runoff are the land use and the hydrologic soil group. Maps for these parameters have been described in Section 2 of this report. Generally the soil groups A and B absorb more rainfall and hence have less runoff. In addition, the lower density land use groups, 11 through 13 will have less paved areas and will consequently contribute less runoff. Table 3-1 summarizes relevant data for each of the major basins by providing a percentage of hydrologic soil group and land use category in each basin. The combination of these two provide an indication of the runoff that will be generated from these basins.

Table 3-1 Land Use and Soils Summary

Characteristic	Code	Major Basin						
		01	02	03	04	05	06	07
Area in Acres		797	546	227	1,006	2,109	27,164	429
Hydrologic Soil Group Percent of Total in Basin	A			0.7	2.4		1.0	
	B	87.1	10.2	15.1	51.6	74.6	79.5	95.6
	C	1.4	22.0	67.2	6.4	5.3	8.3	4.4
	D	11.5	67.8	17.0	39.6	20.1	12.2	
Land Use Percent of Total in Basin	11				5.4	16.9	20.8	1.6
	12				58.1	30.8	10.1	
	13	1.9			1.5	3.3	0.6	20.0
	14		5.7	31.0	4.7	0.8	0.5	
	15	33.9	10.3	6.6	1.5	10.7	0.9	9.3
	16	16.8	35.9	34.7	4.9	11.4	0.7	13.5
	17	9.7	17.0	5.2	3.4	6.2	0.4	7.7
	20	12.7	26.0	16.2	3.7	7.5	7.8	11.4
	30						0.0	
	40	6.3	1.8	1.8	9.6	5.4	2.7	26.1
	50	18.8	3.3	4.4	7.3	6.9	22.6	10.3
	60					0.1	32.9	

Figure 3-1



Major Basins

Conveyance Facilities

Major drains for Zone 5 were delineated from existing GIS data and topographic maps. The sections included pipes, boxes, natural channels, roadways and ditches. Each drainage section was assigned a unique ID and is referenced on the Modeled Storm Water Sheets at the back of this report. Conveyance capacities were developed for each of the sections that fell within Zone 5 with the exception of roadways, ditch sections and the Soquel Creek

All of the relevant data for each modeled section, together with the results of the hydrological and hydraulic analysis are contained in the Conveyance Facilities reports included with the Modeled Storm Water Sheets at the back of this report. These reports and the maps, form the foundation for this master plan and are located at the back for frequent reference.

Table 3-2 summarizes the conveyance facility lengths for each section type that is within each of the major basins and also within Zone 5. Table 3-3 summarizes existing level of protection.

Table 3-2 Conveyance Length in Feet

Section	Major Basin							Total
	01	02	03	04	05	06	07	
Pipe	19,152	13,699	9,057	3,235	18,869	23,930	10,375	98,317
Box	920	4,109		430	311	1,593		7,363
Natural Channel	18,507	4,771	75	6,487	22,442	42,927	10,489	105,698
Roadway	478			4,900		1,489	304	7,171
Total	39,057	22,579	9,132	15,052	41,622	69,939	21,168	218,549

Table 3-3 Existing Level of Protection

Return Period	Major Basin							All Basins
	01	02	03	04	05	06	07	
2 Year	97	94	75	65	96	94	95	92
5 year	89	84	71	65	96	92	88	88
10 Year	80	76	56	63	87	83	81	80
25 year	73	68	42	48	68	65	64	65
50 year	63	62	42	47	56	58	63	58
100 year	58	41	22	44	34	45	62	46

Note: The values represent the percent of sections within a major basin with a capacity greater than the return period

It can be seen from Table 3-3 that about 80% of the system has a level of protection greater than the design storm of 10 years and over 90% of the system has at least a 2 year protection.

Table 3-4 provides a summary of sections with a capacity less than the design standard of 10 years.

Table 3-4 Sections With Less Than Design Standard

Less Than 2 Year Capacity										
Section							Design Discharge (cfs)			Section Capacity (cfs)
ID	Type	Length	Slope	No	Size/Depth	Base	Q2	Q5	Q10	
010036-010040	Roadway	478	0.0209				6	14	21	
013210-013215	Pipe	455	0.0055		12		3	5	6	3
020152-020160	Box	99	0.0101	1	1	12	180	337	452	82
020700-020710	Pipe	486	0.0268		15		11	18	23	11
020814-020815	Pipe	487	0.0017		24		10	17	23	9
020910-020920	Pipe	256	0.0042		18		9	16	21	7
030010-030020	Pipe	914	0.0067		18		9	14	18	9
030020-030030	Pipe	72	0.0825		12		11	21	28	10
030115-030116	Pipe	1260	0.0059		21		12	21	27	12
040060-040070	Roadway	1447					40	98	154	
040070-040080	Roadway	493					82	183	275	
040080-040090	Roadway	665					85	193	293	
040400-040320	Roadway	964	0.0417				2	4	6	
040600-040070	Roadway	861		1			9	15	20	
040700-040080	Roadway	470					3	8	12	
050720-050722	Pipe	241	0.006	1	18		10	16	21	8
051700-051710	Pipe	859	0.0121	1	18		18	31	42	12
051710-051712	Pipe	183	0.0126		21		24	42	55	18
061702-061550	Pipe	531	0.0025		12		2	6	8	2
062200-060210	Pipe	711	0.0034	1	18		7	13	17	6
062800-062810	Roadway	888	0.0552				1	2	4	
064002-064010	Roadway	601					1	3	5	
064010-064020	Pipe	865	0.0035	1	18		7	16	25	6
070050-070060	Roadway	304	0.0164				21	49	75	
073000-073005	Pipe	409	0.0163		15		10	18	24	8
075102-075110	Pipe	364	0.0028	1	18		6	10	13	6

Table 3-4 Sections With Less Than Design Standard (cont'd)

Greater Than 2 Year and Less Than 5 Year Capacity										
Section							Design Discharge (cfs)			Section Capacity (cfs)
ID	Type	Length	Slope	No	Size/Depth	Base	Q2	Q5	Q10	
010075-010080	Pipe	96	0.0052	1	30		20	45	67	30
010225-010230	Box	101	0.0198	1	3	4	112	238	330	174
011410-010165	Pipe	503	0.0428	1	12		5	9	12	7
011710-011720	Pipe	356	0.0042	1	15		3	6	8	4
012020-012022	Pipe	195	0.0185	1	24		19	33	42	31
013215-013220	Pipe	178	0.0032		15		3	5	6	4
013220-013050	Pipe	1371	0.0158		18		7	13	18	13
020090-020092	Box	934	0.0058	1	4	6	111	208	283	128
020800-020802	Pipe	352	0.005		15		4	6	8	5
020900-020910	Pipe	1004	0.0066		18		7	12	15	9
030200-030210	Pipe	136	0.1714	1	12		9	15	20	15
031100-031102	Pipe	157	0.0039		21		5	11	16	10
031102-031110	Pipe	21	0.0038		21		5	11	16	10
051415-051416	Pipe	75	0.0067	1	24		17	32	43	19
063430-063440	Pipe	65	0.0462	1	18		16	35	52	23
063500-063430	Pipe	320	0.0063		18		4	8	12	8
063600-063602	Pipe	147	0.0122		12		2	4	6	4
064020-064022	Pipe	161	0.0135	1	18		9	21	33	12
073010-073020	Pipe	479	0.0162		30		31	52	68	52
073025-073030	Pipe	529	0.034	1	30		46	76	99	76
073100-073105	Pipe	82	0.0174		18		8	14	18	14
075110-075112	Pipe	209	0.0269	1	16		11	19	25	13

Table 3-4 Sections With Less Than Design Standard (cont'd)

Greater Than 5 Year and Less Than 10 Year Capacity										
Section							Design Discharge (cfs)			Section Capacity (cfs)
ID	Type	Length	Slope	No	Size/Depth	Base	Q2	Q5	Q10	
010140-010142	Pipe	39	0.0051	1	54		52	115	168	141
010152-010155	Pipe	110	0.0091	1	66		72	149	211	174
010155-010160	Pipe	254	0.0079	1	66		74	154	219	162
010166-010167	Pipe	51	0.0059	1	60		80	167	239	200
011210-010120	Pipe	282	0.0043	1	24		8	14	18	15
011310-010150	Pipe	536	0.0226	1	18		8	14	17	16
011720-010725	Pipe	322	0.0178	1	15		4	8	10	9
012010-012020	Pipe	497	0.0165	2	18		15	25	31	27
013022-013110	Pipe	50	0.0042	1	24		8	14	19	15
013110-013112	Pipe	180	0.0049	1	30		10	22	32	29
020074-020080	Pipe	518	0.0055	1	60		88	164	222	193
020092-020100	Box	281	0.0036		4	8	111	208	283	266
020102-020110	Pipe	126	0.0055		66		120	226	306	249
020400-020404	Pipe	321	0.005		24		6	13	18	16
020600-020602	Pipe	209	0.0033		24		7	12	16	13
020610-020612	Pipe	268	0.0033		36		21	37	49	38
030100-030110	Pipe	930	0.0069	1	20		5	9	12	12
030410-030420	Pipe	420	0.0012	1	42		11	24	35	35
040040-040045	Pipe	184	0.0027	1	54		35	90	140	102
050710-050112	Pipe	179	0.0121		30		26	43	56	45
050800-050802	Pipe	180	0.0028	1	36		13	26	37	35
050804-050805	Pipe	40	0.0125	2	21		13	26	37	35
051200-051203	Pipe	347	0.0052		27		11	21	28	22
051300-051308	Pipe	476	0.0061	1	21		5	9	13	12
051410-051414	Pipe	369	0.0263	1	24		17	32	43	37
051712-051716	Pipe	43	0.0384		24		24	42	55	44
062400-060402	Pipe	471	0.0406		15		6	10	14	13
062700-062702	Pipe	924	0.0054	1	18		3	6	8	8
063120-060270	Pipe	1539	0.0065		72		97	226	348	342
063244-063250	Pipe	69	0.0159		36		28	64	97	84
063730-063732	Pipe	299	0.0368	1	24		14	31	46	43
064022-063120	Pipe	77	0.039	1	24		9	21	33	24
070060-070070	Pipe	1029	0.0583	1	24		23	54	84	55
075100-075102	Pipe	383	0.0141	1	18		6	10	13	13

4. Facility Management System

System Overview

An integrated Facilities Management System has been developed on a Personal Computer (PC) to consolidate all information developed in this Storm Drain Master Plan. Details of the system are provided the User's Manual submitted with this report. The Facility Management System consists of data, model and Geographic Information System (GIS) integration as shown below.

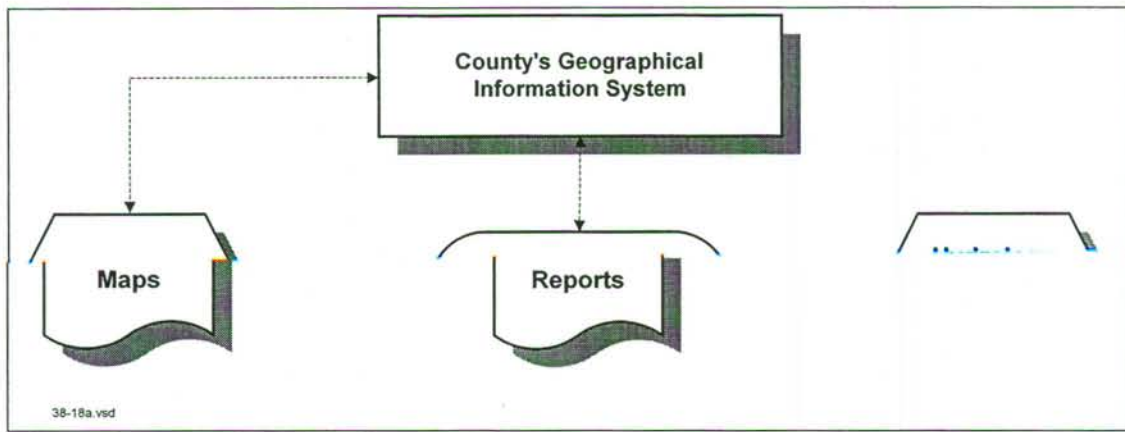


Figure 4.1 System Integration

By managing all data in an organized fashion, including data for system modeling, proposed improvements and cost estimates, systems can be analyzed as conditions change, and revised facility upgrades, cost estimates and capital improvement programs can be generated.

A major consideration in the use of the Facilities Management System is its integration with the County's central GIS. Data available on the central system has been downloaded for use in this study and results generated by the Management System can be uploaded to the central GIS. The integrated Facilities Management System has an open environment. As new analysis is required, additional tables can be prepared and linked to current data.

The System provides a user-friendly environment that allows users with varying levels of experience to access existing information and analyze new conditions. To run the model, the user should have an understanding of the model. A number of reports have been automated in the application. However the reports can be exported into spreadsheet or word processing format to develop custom reports.

5. Proposed Improvements

Sub-Standard Sections

The Existing Conditions chapter of this report documented a number of conveyance facilities that do not meet current standards. This does not mean that all of these facilities should be upgraded. Normally retrofitting existing facilities is carried out if there are frequent complaints about flooding in the area. Rather than recommending specific improvements, conveyance upgrades and cost estimates have been prepared for sub-standard sections. The improvements provide either an upgrade or replacement of an existing system with a new conduit at the same grade and the same alignment. Unit rates used in the analysis are provided in Table 5-1 and the estimated upgrade size and cost is provided in Table 5-2. A map of the sub-standard sections is provided in Figure 5-1. The work was carried out in the Facilities Management System to facilitate any changes the County may want to make in the future.

The improvements are an indication of required upgrades but should be looked at carefully before proceeding with any improvements.

Table 5-1 Unit Cost Rates

Item	Size		Unit	Rate (\$/Unit)
Contingency			%	10.00
Management			%	20.00
Inch Diameter of Pipe			LF	3.00
Channel Earthworks			CY	5.00
Channel Lining			SY	20.00
Pipe	18.00	Inches	LF	54.00
Pipe	21.00	Inches	LF	63.00
Pipe	24.00	Inches	LF	72.00
Pipe	30.00	Inches	LF	90.00
Pipe	36.00	Inches	LF	108.00
Pipe	42.00	Inches	LF	126.00
Pipe	48.00	Inches	LF	144.00
Pipe	54.00	Inches	LF	162.00
Pipe	60.00	Inches	LF	180.00
Pipe	66.00	Inches	LF	198.00
Pipe	72.00	Inches	LF	216.00
Box 4' Wide	3.00	Feet	LF	145.00
Box 5' Wide	4.00	Feet	LF	200.00

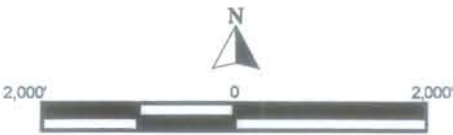
Table 5-2 Sub-Standard Improvements Cost Estimate

ID	Item	Size		Quantity (feet)	Construction (\$)	Contingency (\$)	Mgm't (\$)	Total (\$)
010036-010040	Pipe	24.00	Inches	478	34,416	3,442	6,883	44,741
010075-010080	Pipe	36.00	Inches	96	10,368	1,037	2,074	13,479
010225-010230	4' Box	3.00	Feet	101	14,645	1,465	2,929	19,039
011410-010165	Pipe	18.00	Inches	503	27,162	2,716	5,432	35,310
011710-011720	Pipe	18.00	Inches	356	19,224	1,922	3,845	24,991
012020-012022	Pipe	18.00	Inches	195	10,530	1,053	2,106	13,689
013210-013215	Pipe	18.00	Inches	455	24,570	2,457	4,914	31,941
013215-013220	Pipe	18.00	Inches	178	9,612	961	1,922	12,495
013220-013050	Pipe	18.00	Inches	1371	74,034	7,403	14,807	96,244
SubTotal Basin 01				3,733	224,561	22,456	44,912	291,929
020090-020092	5' Box	4.00	Feet	934	186,800	18,680	37,360	242,840
020152-020160	Pipe	72.00	Inches	99	21,384	2,138	4,277	27,799
020700-020710	Pipe	18.00	Inches	486	26,244	2,624	5,249	34,117
020800-020802	Pipe	18.00	Inches	352	19,008	1,901	3,802	24,711
020814-020815	Pipe	30.00	Inches	487	43,830	4,383	8,766	56,979
020900-020910	Pipe	18.00	Inches	1004	54,216	5,422	10,843	70,481
020910-020920	Pipe	24.00	Inches	256	18,432	1,843	3,686	23,961
SubTotal Basin 02				3,618	369,914	36,991	73,983	480,888
030010-030020	Pipe	18.00	Inches	914	49,356	4,936	9,871	64,163
030020-030030	Pipe	18.00	Inches	72	3,888	389	778	5,055
030115-030116	Pipe	24.00	Inches	1260	90,720	9,072	18,144	117,936
030200-030210	Pipe	18.00	Inches	136	7,344	734	1,469	9,547
031100-031102	Pipe	18.00	Inches	157	8,478	848	1,696	11,022
031102-031110	Pipe	18.00	Inches	21	1,134	113	227	1,474
SubTotal Basin 03				2,560	160,920	16,092	32,185	209,197
040040-040045	Pipe	42.00	Inches	184	23,184	2,318	4,637	30,139
040060-040070	Pipe	60.00	Inches	1447	260,460	26,046	52,092	338,598
040070-040080	Pipe	72.00	Inches	493	106,488	10,649	21,298	138,435
040080-040090	Pipe	72.00	Inches	665	143,640	14,364	28,728	186,732
040080-040090	Pipe	72.00	Inches	665	143,640	14,364	28,728	186,732
040400-040320	Pipe	18.00	Inches	964	52,056	5,206	10,411	67,673
040600-040070	Pipe	24.00	Inches	861	61,992	6,199	12,398	80,589
040700-040080	Pipe	18.00	Inches	470	25,380	2,538	5,076	32,994
SubTotal Basin 04				5,749	816,840	81,684	163,368	1,061,892

Table 5-2 Sub-Standard Improvements Cost Estimate (Cont'd)

ID	Item	Size		Quantity (feet)	Construction (\$)	Contingency (\$)	Mgm't (\$)	Total (\$)
050720-050722	Pipe	24.00	Inches	241	17,352	1,735	3,470	22,557
051415-051416	Pipe	30.00	Inches	75	6,750	675	1,350	8,775
051700-051710	Pipe	30.00	Inches	859	77,310	7,731	15,462	100,503
051710-051712	Pipe	30.00	Inches	183	16,470	1,647	3,294	21,411
SubTotal Basin 05				1,358	117,882	11,788	23,576	153,246
061102-061104	Pipe	18.00	Inches	121	6,534	653	1,307	8,494
061702-061550	Pipe	18.00	Inches	531	28,674	2,867	5,735	37,276
062200-060210	Pipe	24.00	Inches	711	51,192	5,119	10,238	66,549
062800-062810	Pipe	18.00	Inches	888	47,952	4,795	9,590	62,337
063430-063440	Pipe	21.00	Inches	65	4,095	410	819	5,324
063600-063602	Pipe	18.00	Inches	147	7,938	794	1,588	10,320
064002-064010	Pipe	18.00	Inches	601	32,454	3,245	6,491	42,190
064010-064020	Pipe	30.00	Inches	865	77,850	7,785	15,570	101,205
064020-064022	Pipe	24.00	Inches	161	11,592	1,159	2,318	15,069
SubTotal Basin 06				4,090	268,281	26,827	53,656	348,764
070050-070060	Pipe	36.00	Inches	304	32,832	3,283	6,566	42,681
073000-073005	Pipe	18.00	Inches	409	22,086	2,209	4,417	28,712
075102-075110	Pipe	24.00	Inches	364	26,208	2,621	5,242	34,071
075110-075112	Pipe	18.00	Inches	209	11,286	1,129	2,257	14,672
SubTotal Basin 07				1,286	92,412	9,242	18,482	120,136
Total Zone 5				22,394	2,050,810	205,080	410,162	2,666,052

County of Santa Cruz
Zone 5



LEGEND

- Existing Drain
- Sub-Standard Section

Figure 5-1

Sub-Standard Sections

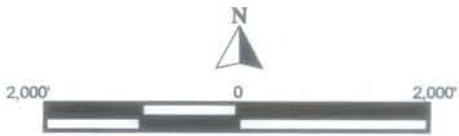
County's Current CIP

A list of planned and unplanned CIP projects was provided by County staff. The list is shown in Table 5-3 with their locations shown in Figure 5-2. This list should be reviewed by County staff in conjunction with the sub-standard sections detailed in Table 5-2 and Figure 5-1.

Table 5-3 County's Current CIP

CIP No	Program	Description	Estimate (\$)
D3001	U	41st Ave, SPRR crossing to Monterey Bay	315,000
D3002	U	Gross Rd/ Coffee Ln to Rodeo Gulch	85,000
D3003	U	Corcoran Ave, north end to Portola Dr	85,000
D3004	U	Soquel Ave, Mattison Ln to Rodeo Gulch	170,000
D3005	U	Mission Dr/Soquel Dr./Commercial Way Area	80,000
D3006	U	Capitola Rd/ Clares St/ Deanes Ln to Rodeo Gulch.	45,000
D3007	U	Soquel Ave, @ Arana Gulch	110,000
D3012	U	Gross Rd to Rodeo Gulch	70,000
D3013	U	Kinsley St Chanticleer Ave to 17th Ave	260,000
D3014	U	Portola Dr @ 32nd Ave	110,000
D3015	U	Volz Ln, end of road to channel	65,000
D3016	U	Bostwick Ln, roadway to Areal Gulch	182,000
D3021	U	33rd Ave, Hawes Dr to East Cliff Dr	325,000
D3022	U	Dee St near Thompson Ave	25,000
D3023	U	Roland Dr @ 32nd Ave	45,000
D6501	U	Monterey Ave downstream improvements.	70,000
D6502	U	Mulberry Ln erosion control.	25,000
D6503	U	Cory St to Highway 1	135,000
D6504	U	Rosedale Ave./Orchard St./Hihn ROW	195,000
D6520	P	Monterey Ave., City of Capitola (Design done by Bowman & Williams)	55,000
D9001	U	Noble Gulch; Bay Ave to Soquel Creek.	535,000
D9002	U	Capitola Esplanade pump system.	160,000
Total			3,147,000

County of Santa Cruz
Zone 5
1998-1999 CIP



LEGEND

- Programmed Project
- Unprogrammed Project
- Roadway Reach
- Channel
- Pipe/Culvert

Figure 5-2

Programmed and
Unprogrammed Projects

6. NPDES

General Requirements

The National Pollution Discharge Elimination System (NPDES) was mandated in the Clean Water Act. NPDES initially targeted the direct discharge of pollutants to waters of the United States, primarily municipal and industrial waste. Program authorities have been expanded and phased to now include stormwater discharge. The first phase of the stormwater program targeted urbanized areas with population of 100,000 or larger. The Environmental Protection Agency (EPA) issued a draft rule on January 9, 1998 for the Proposed Phase II Regulations.

NPDES Phase II will:

- Impact all municipalities under 100,000 located within urbanized areas (Bureau of Census definition of urbanized area).
- Be mandatory for all designated local governments.
- Be effective May 2002.

The minimal proposed regulations will require:

- Community education on how stormwater runoff discharges impact water quality.
- All public notice requirements be met.
- An operator of a municipal storm sewer system to develop a storm sewer map showing major pipes, outfalls, topography and areas likely to be sources of storm water pollution.
- An ordinance, order or similar means to prohibit illicit discharges into the storm sewer system.
- Public employees, businesses and general public be informed of the hazards of illegal discharges and improper disposal of wastes.
- Construction activities disturbing more than one acre must develop a sediment control plan.
- New developments comply with stormwater management practices (Quality and Quantity).
- Employment of above mentioned practices for municipal operations.

Local municipalities will be responsible for the mandate, both financially and operationally. Permit applications are tentatively due May 2002. The permits, individual or general, will be filed with the Environmental Protection Agency.

County of Santa Cruz
Modeled
Stormwater System



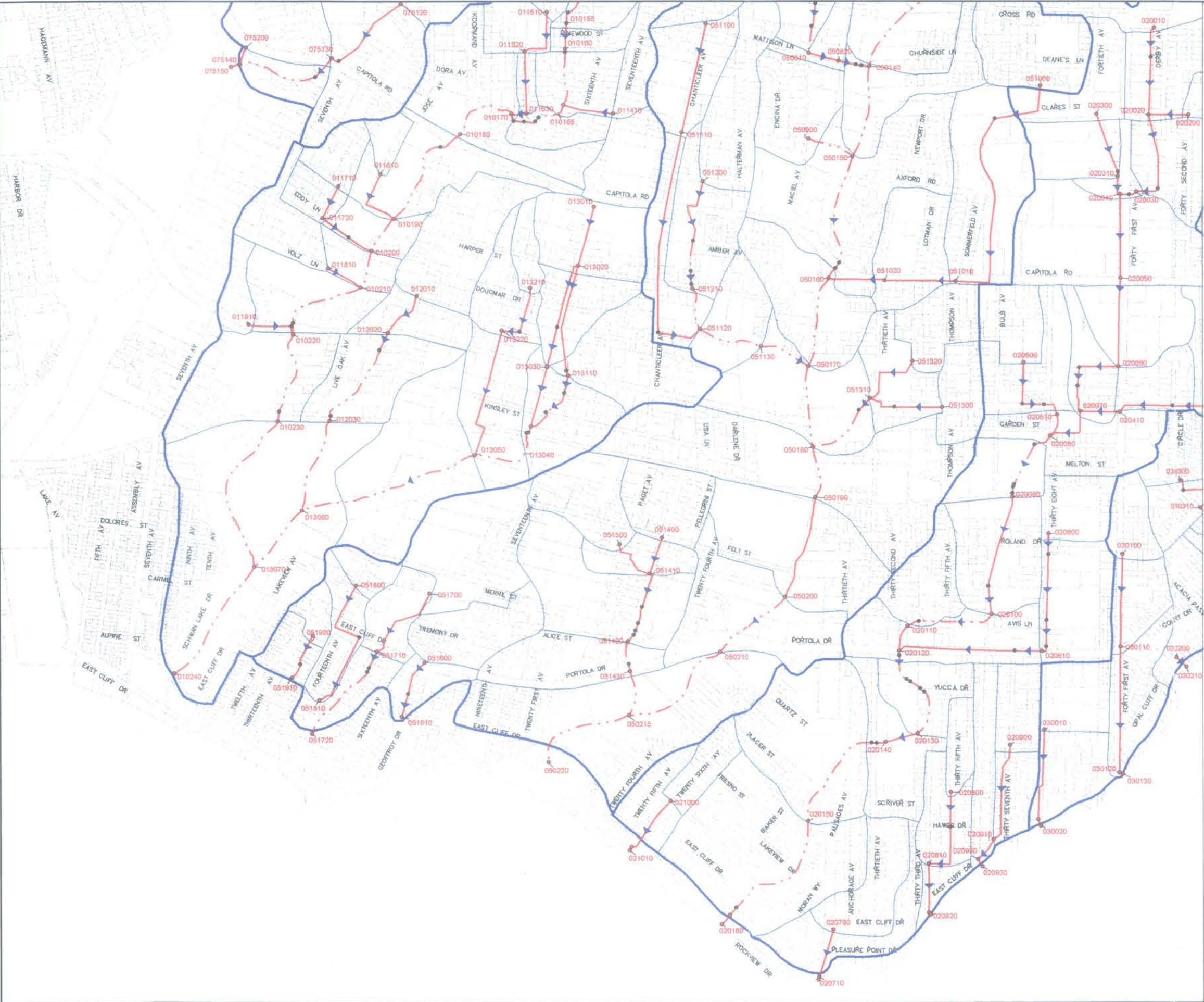
LEGEND

- Analysis Node
- Storage Basin
- Basin Boundary
- Drainage Area
- - - Roadway Reach
- . - Channel
- Pipe/Culvert

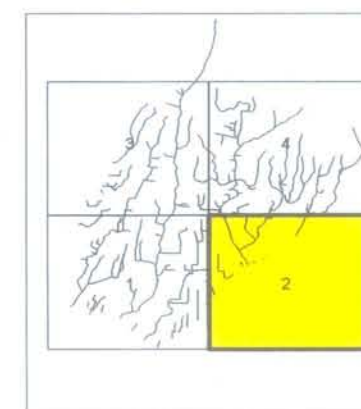


Map Index

Map 1



- Analysis Node
- Storage Basin
- Basin Boundary
- Drainage Area
- Roadway Reach
- Channel
- Pipe/Culvert



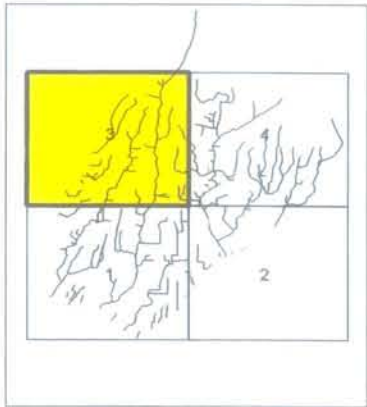
Map 2

County of Santa Cruz
Modeled
Stormwater System



LEGEND

- Analysis Node
- Storage Basin
- Basin Boundary
- Drainage Area
- - - Roadway Reach
- . - Channel
- Pipe/Culvert

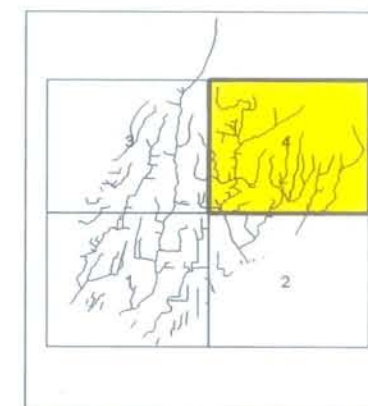


Map Index

Map 3

Figure 1 is a map of the study area. It shows a horizontal line with three points marked: '1000'' on the left, '0' in the center, and '1000'' on the right. Below this line is a shaded rectangular area representing the study site. Above the line, a north arrow points upwards, labeled 'N'.

- Analysis Node
- Storage Basin
- Basin Boundary
- Drainage Area
- Roadway Reach
- Channel
- Pipe/Culvert



Map Index

Map 4

Basin Wide Summary Reports

- Major Basins
- Unit Cost Rates
- Proposed Improvements
- Capital Improvement Plan
- Land Use
- Land Use Factors
- Rainfall Data

County of Santa Cruz
Stormwater Facilities Management System
Major Basins

Page 1

10/21/98

Code	Description
01	Leona Creek Basin
02	Moran Lake Basin
03	Ocean Basin
04	Tannery Gulch Basin
05	Rodeo Creek Basin
06	Soquel Creek Basin
07	Arana Gulch Basin
**	All Basins

County of Santa Cruz
Stormwater Facilities Management System
Unit Cost Rates

Page 1

10/21/98

Item	Size	Unit	Rate	Year
Contingency		%	10.00	1998
Management		%	20.00	1998
Inch Diameter of Pipe		LF	3.00	1998
Channel Earthworks		CY	5.00	1998
Channel Lining		SY	20.00	1998
Pipe	18.00 Inches	LF	54.00	1998
Pipe	21.00 Inches	LF	63.00	1998
Pipe	24.00 Inches	LF	72.00	1998
Pipe	30.00 Inches	LF	90.00	1998
Pipe	36.00 Inches	LF	108.00	1998
Pipe	42.00 Inches	LF	126.00	1998
Pipe	48.00 Inches	LF	144.00	1998
Pipe	54.00 Inches	LF	162.00	1998
Pipe	60.00 Inches	LF	180.00	1998
Pipe	66.00 Inches	LF	198.00	1998
Pipe	72.00 Inches	LF	216.00	1998
Box 4' Wide	3.00 Feet	LF	145.00	1998
Box 5' Wide	4.00 Feet	LF	200.00	1998

County of Santa Cruz
Stormwater Facilities Management System
Capital Improvement Plan

Page 1

10/21/98

ID	Item	FACILITY	Size	Quantity	Construction	COSTS		Mgm't	Total
Year: 2000									
010036-010040	Pipe		24.0 Inches	478 LF	34,416	3,442	6,883	44,741	
020152-020160	Pipe		72.0 Inches	99 LF	21,384	2,138	4,277	27,799	
010075-010080	Pipe		36.0 Inches	96 LF	10,368	1,037	2,074	13,479	
010225-010230	Box 4' Wide		3.0 Feet	101 LF	14,645	1,465	2,929	19,039	
011410-010165	Pipe		18.0 Inches	503 LF	27,162	2,716	5,432	35,310	
011710-011720	Pipe		18.0 Inches	356 LF	19,224	1,922	3,845	24,991	
012020-012022	Pipe		18.0 Inches	195 LF	10,530	1,053	2,106	13,689	
013210-013215	Pipe		18.0 Inches	455 LF	24,570	2,457	4,914	31,941	
013215-013220	Pipe		18.0 Inches	178 LF	9,612	961	1,922	12,495	
013220-013050	Pipe		18.0 Inches	1371 LF	74,034	7,403	14,807	96,244	
020090-020092	Box 5' Wide		4.0 Feet	934 LF	186,800	18,680	37,360	242,840	
020700-020710	Pipe		18.0 Inches	486 LF	26,244	2,624	5,249	34,117	
020800-020802	Pipe		18.0 Inches	352 LF	19,008	1,901	3,802	24,711	
020814-020815	Pipe		30.0 Inches	487 LF	43,830	4,383	8,766	56,979	
020900-020910	Pipe		18.0 Inches	1004 LF	54,216	5,422	10,843	70,481	
020910-020920	Pipe		24.0 Inches	256 LF	18,432	1,843	3,686	23,961	
				Subtotal	\$594,475	\$59,447	\$118,895	\$772,817	
Year: 2005									
040060-040070	Pipe		60.0 Inches	1447 LF	260,460	26,046	52,092	338,598	
040070-040080	Pipe		72.0 Inches	493 LF	106,488	10,649	21,298	138,435	
040080-040090	Pipe		72.0 Inches	665 LF	143,640	14,364	28,728	186,732	
040400-040320	Pipe		18.0 Inches	964 LF	52,056	5,206	10,411	67,673	
040600-040070	Pipe		24.0 Inches	861 LF	61,992	6,199	12,398	80,589	
040700-040080	Pipe		18.0 Inches	470 LF	25,380	2,538	5,076	32,994	
030010-030020	Pipe		18.0 Inches	914 LF	49,356	4,936	9,871	64,163	
030020-030030	Pipe		18.0 Inches	72 LF	3,888	389	778	5,055	
030115-030116	Pipe		24.0 Inches	1260 LF	90,720	9,072	18,144	117,936	
030200-030210	Pipe		18.0 Inches	136 LF	7,344	734	1,469	9,547	
031100-031102	Pipe		18.0 Inches	157 LF	8,478	848	1,696	11,022	
031102-031110	Pipe		18.0 Inches	21 LF	1,134	113	227	1,474	
040040-040045	Pipe		42.0 Inches	184 LF	23,184	2,318	4,637	30,139	
040080-040090	Pipe		72.0 Inches	665 LF	143,640	14,364	28,728	186,732	
				Subtotal	\$977,760	\$97,776	\$195,553	\$1,271,089	
Year: 2010									
051700-051710	Pipe		30.0 Inches	859 LF	77,310	7,731	15,462	100,503	
051710-051712	Pipe		30.0 Inches	183 LF	16,470	1,647	3,294	21,411	
061102-061104	Pipe		18.0 Inches	121 LF	6,534	653	1,307	8,494	
061702-061550	Pipe		18.0 Inches	531 LF	28,674	2,867	5,735	37,276	
062800-062810	Pipe		18.0 Inches	888 LF	47,952	4,795	9,590	62,337	
064002-064010	Pipe		18.0 Inches	601 LF	32,454	3,245	6,491	42,190	
064010-064020	Pipe		30.0 Inches	865 LF	77,850	7,785	15,570	101,205	
070050-070060	Pipe		36.0 Inches	304 LF	32,832	3,283	6,566	42,681	
073000-073005	Pipe		18.0 Inches	409 LF	22,086	2,209	4,417	28,712	
075102-075110	Pipe		24.0 Inches	364 LF	26,208	2,621	5,242	34,071	
050720-050722	Pipe		24.0 Inches	241 LF	17,352	1,735	3,470	22,557	
051415-051416	Pipe		30.0 Inches	75 LF	6,750	675	1,350	8,775	
062200-060210	Pipe		24.0 Inches	711 LF	51,192	5,119	10,238	66,549	
063430-063440	Pipe		21.0 Inches	65 LF	4,095	410	819	5,324	
063600-063602	Pipe		18.0 Inches	147 LF	7,938	794	1,588	10,320	
064020-064022	Pipe		24.0 Inches	161 LF	11,592	1,159	2,318	15,069	
075110-075112	Pipe		18.0 Inches	209 LF	11,286	1,129	2,257	14,672	
				Subtotal	\$478,575	\$47,857	\$95,714	\$622,146	
				Total	\$2,050,810	\$205,080	\$410,162	\$2,666,052	

County of Santa Cruz
Stormwater Facilities Management System
Proposed Improvements

Page 1

10/21/98

ID	Item	FACILITY	Size	Quantity	Construction	COSTS		Mgm't	Total
						Contingency			
01	Leona Creek Basin								
010036-010040	Pipe		24.0 Inches	478 LF	34,416	3,442	6,883	44,741	
010075-010080	Pipe		36.0 Inches	96 LF	10,368	1,037	2,074	13,479	
010225-010230	Box 4' Wide		3.0 Feet	101 LF	14,645	1,465	2,929	19,039	
011410-010165	Pipe		18.0 Inches	503 LF	27,162	2,716	5,432	35,310	
011710-011720	Pipe		18.0 Inches	356 LF	19,224	1,922	3,845	24,991	
012020-012022	Pipe		18.0 Inches	195 LF	10,530	1,053	2,106	13,689	
013210-013215	Pipe		18.0 Inches	455 LF	24,570	2,457	4,914	31,941	
013215-013220	Pipe		18.0 Inches	178 LF	9,612	961	1,922	12,495	
013220-013050	Pipe		18.0 Inches	1371 LF	74,034	7,403	14,807	96,244	
				Subtotal	\$224,561	\$22,456	\$44,912	\$291,929	
02	Moran Lake Basin								
020090-020092	Box 5' Wide		4.0 Feet	934 LF	186,800	18,680	37,360	242,840	
020152-020160	Pipe		72.0 Inches	99 LF	21,384	2,138	4,277	27,799	
020700-020710	Pipe		18.0 Inches	486 LF	26,244	2,624	5,249	34,117	
020800-020802	Pipe		18.0 Inches	352 LF	19,008	1,901	3,802	24,711	
020814-020815	Pipe		30.0 Inches	487 LF	43,830	4,383	8,766	56,979	
020900-020910	Pipe		18.0 Inches	1004 LF	54,216	5,422	10,843	70,481	
020910-020920	Pipe		24.0 Inches	256 LF	18,432	1,843	3,686	23,961	
				Subtotal	\$369,914	\$36,991	\$73,983	\$480,888	
03	Ocean Basin								
030010-030020	Pipe		18.0 Inches	914 LF	49,356	4,936	9,871	64,163	
030020-030030	Pipe		18.0 Inches	72 LF	3,888	389	778	5,055	
030115-030116	Pipe		24.0 Inches	1260 LF	90,720	9,072	18,144	117,936	
030200-030210	Pipe		18.0 Inches	136 LF	7,344	734	1,469	9,547	
031100-031102	Pipe		18.0 Inches	157 LF	8,478	848	1,696	11,022	
031102-031110	Pipe		18.0 Inches	21 LF	1,134	113	227	1,474	
				Subtotal	\$160,920	\$16,092	\$32,185	\$209,197	
04	Tannery Gulch Basin								
040040-040045	Pipe		42.0 Inches	184 LF	23,184	2,318	4,637	30,139	
040060-040070	Pipe		60.0 Inches	1447 LF	260,460	26,046	52,092	338,598	
040070-040080	Pipe		72.0 Inches	493 LF	106,488	10,649	21,298	138,435	
040080-040090	Pipe		72.0 Inches	665 LF	143,640	14,364	28,728	186,732	
040080-040090	Pipe		72.0 Inches	665 LF	143,640	14,364	28,728	186,732	
040400-040320	Pipe		18.0 Inches	964 LF	52,056	5,206	10,411	67,673	
040600-040070	Pipe		24.0 Inches	861 LF	61,992	6,199	12,398	80,589	
040700-040080	Pipe		18.0 Inches	470 LF	25,380	2,538	5,076	32,994	
				Subtotal	\$816,840	\$81,684	\$163,368	\$1,061,892	
05	Rodeo Creek Basin								
050720-050722	Pipe		24.0 Inches	241 LF	17,352	1,735	3,470	22,557	
051415-051416	Pipe		30.0 Inches	75 LF	6,750	675	1,350	8,775	
051700-051710	Pipe		30.0 Inches	859 LF	77,310	7,731	15,462	100,503	
051710-051712	Pipe		30.0 Inches	183 LF	16,470	1,647	3,294	21,411	
				Subtotal	\$117,882	\$11,788	\$23,576	\$153,246	
06	Soquel Creek Basin								
061102-061104	Pipe		18.0 Inches	121 LF	6,534	653	1,307	8,494	
061702-061550	Pipe		18.0 Inches	531 LF	28,674	2,867	5,735	37,276	
062200-060210	Pipe		24.0 Inches	711 LF	51,192	5,119	10,238	66,549	
062800-062810	Pipe		18.0 Inches	888 LF	47,952	4,795	9,590	62,337	
063430-063440	Pipe		21.0 Inches	65 LF	4,095	410	819	5,324	
063600-063602	Pipe		18.0 Inches	147 LF	7,938	794	1,588	10,320	
064002-064010	Pipe		18.0 Inches	601 LF	32,454	3,245	6,491	42,190	
064010-064020	Pipe		30.0 Inches	865 LF	77,850	7,785	15,570	101,205	
064020-064022	Pipe		24.0 Inches	161 LF	11,592	1,159	2,318	15,069	
				Subtotal	\$268,281	\$26,827	\$53,656	\$348,764	
07	Arana Gulch Basin								
070050-070060	Pipe		36.0 Inches	304 LF	32,832	3,283	6,566	42,681	
073000-073005	Pipe		18.0 Inches	409 LF	22,086	2,209	4,417	28,712	
075102-075110	Pipe		24.0 Inches	364 LF	26,208	2,621	5,242	34,071	
075110-075112	Pipe		18.0 Inches	209 LF	11,286	1,129	2,257	14,672	
				Subtotal	\$92,412	\$9,242	\$18,482	\$120,136	

Total Costs include a Contingency of 10% and a Management Cost of 20%

KVL Consultants, Inc.

(proposed)

County of Santa Cruz
Stormwater Facilities Management System
Proposed Improvements

Page 2

10/21/98

ID	Item	FACILITY	Size	Quantity	COSTS		Mgm't	Total
					Construction	Contingency		
Total					\$2,050,810	\$205,080	\$410,162	\$2,666,052

County of Santa Cruz
Stormwater Facilities Management System
Land Use

Page 1

10/21/98

Category	Code	Description
Residential		
	11	.025 - .1 Units per Acre
	12	.05 - .4 Units per Acre
	13	.2 - 1.0 Units per Acre
	14	1.0 - 4.3 Units per Acre
	15	4.4 - 7.2 Units per Acre
	16	7.3 - 10.8 Units per Acre
	17	10.9 - 17.4 Units per Acre
Commercial		
	20	Commercial
Public Facility/Instituti		
	40	Public Facility/Institutional
Open Space		
	50	Open Space
Agriculture		
	60	Agriculture

County of Santa Cruz
Stormwater Facilities Management System
Land Use Factors

Page 1

10/21/98

Group/Land Use	Code	Percent Impervious	OVERLAND FLOW PARAMETERS					
			Pervious			Impervious		
			Length	Slope	Rough's	Length	Slope	Rough's
Residential								
.025 - .1 Units per Acre	11		300	0.0100	0.400			
.05 - .4 Units per Acre	12		300	0.0100	0.400			
.2 - 1.0 Units per Acre	13		300	0.0100	0.300			
1.0 - 4.3 Units per Acre	14		300	0.0100	0.200			
4.4 - 7.2 Units per Acre	15		300	0.0100	0.200			
7.3 - 10.8 Units per Acre	16		100	0.0100	0.200			
10.9 - 17.4 Units per Acre	17		50	0.0100	0.200			
Commercial								
Commercial	20		50	0.0100	0.200			
Public Facility/Instituti								
Public Facility/Institutional	40		100	0.0100	0.200			
Open Space								
Open Space	50		300	0.0100	0.400			
Agriculture								
Agriculture	60		300	0.0100	0.400			

County of Santa Cruz
Stormwater Facilities Management System
SCS Curve Numbers

Page 1

10/21/98

Group Code	Soil Group	Curve Number
11	A	43
	B	65
	C	76
	D	82
12	A	46
	B	65
	C	77
	D	82
13	A	49
	B	69
	C	79
	D	84
14	A	56
	B	72
	C	81
	D	86
15	A	69
	B	80
	C	87
	D	90
16	A	77
	B	85
	C	90
	D	92
17	A	81
	B	88
	C	91
	D	93
20	A	89
	B	92
	C	94
	D	95
40	A	81
	B	88
	C	91
	D	93
50	A	49
	B	69
	C	79
	D	84
60	A	36
	B	60
	C	73
	D	79

County of Santa Cruz
Stormwater Facilities Management System
Rainfall Data

Page 1

10/21/98

		RAINFALL (inches)									
Return Period (years)		5 min	10 mins	15 min	30 min	1 hr	2 hrs	3 hrs	6 hrs	12 hrs	24 hrs
Major Basin 01											
2		.14	.21	.27	.40	.60	.90	1.14	1.71		
5		.20	.30	.37	.56	.84	1.25	1.59	2.38		
10		.23	.35	.45	.67	1.00	1.49	1.89	2.83		
25		.28	.42	.54	.80	1.20	1.79	2.27	3.40		
50		.31	.47	.59	.89	1.34	2.00	2.53	3.80		
100		.35	.52	.66	.99	1.49	2.22	2.82	4.22		
Major Basin 02											
2		.14	.21	.27	.40	.60	.90	1.14	1.71		
5		.20	.30	.37	.56	.84	1.25	1.59	2.38		
10		.23	.35	.45	.67	1.00	1.49	1.89	2.83		
25		.28	.42	.54	.80	1.20	1.79	2.27	3.40		
50		.31	.47	.59	.89	1.34	2.00	2.53	3.80		
100		.35	.52	.66	.99	1.49	2.22	2.82	4.22		
Major Basin 03											
2		.14	.21	.27	.40	.60	.90	1.14	1.71		
5		.20	.30	.37	.56	.84	1.25	1.59	2.38		
10		.23	.35	.45	.67	1.00	1.49	1.89	2.83		
25		.28	.42	.54	.80	1.20	1.79	2.27	3.40		
50		.31	.47	.59	.89	1.34	2.00	2.53	3.80		
100		.35	.52	.66	.99	1.49	2.22	2.82	4.22		
Major Basin 04											
2		.14	.21	.27	.40	.60	.90	1.14	1.71		
5		.20	.30	.37	.56	.84	1.25	1.59	2.38		
10		.23	.35	.45	.67	1.00	1.49	1.89	2.83		
25		.28	.42	.54	.80	1.20	1.79	2.27	3.40		
50		.31	.47	.59	.89	1.34	2.00	2.53	3.80		
100		.35	.52	.66	.99	1.49	2.22	2.82	4.22		
Major Basin 05											
2		.14	.21	.27	.40	.60	.90	1.14	1.71		
5		.20	.30	.37	.56	.84	1.25	1.59	2.38		
10		.23	.35	.45	.67	1.00	1.49	1.89	2.83		
25		.28	.42	.54	.80	1.20	1.79	2.27	3.40		
50		.31	.47	.59	.89	1.34	2.00	2.53	3.80		
100		.35	.52	.66	.99	1.49	2.22	2.82	4.22		
Major Basin 06											
2		.14	.21	.27	.40	.60	.90	1.14	1.71		
5		.20	.30	.37	.56	.84	1.25	1.59	2.38		
10		.23	.35	.45	.67	1.00	1.49	1.89	2.83		
25		.28	.42	.54	.80	1.20	1.79	2.27	3.40		
50		.31	.47	.59	.89	1.34	2.00	2.53	3.80		
100		.35	.52	.66	.99	1.49	2.22	2.82	4.22		
Major Basin 07											
2		.14	.21	.27	.40	.60	.90	1.14	1.71		
5		.20	.30	.37	.56	.84	1.25	1.59	2.38		
10		.23	.35	.45	.67	1.00	1.49	1.89	2.83		
25		.28	.42	.54	.80	1.20	1.79	2.27	3.40		
50		.31	.47	.59	.89	1.34	2.00	2.53	3.80		
100		.35	.52	.66	.99	1.49	2.22	2.82	4.22		

1

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
01 - Leona Creek Basin

10/20/98

Page 1

ID	LOCATION Comments	Type	EXISTING SECTION					Slope	Man N	No	Size*	Base*	DESIGN DISCHARGE (cfs)					Section Capacity
			USGE	DSGE	Length	DSIE	USIE						2	5	10	25	50	
010010-010012		Pipe			102	288.60	294.69	.0597	.013	1	15.0		2	5	8	11	13	16
010012-010014		Pipe			128	267.80	288.60	.1625	.013	1	15.0		2	5	8	11	13	16
010014-010020		Pipe			291	245.00	267.80	.0784	.013	1	15.0		2	5	8	11	13	16
010020-010022		Pipe			106	240.58	245.00	.0417	.013	1	24.0		4	10	15	22	28	34
010022-010024		Pipe			195	231.54	240.58	.0464	.013	1	30.0		4	10	15	22	28	34
010024-010026		Pipe			130	225.50	231.54	.0465	.013	1	30.0		4	10	15	22	28	34
010026-010028		Pipe			278	212.50	225.50	.0468	.013	1	36.0		4	10	15	22	28	34
010028-010030		Pipe			220			.0485	.013	1	36.0		4	10	15	22	28	34
010030-010032		Pipe			210			.0448	.013	1	36.0		6	14	21	32	38	47
010032-010036		Pipe			198			.0667	.013	1	36.0		6	14	21	32	38	47
010036-010040		Roadway			194			.0209	.020	1			6	14	21	32	38	47
010040-010050	Ditch	Natural Channel			184			.1089	.035	1			11	24	35	51	62	76
010050-010060		Natural Channel			173			.0394	.035	1	18.0	17.5	12	28	42	62	76	91
010060-010070		Natural Channel			146			.0213	.035	1	21.7	19.5	19	42	62	92	112	134
010070-010075		Pipe			138			.0114	.013	1	48.0		20	45	67	99	121	145
010075-010080		Pipe				125.50	125.00	.0052	.013	1	30.0		20	45	67	99	121	145
010080-010085		Natural Channel			134			.0098	.035		30.0	22.5	22	49	73	108	133	160
010085-010090		Box				124.40	123.20	.0077	.013	1	3.0	5.0	22	49	73	108	133	160
010090-010100		Box				123.20	119.20	.0120	.013	1	3.0	5.0	23	52	77	114	140	168
010100-010105	Ditch	Natural Channel			124			.0085	.035	1			25	57	84	126	153	186
010105-010110		Pipe				116.95	115.70	.0079	.013	2	36.0		25	57	84	126	153	186
010110-010112		Pipe				115.70	114.96	.0069	.013	2	36.0		25	57	84	126	153	186
010112-010114		Natural Channel			120			.0110	.035		60.2	48.5	28	63	94	139	171	204
010114-010120		Box				104.68	103.41	.0135	.013	1	4.0	6.0	28	63	94	139	171	204
010120-010121		Pipe				103.41	98.05	.0150	.013	1	54.0		36	82	123	179	224	274

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
01 - Leona Creek Basin

Page 2

10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION										DESIGN DISCHARGE (cfs)					Section Capacity
			USGE	DSIE	USIE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100	
010121-010122		Natural Channel	102	101		132	.0076	.035	1	98.9	75.3	36	82	123	179	224	274	439
010122-010123		Pipe			96.59	95.97	60	.0103	.013	1	54.0	36	82	123	179	224	274	200
010123-010124		Natural Channel	100	98		277	.0072	.035	1	98.9	75.3	36	82	123	179	224	274	427
010124-010125		Pipe			94.81	94.25	33	.0170	.013	2	48.0	36	82	123	179	224	274	375
010125-010126		Box			94.25	93.86	77	.0051	.013	1	4.0	7.0	36	82	123	179	224	269
010126-010130		Pipe			93.86	93.04	288	.0028	.013	2	48.0	36	82	123	179	224	274	152
010130-010132		Pipe			93.02	91.39	190	.0086	.013	2	54.0	43	97	146	217	266	322	365
010132-010134	CMP	Pipe			271.44	269.58	217	.0086	.024	2	72.0	43	97	146	217	266	322	426
010134-010136		Pipe			89.53	57.99	539	.0585	.013	2	54.0	43	97	146	217	266	322	951
010136-010140		Natural Channel	93	92		89	.0112	.035	1	91.4	91.4	43	97	146	217	266	322	411
010140-010142		Pipe			83.35	83.15	39	.0051	.013	1	54.0	52	115	168	245	298	358	141
010142-010144		Natural Channel	90	84		776	.0077	.035	107.7	93.0		52	115	168	245	298	358	443
010144-010150		Box			78.58	77.68	74	.0122	.013	1	4.0	6.0	52	115	168	245	298	342
010150-010152		Natural Channel	77	75		536	.0037	.035	1	109.8	72.7	72	149	211	297	357	425	373
010152-010155	CMPA	Pipe	75	74		110	.0091	.024	1	66.0		72	149	211	297	357	425	174
010155-010160	CMPA	Pipe	74	72		254	.0079	.024	1	66.0		74	154	219	309	371	441	162
010160-010162		Box	72	71		34	.0294	.013	1	4.0	5.0	73	155	221	313	376	447	421
010162-010165		Natural Channel	71	68		538	.0056	.035	60.3	52.4		73	155	221	313	376	447	210
010165-010166		Natural Channel	68	66		304	.0066	.035	60.3	52.4		80	167	239	339	407	484	228
010166-010167		Pipe			57.30	57.00	51	.0059	.013	1	60.0	80	167	239	339	407	484	200
010167-010168		Natural Channel	66	64		118	.0169	.035	60.3	52.4		80	167	239	339	407	484	366
010168-010169		Pipe			54.50	53.10	103	.0136	.013	1	72.0	80	167	239	339	407	484	494
010169-010170		Natural Channel	60	59		78	.0128	.035	1	84.3	37.9	80	167	239	339	407	484	690
010170-010180		Natural Channel	58	50		709	.0113	.035	84.3	37.9		85	176	253	361	434	516	649
010180-010184		Pipe			40.10	33.76	243	.0261	.013	1	66.0	94	193	276	393	472	563	543

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
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County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
01 - Leona Creek Basin

Page 3

10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION					Man N	No	Size*	Base*	DESIGN DISCHARGE (cfs)					Section Capacity
			USGE	DSGE	USIE	DSIE	Length	Slope				2	5	10	25	50	
010184-010190		Natural Channel	48	30			924	.0195	.035	66.9	35.2	94	193	276	393	472	563
010190-010200		Natural Channel	30	25			393	.0127	.035	79.2	37.7	102	208	297	422	508	604
010200-010210		Natural Channel	25	22			389	.0077	.035	107.6	41.4	105	217	309	440	530	631
010210-010215		Natural Channel	22	20	15.72		828	.0024	.035	124.6	43.9	109	227	318	455	549	654
010215-010220		Pipe			15.72	13.44	115	.0198	.013	72.0		109	227	318	455	549	654
010220-010225		Natural Channel	13	12			862	.0012	.035	124.6	43.9	112	238	330	475	573	684
010225-010230		Box	12	10			101	.0198	.013	3.0	4.0	112	238	330	475	573	684
010230-013070	Pond	Natural Channel					1722		.035	124.0	71.9	120	252	352	490	595	713
010310-010020		Pipe	255	253			58	.0345	.013	1	48.0	1	2	4	6	7	9
010410-010412		Pipe			208.15	207.80	19	.0184	.013	1	24.0	1	3	4	6	7	9
010412-010414		Pipe			207.80	206.10	32	.0531	.013	1	24.0	1	3	4	6	7	9
010414-010030		Pipe			206.10	205.00	22	.0500	.013	1	24.0	1	3	4	6	7	9
010510-010040		Pipe	188	184			73	.0548	.013	1	27.0	4	7	11	15	18	21
010610-010620		Natural Channel	206	158			625	.0768	.035	10.3	19.8	3	6	9	12	15	18
010620-010622		Natural Channel	158	154			78	.0513	.035	10.3	19.8	5	11	15	22	27	32
010622-010624		Pipe	154	151			31	.0968	.013	1	24.0	5	11	15	22	27	32
010624-010060	Ditch	Natural Channel					33		.035			5	11	15	22	27	32
010710-010070		Pipe	146	140			78	.0769	.013	1	18.0	1	2	4	5	6	8
010810-010815		Pipe			173.80	165.08	345	.0253	.013	1	18.0	1	2	3	4	4	5
010815-010817		Pipe			165.08	138.70	205	.1287	.013	1	18.0	1	2	3	4	4	5
010817-010820		Pipe			138.70	135.08	172	.0210	.013	1	18.0	1	2	3	4	4	5
010820-010075		Pipe			135.08	125.50	75	.1277	.013	1	24.0	1	3	5	7	9	11
010910-010100		Pipe			121.00	119.20	153	.0118	.013	1	18.0	4	7	9	12	13	15
011010-011015		Pipe			121.70	116.50	370	.0141	.013	1	24.0	2	5	7	11	13	16
011015-010110		Pipe			116.50	115.70	31	.0258	.013	1	30.0	2	5	7	11	13	16

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
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County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
01 - Leona Creek Basin

10/20/98

Page 4

LOCATION			EXISTING SECTION										DESIGN DISCHARGE (cfs)										Section Capacity
ID	Comments	Type	USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100					
011110-011112		Pipe	118.75	114.71			232	.0174	.013	1	21.0		3	8	12	17	21	25	21				
011112-011114		Pipe	114.71	107.53			325	.0221	.013	1	24.0		3	8	12	17	21	25	34				
011114-010120		Pipe	107.53	103.41			121	.0340	.013	1	30.0		3	8	12	17	21	25	76				
011210-010120		Pipe	107.30	106.10			282	.0043	.013	1	24.0		8	14	18	24	27	31	15				
011310-010150		Pipe	89.77	77.68			536	.0226	.013	1	18.0		8	14	17	22	26	31	16				
011410-010165		Pipe	84.79	63.25			503	.0428	.013	1	12.0		5	9	12	16	18	20	7				
011510-011520		Pipe	71.06	66.79			589	.0072	.013	1	54.0		2	3	4	6	7	8	167				
011520-011530		Pipe	66.79	60.83			620	.0096	.013	1	54.0		4	8	11	15	18	21	193				
011530-010170		Pipe	60.83	51.83			155	.0581	.013	1	54.0		5	10	13	18	21	25	474				
011610-010190		Pipe	61.50	36.90			650	.0378	.013	1	12.0		2	3	4	6	7	8	7				
011710-011720		Pipe	62.20	60.72			356	.0042	.013	1	15.0		3	6	8	11	13	15	4				
011720-010725		Pipe	60.72	55.00			322	.0178	.013	1	15.0		4	8	10	14	17	21	9				
011725-010200		Pipe	55.00	52.00			271	.0111	.013	1	18.0		4	8	10	14	17	21	11				
011810-010210		Pipe	50.03	42.07			377	.0211	.013	1	30.0		6	10	15	20	23	27	60				
011910-010915		Pipe	55.00	38.50			431	.0383	.013	1	15.0		3	5	7	9	11	13	13				
011915-010220		Pipe	38.50	37.00			86	.0174	.013	1	18.0		3	5	7	9	11	13	14				
012010-012020		Pipe	58.18	50.00			497	.0165	.013	2	18.0		15	25	31	38	44	52	27				
012020-012022		Pipe	50.00	46.40			195	.0185	.013	1	24.0		19	33	42	53	60	68	31				
012022-012024	Natural Channel	Natural Channel			50	40	857	.0117	.035		33.4	46.0	19	33	42	53	60	68	124				
012024-012030	Box	Box	28.00	27.70			51	.0059	.013	1	8.0	8.0	19	33	42	53	60	68	892				
012030-013060	Natural Channel	Natural Channel			40	9	973	.0319	.035	1	46.7	34.7	24	44	59	76	88	101	432				
013010-013020	Pipe	Pipe	72.00	62.70			608	.0153	.013	1	21.0		6	11	15	19	22	27	20				
013020-013022	Pipe	Pipe	62.70	53.80			1079	.0082	.013	1	24.0		6	11	15	19	22	27	21				
013020-013026	Pipe	Pipe	62.70	56.96			675	.0085	.013	1	24.0		8	14	19	24	27	32	21				
013022-013110	Pipe	Pipe	53.80	53.59			50	.0042	.013	1	24.0		8	14	19	24	27	32	15				

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
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County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
01 - Leona Creek Basin

10/20/98

Page 5

ID	LOCATION Comments	Type	EXISTING SECTION					DESIGN DISCHARGE (cfs)							Section Capacity				
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5		10	25	50	100
013026-013030		Pipe	57.04	54.92			413	.0051	.013	1	30.0		8	14	19	24	27	32	29
013030-013040		Pipe	54.82	44.34			616	.0170	.013	1	42.0		13	25	32	42	48	56	131
013040-013042		Pipe	44.34	43.34			66	.0152	.013	1	48.0		30	60	81	108	126	152	177
013042-013044		Pipe	43.34	43.00			21	.0162	.013	1	54.0		30	60	81	108	126	152	250
013044-013050		Natural Channel			56	36	749	.0267	.035		61.4	51.1	30	60	81	108	126	152	482
013050-013060		Natural Channel			36	10	1847	.0141	.035		61.4	51.1	44	86	119	159	186	214	350
013060-013070	Pond	Natural Channel					748		.035	1	286.0	62.2	54	107	148	194	227	271	
013070-010240	Pond	Natural Channel					1346		.035		286.0	62.2	219	443	615	824	1000	1193	
013110-013112		Pipe	53.39	52.50			180	.0049	.013	1	30.0		10	22	32	46	54	64	29
013112-013114		Natural Channel			56	54	284	.0070	.035		35.0	30.0	10	22	32	46	54	64	138
013114-013040		Pipe	48.58	44.34			239	.0177	.013		30.0		10	22	32	46	54	64	55
013210-013215		Pipe	62.20	59.69			455	.0055	.013	1	12.0		3	5	6	7	8	10	3
013215-013220		Pipe	59.67	59.10			178	.0032	.013	1	15.0		3	5	6	7	8	10	4
013220-013050		Pipe	59.10	37.40			1371	.0158	.013	1	18.0		7	13	18	23	27	30	13

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County of Santa Cruz
Stormwater Facilities Management System
Storage Facilities
01 - Leona Creek Basin

Page 1

10/21/98

ID:	Top of Dam Overflow:	<u>Elevation</u>		<u>Length</u>		<u>Coefficient</u>		<u>Exponent</u>		
		1	2	3	4	5	6	7	8	
	Volume:									
	Elevation:									
	Discharge:									
	Return Period:	2	5	10	25	50	100			
	Design Volume:									
	Basin Design:									

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
01 - Leona Creek Basin

Page 1

10/21/98

ID:	010010	Area:	0.017	Pervious CN:	85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.200		Collector:	131	0.0265	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010020	Area:	0.010	Pervious CN:	85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.200		Collector:	864	0.0810	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010030	Area:	0.008	Pervious CN:	81	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	229	0.2620	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010040	Area:	0.008	Pervious CN:	85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.267		Collector:	366	0.2186	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010050	Area:	0.025	Pervious CN:	81	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	002	0.0500	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010060	Area:	0.017	Pervious CN:	81	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	360	0.2778	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010070	Area:	0.006	Pervious CN:	81	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	388	0.3351	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010080	Area:	0.006	Pervious CN:	81	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	310	0.1935	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010090	Area:	0.010	Pervious CN:	85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.200		Collector:	799	0.0438	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010100	Area:	0.005	Pervious CN:	88	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	217	0.0100	0.200		Collector:	447	0.0224	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID:	010110	Area:	0.007	Pervious CN:	84	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	200	0.0100	0.240		Collector:	256	0.0195	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
01 - Leona Creek Basin

Page 2

10/21/98

ID:	010120	Area:	0.026	Pervious CN:	87	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	122	0.0100	0.244		Collector:	413	0.0387	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010130	Area:	0.045	Pervious CN:	92	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	67	0.0100	0.200		Collector:	080	0.0093	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010140	Area:	0.034	Pervious CN:	92	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	80	0.0100	0.200		Collector:	578	0.0173	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010150	Area:	0.033	Pervious CN:	93	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	138	0.0100	0.200		Collector:	640	0.0219	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010155	Area:	0.015	Pervious CN:	90	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	300	0.0100	0.200		Collector:	707	0.0085	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010160	Area:	0.007	Pervious CN:	90	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	300	0.0100	0.200		Collector:	620	0.1613	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010165	Area:	0.018	Pervious CN:	85	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	300	0.0100	0.200		Collector:	492	0.0122	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010170	Area:	0.011	Pervious CN:	85	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	300	0.0100	0.200		Collector:	281	0.0142	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010180	Area:	0.046	Pervious CN:	87	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	156	0.0100	0.225		Collector:	810	0.0185	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010190	Area:	0.034	Pervious CN:	87	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	156	0.0100	0.250		Collector:	335	0.1104	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								
ID:	010200	Area:	0.012	Pervious CN:	84	Impervious CN:									
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
		Pervious:	250	0.0100	0.300		Collector:	438	0.0799	0.020	TRAP	20.00	1.0		
		Impervious:					Main:								

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
01 - Leona Creek Basin

Page 3

10/21/98

ID: 010210	Area: 0.010	Pervious CN: 86	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	233	0.0100	0.267		Collector:	450	0.0889	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010220	Area: 0.028	Pervious CN: 84	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	220	0.0100	0.280		Collector:	590	0.0729	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010230	Area: 0.044	Pervious CN: 86	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	180	0.0100	0.240		Collector:	846	0.0449	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010310	Area: 0.013	Pervious CN: 81	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.300		Collector:	881	0.0795	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010410	Area: 0.010	Pervious CN: 87	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.300		Collector:	892	0.0785	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010510	Area: 0.024	Pervious CN: 87	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.300		Collector:	829	0.0547	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010610	Area: 0.021	Pervious CN: 86	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.300		Collector:	855	0.0323	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010620	Area: 0.017	Pervious CN: 86	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.300		Collector:	479	0.1670	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010710	Area: 0.008	Pervious CN: 85	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.200		Collector:	404	0.2475	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010810	Area: 0.006	Pervious CN: 87	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.300		Collector:	338	0.2367	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 010820	Area: 0.008	Pervious CN: 81	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.333		Collector:	442	0.2262	0.020	TRAP	20.00	1.0
Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
01 - Leona Creek Basin

Page 4

10/21/98

ID: 010910	Area: 0.012	Pervious CN: 92	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	175	0.0100	0.200		Collector:	650	0.0462	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011010	Area: 0.021	Pervious CN: 82	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	260	0.0100	0.280		Collector:	915	0.0656	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011110	Area: 0.026	Pervious CN: 83	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	160	0.0100	0.240		Collector:	022	0.0117	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011210	Area: 0.018	Pervious CN: 93	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	67	0.0100	0.200		Collector:	819	0.0208	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011310	Area: 0.021	Pervious CN: 93	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	120	0.0100	0.200		Collector:	059	0.0104	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011410	Area: 0.016	Pervious CN: 92	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	200	0.0100	0.200		Collector:	265	0.0095	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011510	Area: 0.007	Pervious CN: 90	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	300	0.0100	0.200		Collector:	336	0.0119	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011520	Area: 0.012	Pervious CN: 90	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	300	0.0100	0.200		Collector:	593	0.0135	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011530	Area: 0.004	Pervious CN: 85	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	300	0.0100	0.200		Collector:	69	0.0290	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011610	Area: 0.006	Pervious CN: 87	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	75	0.0100	0.200		Collector:	530	0.0132	0.020	TRAP	20.00	1.0		
Impervious:					Main:								
ID: 011710	Area: 0.010	Pervious CN: 90	Impervious CN:										
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>		
Pervious:	75	0.0100	0.200		Collector:	563	0.0160	0.020	TRAP	20.00	1.0		
Impervious:					Main:								

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
01 - Leona Creek Basin

Page 5

10/21/98

ID: 011720	Area: 0.008	Pervious CN: 82	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	167	0.0100	0.267		Collector:	450	0.0133	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 011810	Area: 0.018	Pervious CN: 90	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	83	0.0100	0.200		Collector:	905	0.0155	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 011910	Area: 0.009	Pervious CN: 90	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	83	0.0100	0.200		Collector:	801	0.0075	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 012010	Area: 0.037	Pervious CN: 93	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	125	0.0100	0.200		Collector:	431	0.0070	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 012020	Area: 0.015	Pervious CN: 93	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	175	0.0100	0.200		Collector:	676	0.0118	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 012030	Area: 0.031	Pervious CN: 88	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	207	0.0100	0.257		Collector:	319	0.0564	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 013010	Area: 0.021	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	122	0.0100	0.200		Collector:	931	0.0107	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 013020	Area: 0.029	Pervious CN: 92	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	130	0.0100	0.200		Collector:	557	0.0180	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 013030	Area: 0.020	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	136	0.0100	0.200		Collector:	658	0.0152	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 013040	Area: 0.027	Pervious CN: 88	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	75	0.0100	0.200		Collector:	562	0.0178	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 013050	Area: 0.032	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	156	0.0100	0.225		Collector:	404	0.0124	0.020	TRAP	20.00	1.0	
Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
01 - Leona Creek Basin

Page 6

10/21/98

ID:	013060	Area:	0.060	Pervious CN:	87	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	172	0.0100	0.267		Collector:	783	0.0077	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	013070	Area:	0.137	Pervious CN:	88	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	129	0.0100	0.250		Collector:	725	0.0648	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	013110	Area:	0.037	Pervious CN:	83	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	207	0.0100	0.257		Collector:	005	0.0060	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	013210	Area:	0.007	Pervious CN:	93	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	133	0.0100	0.200		Collector:	785	0.0127	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	013220	Area:	0.018	Pervious CN:	89	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	150	0.0100	0.200		Collector:	482	0.0207	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
01 - Leona Creek Basin

Page 1

10/22/98

ID									10
IT	10			300					20
IO	5								30
KK	010010	BASIN							40
BA	0.017								50
PH	0.00	0.00	0.23	0.45	1.00	1.49	1.89	2.83	60
LS	0	85	0						70
UK	300	0.0100	0.200	100					80
RK	1131	0.0265	0.020		TRAP	20	1.0		90
KK	010020	FROM	010010						100
RK	521	0.0902	.020		TRAP	20	1		110
KK	010020	BASIN							120
BA	0.010								130
LS	0	85	0						140
UK	300	0.0100	0.200	100					150
RK	864	0.0810	0.020		TRAP	20	1.0		160
KK	010310	BASIN							170
BA	0.013								180
LS	0	81	0						190
UK	300	0.0100	0.300	100					200
RK	881	0.0795	0.020		TRAP	20	1.0		210
KK	010020	FROM	010310						220
RK	300	0.0517	.020		TRAP	20	1		230
KK	010020	COMBINE							240
HC	3								250
KK	010030	FROM	010020						260
RK	915	0.0481	.020		TRAP	20	1		270
KK	010030	BASIN							280
BA	0.008								290
LS	0	81	0						300
UK	300	0.0100	0.300	100					310
RK	229	0.2620	0.020		TRAP	20	1.0		320
KK	010410	BASIN							330
BA	0.010								340
LS	0	87	0						350
UK	300	0.0100	0.300	100					360
RK	892	0.0785	0.020		TRAP	20	1.0		370
KK	010030	FROM	010410						380
RK	300	0.2877	.020		TRAP	20	1		390
KK	010030	COMBINE							400
HC	3								410
KK	010040	FROM	010030						420
RK	805	0.0323	.020		TRAP	20	1		430
KK	010040	BASIN							440
BA	0.008								450
LS	0	85	0						460
UK	300	0.0100	0.267	100					470
RK	366	0.2186	0.020		TRAP	20	1.0		480
KK	010510	BASIN							490
BA	0.024								500
LS	0	87	0						510
UK	300	0.0100	0.300	100					520
RK	1829	0.0547	0.020		TRAP	20	1.0		530
KK	010040	FROM	010510						540
RK	300	0.1368	.020		TRAP	20	1		550
KK	010040	COMBINE							560
HC	3								570
KK	010050	FROM	010040						580
RK	300	0.0909	.020		TRAP	20	1		590
KK	010050	BASIN							600
BA	0.025								610
LS	0	81	0						620
UK	300	0.0100	0.300	100					630
RK	2002	0.0500	0.020		TRAP	20	1.0		640
KK	010050	COMBINE							650
HC	2								660
KK	010060	FROM	010050						670
RK	689	0.0421	.020		TRAP	20	1		680
KK	010060	BASIN							690
BA	0.017								700
LS	0	81	0						710
UK	300	0.0100	0.300	100					720
RK	360	0.2778	0.020		TRAP	20	1.0		730
KK	010610	BASIN							740
BA	0.021								750
LS	0	86	0						760
UK	300	0.0100	0.300	100					770
RK	1855	0.0323	0.020		TRAP	20	1.0		780

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
01 - Leona Creek Basin

Page 2

10/21/98

KK	010620	FROM	010610					790
RK	604	0.0762	.020					800
KK	010620	BASIN		TRAP	20	1		810
BA	0.017							820
LS	0	86	0					830
UK	300	0.0100	0.300	100				840
RK	479	0.1670	0.020	TRAP	20	1.0		850
KK	010620	COMBINE						860
HC	2							870
KK	010060	FROM	010620					880
RK	300	0.0968	.020	TRAP	20	1		890
KK	010060	COMBINE						900
HC	3							910
KK	010070	FROM	010060					920
RK	377	0.0133	.020	TRAP	20	1		930
KK	010070	BASIN						940
BA	0.006							950
LS	0	81	0					960
UK	300	0.0100	0.300	100				970
RK	388	0.3351	0.020	TRAP	20	1.0		980
KK	010710	BASIN						990
BA	0.008							1,000
LS	0	85	0					1,010
UK	300	0.0100	0.200	100				1,020
RK	404	0.2475	0.020	TRAP	20	1.0		1,030
KK	010070	FROM	010710					1,040
RK	300	0.0769	.020	TRAP	20	1		1,050
KK	010070	COMBINE						1,060
HC	3							1,070
KK	010080	FROM	010070					1,080
RK	359	0.0167	.020	TRAP	20	1		1,090
KK	010080	BASIN						1,100
BA	0.006							1,110
LS	0	81	0					1,120
UK	300	0.0100	0.300	100				1,130
RK	310	0.1935	0.020	TRAP	20	1.0		1,140
KK	010810	BASIN						1,150
BA	0.006							1,160
LS	0	87	0					1,170
UK	300	0.0100	0.300	100				1,180
RK	338	0.2367	0.020	TRAP	20	1.0		1,190
KK	010820	FROM	010810					1,200
RK	780	0.0590	.020	TRAP	20	1		1,210
KK	010820	BASIN						1,220
BA	0.008							1,230
LS	0	81	0					1,240
UK	300	0.0100	0.333	100				1,250
RK	442	0.2262	0.020	TRAP	20	1.0		1,260
KK	010820	COMBINE						1,270
HC	2							1,280
KK	010080	FROM	010820					1,290
RK	300	0.0234	.020	TRAP	20	1		1,300
KK	010080	COMBINE						1,310
HC	3							1,320
KK	010090	FROM	010080					1,330
RK	300	0.0194	.020	TRAP	20	1		1,340
KK	010090	BASIN						1,350
BA	0.010							1,360
LS	0	85	0					1,370
UK	300	0.0100	0.200	100				1,380
RK	799	0.0438	0.020	TRAP	20	1.0		1,390
KK	010090	COMBINE						1,400
HC	2							1,410
KK	010100	FROM	010090					1,420
RK	333	0.0150	.020	TRAP	20	1		1,430
KK	010100	BASIN						1,440
BA	0.005							1,450
LS	0	88	0					1,460
UK	217	0.0100	0.200	100				1,470
RK	447	0.0224	0.020	TRAP	20	1.0		1,480
KK	010910	BASIN						1,490
BA	0.012							1,500
LS	0	92	0					1,510
UK	175	0.0100	0.200	100				1,520
RK	650	0.0462	0.020	TRAP	20	1.0		1,530
KK	010100	FROM	010910					1,540
RK	300	0.0013	.020	TRAP	20	1		1,550
KK	010100	COMBINE						1,560

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
01 - Leona Creek Basin

Page 3

10/21/98

HC	3							1,570
KK	010110	FROM	010100					1,580
RK	300	0.0072	.020		TRAP	20	1	1,590
KK	010110	BASIN						1,600
BA	0.007							1,610
LS	0	84	0					1,620
UK	200	0.0100	0.240	100				1,630
RK	256	0.0195	0.020		TRAP	20	1.0	1,640
KK	011010	BASIN						1,650
BA	0.021							1,660
LS	0	82	0					1,670
UK	260	0.0100	0.280	100				1,680
RK	915	0.0656	0.020		TRAP	20	1.0	1,690
KK	010110	FROM	011010					1,700
RK	401	0.0150	.020		TRAP	20	1	1,710
KK	010110	COMBINE						1,720
HC	3							1,730
KK	010120	FROM	010110					1,740
RK	1110	0.0108	.020		TRAP	20	1	1,750
KK	010120	BASIN						1,760
BA	0.026							1,770
LS	0	87	0					1,780
UK	122	0.0100	0.244	100				1,790
RK	413	0.0387	0.020		TRAP	20	1.0	1,800
KK	011110	BASIN						1,810
BA	0.026							1,820
LS	0	83	0					1,830
UK	160	0.0100	0.240	100				1,840
RK	1022	0.0117	0.020		TRAP	20	1.0	1,850
KK	010120	FROM	011110					1,860
RK	679	0.0191	.020		TRAP	20	1	1,870
KK	011210	BASIN						1,880
BA	0.018							1,890
LS	0	93	0					1,900
UK	67	0.0100	0.200	100				1,910
RK	819	0.0208	0.020		TRAP	20	1.0	1,920
KK	010120	FROM	011210					1,930
RK	300	0.0090	.020		TRAP	20	1	1,940
KK	010120	COMBINE						1,950
HC	4							1,960
KK	010130	FROM	010120					1,970
RK	1224	0.0082	.020		TRAP	20	1	1,980
KK	010130	BASIN						1,990
BA	0.045							2,000
LS	0	92	0					2,010
UK	67	0.0100	0.200	100				2,020
RK	1080	0.0093	0.020		TRAP	20	1.0	2,030
KK	010130	COMBINE						2,040
HC	2							2,050
KK	010140	FROM	010130					2,060
RK	1034	0.0097	.020		TRAP	20	1	2,070
KK	010140	BASIN						2,080
BA	0.034							2,090
LS	0	92	0					2,100
UK	80	0.0100	0.200	100				2,110
RK	578	0.0173	0.020		TRAP	20	1.0	2,120
KK	010140	COMBINE						2,130
HC	2							2,140
KK	010150	FROM	010140					2,150
RK	889	0.0067	.020		TRAP	20	1	2,160
KK	010150	BASIN						2,170
BA	0.033							2,180
LS	0	93	0					2,190
UK	138	0.0100	0.200	100				2,200
RK	640	0.0219	0.020		TRAP	20	1.0	2,210
KK	011310	BASIN						2,220
BA	0.021							2,230
LS	0	93	0					2,240
UK	120	0.0100	0.200	100				2,250
RK	1059	0.0104	0.020		TRAP	20	1.0	2,260
KK	010150	FROM	011310					2,270
RK	536	0.0224	.020		TRAP	20	1	2,280
KK	010150	COMBINE						2,290
HC	3							2,300
KK	010155	FROM	010150					2,310
RK	645	0.0078	.020		TRAP	20	1	2,320
KK	010155	BASIN						2,330
BA	0.015							2,340

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
01 - Leona Creek Basin

Page 4

10/21/98

LS	0	90	0					2,350
UK	300	0.0100	0.200	100				2,360
RK	707	0.0085	0.020		TRAP	20	1.0	2,370
KK	010155	COMBINE						2,380
HC	2							2,390
KK	010160	FROM	010155					2,400
RK	300	0.0157	.020		TRAP	20	1	2,410
KK	010160	BASIN						2,420
BA	0.007							2,430
LS	0	90	0					2,440
UK	300	0.0100	0.200	100				2,450
RK	620	0.1613	0.020		TRAP	20	1.0	2,460
KK	010160	COMBINE						2,470
HC	2							2,480
KK	010165	FROM	010160					2,490
RK	673	0.0074	.020		TRAP	20	1	2,500
KK	010165	BASIN						2,510
BA	0.018							2,520
LS	0	85	0					2,530
UK	300	0.0100	0.200	100				2,540
RK	492	0.0122	0.020		TRAP	20	1.0	2,550
KK	011410	BASIN						2,560
BA	0.016							2,570
LS	0	92	0					2,580
UK	200	0.0100	0.200	100				2,590
RK	1265	0.0095	0.020		TRAP	20	1.0	2,600
KK	010165	FROM	011410					2,610
RK	603	0.0299	.020		TRAP	20	1	2,620
KK	010165	COMBINE						2,630
HC	3							2,640
KK	010170	FROM	010165					2,650
RK	550	0.0218	.020		TRAP	20	1	2,660
KK	010170	BASIN						2,670
BA	0.011							2,680
LS	0	85	0					2,690
UK	300	0.0100	0.200	100				2,700
RK	281	0.0142	0.020		TRAP	20	1.0	2,710
KK	011510	BASIN						2,720
BA	0.007							2,730
LS	0	90	0					2,740
UK	300	0.0100	0.200	100				2,750
RK	336	0.0119	0.020		TRAP	20	1.0	2,760
KK	011520	FROM	011510					2,770
RK	589	0.0017	.020		TRAP	20	1	2,780
KK	011520	BASIN						2,790
BA	0.012							2,800
LS	0	90	0					2,810
UK	300	0.0100	0.200	100				2,820
RK	593	0.0135	0.020		TRAP	20	1.0	2,830
KK	011520	COMBINE						2,840
HC	2							2,850
KK	011530	FROM	011520					2,860
RK	618	0.0356	.020		TRAP	20	1	2,870
KK	011530	BASIN						2,880
BA	0.004							2,890
LS	0	85	0					2,900
UK	300	0.0100	0.200	100				2,910
RK	69	0.0290	0.020		TRAP	20	1.0	2,920
KK	011530	COMBINE						2,930
HC	2							2,940
KK	010170	FROM	011530					2,950
RK	300	0.0066	.020		TRAP	20	1	2,960
KK	010170	COMBINE						2,970
HC	3							2,980
KK	010180	FROM	010170					2,990
RK	710	0.0113	.020		TRAP	20	1	3,000
KK	010180	BASIN						3,010
BA	0.046							3,020
LS	0	87	0					3,030
UK	156	0.0100	0.225	100				3,040
RK	810	0.0185	0.020		TRAP	20	1.0	3,050
KK	010180	COMBINE						3,060
HC	2							3,070
KK	010190	FROM	010180					3,080
RK	1167	0.0086	.020		TRAP	20	1	3,090
KK	010190	BASIN						3,100
BA	0.034							3,110
LS	0	87	0					3,120

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
01 - Leona Creek Basin

Page 5

10/21/98

UK	156	0.0100	0.250	100				3,130
RK	335	0.1104	0.020		TRAP	20	1.0	3,140
KK	011610	BASIN						3,150
BA	0.006							3,160
LS	0	87	0					3,170
UK	75	0.0100	0.200	100				3,180
RK	530	0.0132	0.020		TRAP	20	1.0	3,190
KK	010190	FROM	011610					3,200
RK	650	0.0400	.020		TRAP	20	1	3,210
KK	010190	COMBINE						3,220
HC	3							3,230
KK	010200	FROM	010190					3,240
RK	393	0.0051	.020		TRAP	20	1	3,250
KK	010200	BASIN						3,260
BA	0.012							3,270
LS	0	84	0					3,280
UK	250	0.0100	0.300	100				3,290
RK	438	0.0799	0.020		TRAP	20	1.0	3,300
KK	011710	BASIN						3,310
BA	0.010							3,320
LS	0	90	0					3,330
UK	75	0.0100	0.200	100				3,340
RK	563	0.0160	0.020		TRAP	20	1.0	3,350
KK	011720	FROM	011710					3,360
RK	356	0.0056	.020		TRAP	20	1	3,370
KK	011720	BASIN						3,380
BA	0.008							3,390
LS	0	82	0					3,400
UK	167	0.0100	0.267	100				3,410
RK	450	0.0133	0.020		TRAP	20	1.0	3,420
KK	011720	COMBINE						3,430
HC	2							3,440
KK	010200	FROM	011720					3,450
RK	590	0.0458	.020		TRAP	20	1	3,460
KK	010200	COMBINE						3,470
HC	3							3,480
KK	010210	FROM	010200					3,490
RK	389	0.0077	.020		TRAP	20	1	3,500
KK	010210	BASIN						3,510
BA	0.010							3,520
LS	0	86	0					3,530
UK	233	0.0100	0.267	100				3,540
RK	450	0.0889	0.020		TRAP	20	1.0	3,550
KK	011810	BASIN						3,560
BA	0.018							3,570
LS	0	90	0					3,580
UK	83	0.0100	0.200	100				3,590
RK	905	0.0155	0.020		TRAP	20	1.0	3,600
KK	010210	FROM	011810					3,610
RK	377	0.0477	.020		TRAP	20	1	3,620
KK	010210	COMBINE						3,630
HC	3							3,640
KK	010220	FROM	010210					3,650
RK	942	0.0032	.020		TRAP	20	1	3,660
KK	010220	BASIN						3,670
BA	0.028							3,680
LS	0	84	0					3,690
UK	220	0.0100	0.280	100				3,700
RK	590	0.0729	0.020		TRAP	20	1.0	3,710
KK	011910	BASIN						3,720
BA	0.009							3,730
LS	0	90	0					3,740
UK	83	0.0100	0.200	100				3,750
RK	801	0.0075	0.020		TRAP	20	1.0	3,760
KK	010220	FROM	011910					3,770
RK	517	0.0503	.020		TRAP	20	1	3,780
KK	010220	COMBINE						3,790
HC	3							3,800
KK	010230	FROM	010220					3,810
RK	963	0.0125	.020		TRAP	20	1	3,820
KK	010230	BASIN						3,830
BA	0.044							3,840
LS	0	86	0					3,850
UK	180	0.0100	0.240	100				3,860
RK	846	0.0449	0.020		TRAP	20	1.0	3,870
KK	010230	COMBINE						3,880
HC	2							3,890
KK	013070	FROM	010230					3,900

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
01 - Leona Creek Basin

Page 6

10/21/98

RK	1722	0.0032	.020		TRAP	20	1	3,910
KK	013070	BASIN						3,920
BA	0.137							3,930
LS	0	88	0					3,940
UK	129	0.0100	0.250	100				3,950
RK	725	0.0648	0.020		TRAP	20	1.0	3,960
KK	013070	COMBINE						3,970
HC	2							3,980
KK	012010	BASIN						3,990
BA	0.037							4,000
LS	0	93	0					4,010
UK	125	0.0100	0.200	100				4,020
RK	1431	0.0070	0.020		TRAP	20	1.0	4,030
KK	012020	FROM	012010					4,040
RK	497	0.0121	.020		TRAP	20	1	4,050
KK	012020	BASIN						4,060
BA	0.015							4,070
LS	0	93	0					4,080
UK	175	0.0100	0.200	100				4,090
RK	676	0.0118	0.020		TRAP	20	1.0	4,100
KK	012020	COMBINE						4,110
HC	2							4,120
KK	012030	FROM	012020					4,130
RK	1103	0.0127	.020		TRAP	20	1	4,140
KK	012030	BASIN						4,150
BA	0.031							4,160
LS	0	88	0					4,170
UK	207	0.0100	0.257	100				4,180
RK	319	0.0564	0.020		TRAP	20	1.0	4,190
KK	012030	COMBINE						4,200
HC	2							4,210
KK	013060	FROM	012030					4,220
RK	973	0.0098	.020		TRAP	20	1	4,230
KK	010240	COMBINE						4,240
HC	2							4,250
KK	013010	BASIN						4,260
BA	0.021							4,270
LS	0	89	0					4,280
UK	122	0.0100	0.200	100				4,290
RK	931	0.0107	0.020		TRAP	20	1.0	4,300
KK	013020	FROM	013010					4,310
RK	608	0.0164	.020		TRAP	20	1	4,320
KK	013020	BASIN						4,330
BA	0.029							4,340
LS	0	92	0					4,350
UK	130	0.0100	0.200	100				4,360
RK	557	0.0180	0.020		TRAP	20	1.0	4,370
KK	013020	COMBINE						4,380
HC	2							4,390
KK	013020	DIVERT						4,400
KM	DIVER	T 50% OF	FLOW TO	BASIN 0	13110			4,410
KM	DUE T	O DUAL P	IPES					4,420
DT	DIV01							4,430
DI	0	20	1000					4,440
DQ	0	10	500					4,450
KK	013030	FROM	013020					4,460
RK	1089	0.0147	.020		TRAP	20	1	4,470
KK	013030	BASIN						4,480
BA	0.020							4,490
LS	0	89	0					4,500
UK	136	0.0100	0.200	100				4,510
RK	658	0.0152	0.020		TRAP	20	1.0	4,520
KK	013030	COMBINE						4,530
HC	2							4,540
KK	013040	FROM	013030					4,550
RK	918	0.0207	.020		TRAP	20	1	4,560
KK	013040	BASIN						4,570
BA	0.027							4,580
LS	0	88	0					4,590
UK	75	0.0100	0.200	100				4,600
RK	562	0.0178	0.020		TRAP	20	1.0	4,610
KK	013110							4,620
KM	RETRI	EVAL OF	DUAL PIP	E DIVERS	ION			4,630
KM	FROM	BASIN 01	3020					4,640
DR	DIV01							4,650
KK	013110	BASIN						4,660
BA	0.037							4,670
LS	0	83	0					4,680

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
01 - Leona Creek Basin

Page 7

10/21/98

UK	207	0.0100	0.257	100				4,690
RK	1005	0.0060	0.020		TRAP	20	1.0	4,700
KK	013110	COMBINE						4,710
HC	2							4,720
KK	013040	FROM	013110					4,730
RK	1005	0.0129	.020		TRAP	20	1	4,740
KK	013040	COMBINE						4,750
HC	3							4,760
KK	013050	FROM	013040					4,770
RK	542	0.0185	.020		TRAP	20	1	4,780
KK	013050	BASIN						4,790
BA	0.032							4,800
LS	0	89	0					4,810
UK	156	0.0100	0.225	100				4,820
RK	404	0.0124	0.020		TRAP	20	1.0	4,830
KK	013210	BASIN						4,840
BA	0.007							4,850
LS	0	93	0					4,860
UK	133	0.0100	0.200	100				4,870
RK	785	0.0127	0.020		TRAP	20	1.0	4,880
KK	013220	FROM	013210					4,890
RK	584	0.0257	.020		TRAP	20	1	4,900
KK	013220	BASIN						4,910
BA	0.018							4,920
LS	0	89	0					4,930
UK	150	0.0100	0.200	100				4,940
RK	482	0.0207	0.020		TRAP	20	1.0	4,950
KK	013220	COMBINE						4,960
HC	2							4,970
KK	013050	FROM	013220					4,980
RK	1371	0.0182	.020		TRAP	20	1	4,990
KK	013050	COMBINE						5,000
HC	3							5,010
KK	013060	FROM	013050					5,020
RK	1847	0.0169	.020		TRAP	20	1	5,030
KK	013060	BASIN						5,040
BA	0.060							5,050
LS	0	87	0					5,060
UK	172	0.0100	0.267	100				5,070
RK	783	0.0077	0.020		TRAP	20	1.0	5,080
KK	013060	COMBINE						5,090
HC	2							5,100
KK	013070	FROM	013060					5,110
RK	2525	0.0004	.020		TRAP	20	1	5,120
KK	013070	COMBINE						5,130
HC	2							5,140
KK	010240	FROM	013070					5,150
RK	1346	.0004	.020		TRAP	20	1	5,160
ZZ								5,170

2

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
02 - Moran Lake Basin

Page 1 10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION										DESIGN DISCHARGE (cfs)					Section Capacity	
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50		100
020010-020012		Pipe	77.30	75.82		306	.0048	.013			48.0		9	16	22	29	34	39	100
020012-020020		Pipe	75.82	70.00		575	.0101	.013	1	54.0		9	16	22	29	34	39	198	
020020-020022		Pipe	70.00	64.00		742	.0081	.013	1	54.0		20	39	52	70	82	96	177	
020022-020030		Pipe	64.00	63.20		232	.0034	.013	1	60.0		20	39	52	70	82	96	152	
020030-020032		Pipe	63.20	63.00		84	.0024	.013	1	60.0		31	60	82	110	129	151	128	
020032-020040		Pipe	63.00	62.70		86	.0035	.013	2	42.0		31	60	82	110	129	151	119	
020040-020050		Box	62.70	58.70		836	.0048	.013	1	3.7	8.0	48	88	119	158	184	217	274	
020050-020060		Box	58.70	54.70		887	.0045	.013	1	3.7	8.0	63	118	160	214	249	293	266	
020060-020062		Box	54.70	52.93		393	.0045	.013	1	4.0	8.0	72	134	182	242	282	331	297	
020062-020064		Box	52.93	52.08		188	.0045	.013	1	4.0	10.0	72	134	182	242	282	331	389	
020064-020070		Box	52.08	49.40		277	.0097	.013	3	3.0	6.0	72	134	182	242	282	331	608	
020074-020080		Pipe	52.34	49.50		518	.0055	.013	1	60.0		88	164	222	297	346	406	193	
020080-020081		Box	49.50	48.15		188	.0072	.013	1	4.0	8.0	106	200	272	363	423	497	376	
020081-020082		Natural Channel	48.15	44.80		450	.0074	.035	1	224.3	46.1	106	200	272	363	423	497	613	
020082-020084		Box	44.80	44.54		26	.0100	.013		4.0	8.0	106	200	272	363	423	497	443	
020084-020086		Natural Channel	44.54	44.00		66	.0082	.035		224.3	46.1	106	200	272	363	423	497	646	
020086-020090		Pipe	44.00	43.10		37	.0243	.013		60.0		106	200	272	363	423	497	406	
020090-020092	CMPA	Box	43.10	37.65		934	.0058	.024	1	4.0	6.0	111	208	283	377	441	516	128	
020092-020100		Box	37.65	36.65		281	.0036	.013	1	4.0	8.0	111	208	283	377	441	516	266	
020100-020102		Natural Channel	36.65	32.58		758	.0054	.035		225.6	26.5	120	226	306	409	476	559	702	
020102-020110		Pipe	32.58	31.89		126	.0055	.013	1	66.0		120	226	306	409	476	559	249	
020110-020120		Pipe	31.89	28.47		270	.0127	.013	1	72.0		125	236	319	426	496	583	477	
020120-020121		Pipe	28.47	28.00		48	.0098	.013	1	90.0		150	281	380	506	590	691	760	
020121-020122		Natural Channel	28.00	27.33		261	.0026	.035		373.5	69.0	150	281	380	506	590	691	1007	
020122-020123		Pipe	27.33	26.43		45	.0200	.013	1	72.0		150	281	380	506	590	691	599	

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
02 - Moran Lake Basin

Page 2

10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION										DESIGN DISCHARGE (cfs)										Section Capacity
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100					
020123-020124		Natural Channel	26.43	25.63			122	.0066	.035		269.2	55.7	150	281	380	506	590	691	691	961			
020124-020125		Pipe	25.63	24.55			53	.0204	.013	1	72.0		150	281	380	506	590	691	691	605			
020125-020130		Natural Channel	24.55	23.19			467	.0029	.035		373.7	73.4	150	281	380	506	590	691	691	1052			
020130-020140		Pipe	23.19	13.30			331	.0299	.013	1	72.0		155	291	392	522	608	712	712	733			
020140-020142		Natural Channel	13.30	11.78			92	.0165	.035		164.6	46.9	163	305	411	547	634	744	744	685			
020142-020144		Pipe	11.78	10.41			50	.0274	.013	1	72.0		163	305	411	547	634	744	744	701			
020144-020150		Natural Channel	10.41	9.00			1105	.0013	.035		278.2	87.2	163	305	411	547	634	744	744	923			
020150-020152		Natural Channel	9.00	8.00			1269	.0008	.035		342.8	15.9	180	337	452	601	700	816	816	849			
020152-020160		Box	8.00	7.00			99	.0101	.013	1	1.0	12.0	180	337	452	601	700	816	816	82			
020160-020170	Ditch	Natural Channel	7.00	5.00			122	.0164	.035				180	337	452	601	700	816	816				
020200-020020		Pipe	77.42	70.20	86	76	407	.0177	.013		21.0		4	7	10	14	16	19	19	21			
020300-020302		Pipe	78.77	68.50	84		614	.0167	.013		24.0		8	14	18	24	27	32	32	29			
020302-020310		Pipe	68.50	67.70			41	.0195	.013		30.0		8	14	18	24	27	32	32	57			
020310-020040		Pipe	67.70	62.70	69		213	.0235	.013		30.0		18	30	38	49	56	66	66	63			
020400-020404		Pipe	60.75	59.16	67	66	321	.0050	.013	1	24.0		6	13	18	24	29	34	34	16			
020404-020410		Pipe	59.16	53.60	66	64	564	.0099	.013		27.0		6	13	18	24	29	34	34	31			
020410-020070		Pipe	53.60	49.50	64		395	.0104	.013		30.0		11	21	29	40	47	55	55	42			
020500-020502		Pipe	58.48	55.90			418	.0062	.013		24.0		3	6	9	13	15	18	18	18			
020502-020504		Pipe	55.90	53.90			213	.0094	.013		27.0		3	6	9	13	15	18	18	30			
020504-020510		Pipe	53.90	51.90			206	.0097	.013		30.0		3	6	9	13	15	18	18	40			
020510-020080		Pipe	51.90	49.50			238	.0101	.013		30.0		10	20	28	38	44	53	53	41			
020600-020602		Pipe	47.10	46.40			209	.0033	.013	1	24.0		7	12	16	21	24	28	28	13			
020602-020604		Pipe	46.40	43.50	49		662	.0044	.013		27.0		7	12	16	21	24	28	28	21			
020604-020606		Pipe	43.50	39.41	47	43	262	.0156	.013		30.0		7	12	16	21	24	28	28	51			
020606-020610		Pipe	39.41	35.09	43	45	88	.0491	.013		36.0		7	12	16	21	24	28	28	148			

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
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County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
02 - Moran Lake Basin

Page 3 10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION							DESIGN DISCHARGE (cfs)										Section Capacity
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100		
020610-020612		Pipe	35.09	34.20		268	.0033	.013	1	36.0		21	37	49	63	72	85	38		
020612-020120		Pipe	34.20	28.00		1167	.0053	.013		42.0		21	37	49	63	72	85	73		
020700-020710		Pipe	25.04	12.00	28	486	.0268	.013	1	15.0		11	18	23	29	33	38	11		
020710-020720	Ditch	Natural Channel				28		.035	1			11	18	23	29	33	38			
020800-020802		Pipe	31.97	30.22	38	36	.0050	.013	1	15.0		4	6	8	11	12	14	5		
020802-020810		Pipe	31.85	27.41	36	33	.0076	.013		18.0		4	6	8	11	12	14	9		
020814-020815		Pipe	30.21	29.37	34	33	.0017	.013	1	24.0		10	17	23	30	34	40	9		
020820-020830	Ditch	Natural Channel	29.37	12.00		31	.5603	.035				10	17	23	30	34	40			
020900-020910		Pipe	36.78	30.16	42	35	.0066	.013	1	18.0		7	12	15	19	22	25	9		
020910-020920		Pipe	30.16	29.09	35	34	.0042	.013	1	18.0		9	16	21	27	32	37	7		
020920-020930		Pipe	29.09	8.00	34	12	.85	.2481	.013	18.0		12	23	31	41	48	56	52		
021000-021005		Pipe	31.40	28.20	36	33	.618	.0052	.013	21.0		4	8	10	13	15	17	11		
021010-021020		Pipe	27.00	26.00	34	39	.0256	.013		21.0		4	8	10	13	15	17	25		

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
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County of Santa Cruz
Stormwater Facilities Management System
Storage Facilities
02 - Moran Lake Basin

Page 1

10/21/98

ID:	Top of Dam Overflow:	<u>Elevation</u>		<u>Length</u>	<u>Coefficient</u>		<u>Exponent</u>				
		1	2	3	4	5	6	7	8	9	10
	Volume:										
	Elevation:										
	Discharge:										
	Return Period:	2	5	10	25	50	100				
	Design Volume:										
	Basin Design:										

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
02 - Moran Lake Basin

Page 1

10/21/98

ID: 020010	Area: 0.028	Pervious CN: 91	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	156	0.0100	0.200		Collector:	255	0.0080	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020020	Area: 0.030	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	183	0.0100	0.200		Collector:	910	0.0176	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020030	Area: 0.043	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	171	0.0100	0.200		Collector:	132	0.0133	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020040	Area: 0.006	Pervious CN: 95	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	50	0.0100	0.200		Collector:	576	0.0174	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020050	Area: 0.060	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	175	0.0100	0.200		Collector:	166	0.0086	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020060	Area: 0.027	Pervious CN: 92	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	125	0.0100	0.200		Collector:	772	0.0104	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020070	Area: 0.015	Pervious CN: 93	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	71	0.0100	0.200		Collector:	730	0.0055	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020080	Area: 0.031	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	125	0.0100	0.200		Collector:	573	0.0122	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020090	Area: 0.018	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	70	0.0100	0.200		Collector:	369	0.0163	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020100	Area: 0.034	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	143	0.0100	0.200		Collector:	456	0.0088	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020110	Area: 0.020	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	129	0.0100	0.200		Collector:	661	0.0151	0.020	TRAP	20.00	1.0	
Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
02 - Moran Lake Basin

Page 2

10/21/98

ID: 020120	Area: 0.034	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	122	0.0100	0.200		Collector:	343	0.0117	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020130	Area: 0.019	Pervious CN: 93	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	67	0.0100	0.200		Collector:	573	0.0175	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020140	Area: 0.025	Pervious CN: 91	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	125	0.0100	0.250		Collector:	770	0.0130	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020150	Area: 0.058	Pervious CN: 91	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	120	0.0100	0.240		Collector:	971	0.0041	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020160	Area: 0.076	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	167	0.0100	0.267		Collector:	060	0.0189	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020200	Area: 0.015	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	188	0.0100	0.200		Collector:	569	0.0141	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020300	Area: 0.022	Pervious CN: 93	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	175	0.0100	0.200		Collector:	860	0.0186	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020310	Area: 0.018	Pervious CN: 95	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	50	0.0100	0.200		Collector:	645	0.0047	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020400	Area: 0.028	Pervious CN: 88	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	160	0.0100	0.240		Collector:	818	0.0098	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020410	Area: 0.015	Pervious CN: 91	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	120	0.0100	0.200		Collector:	489	0.0123	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 020500	Area: 0.016	Pervious CN: 86	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	188	0.0100	0.200		Collector:	738	0.0136	0.020	TRAP	20.00	1.0	
Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
02 - Moran Lake Basin

Page 3

10/21/98

ID:	020510	Area:	0.024	Pervious CN:	90	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	114	0.0100	0.200		Collector:	160	0.0086	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020600	Area:	0.016	Pervious CN:	92	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	70	0.0100	0.200		Collector:	623	0.0096	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020610	Area:	0.031	Pervious CN:	93	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	50	0.0100	0.200		Collector:	591	0.0068	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020700	Area:	0.022	Pervious CN:	94	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	75	0.0100	0.200		Collector:	233	0.0032	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020710	Area:	0.022	Pervious CN:	90	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	150	0.0100	0.267		Collector:	523	0.0046	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020800	Area:	0.009	Pervious CN:	92	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	100	0.0100	0.200		Collector:	822	0.0036	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020810	Area:	0.017	Pervious CN:	92	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	100	0.0100	0.200		Collector:	341	0.0059	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020820	Area:	0.006	Pervious CN:	88	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	200	0.0100	0.300		Collector:	413	0.0048	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020900	Area:	0.014	Pervious CN:	94	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	75	0.0100	0.200		Collector:	665	0.0060	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020910	Area:	0.012	Pervious CN:	88	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	200	0.0100	0.300		Collector:	620	0.0048	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	020920	Area:	0.016	Pervious CN:	90	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	150	0.0100	0.267		Collector:	702	0.0041	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
02 - Moran Lake Basin

Page 4

10/21/98

ID:	021000	Area:	0.011	Pervious CN:	92	Impervious CN:														
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>							
		Pervious:	100	0.0100	0.200		Collector:	846	0.0024	0.020	TRAP	20.00	1.0							
		Impervious:					Main:													
ID:	021010	Area:	0.014	Pervious CN:	91	Impervious CN:														
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>							
		Pervious:	100	0.0100	0.200		Collector:	346	0.0087	0.020	TRAP	20.00	1.0							
		Impervious:					Main:													

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
02 - Moran Lake Basin

Page 1

10/22/98

ID										10
IT	2			300						20
IO	5									30
KK	020010	BASIN								40
BA	0.028									50
PH	0.00	0.00	0.23	0.45	1.00	1.49	1.89	2.83		60
LS	0	91	0							70
UK	156	0.0100	0.200	100						80
RK	1255	0.0080	0.020		TRAP	20	1.0			90
KK	020020	FROM	020010							100
RK	881	0.0091	.020		TRAP	20	1			110
KK	020020	BASIN								120
BA	0.030									130
LS	0	89	0							140
UK	183	0.0100	0.200	100						150
RK	910	0.0176	0.020		TRAP	20	1.0			160
KK	020200	BASIN								170
BA	0.015									180
LS	0	89	0							190
UK	188	0.0100	0.200	100						200
RK	569	0.0141	0.020		TRAP	20	1.0			210
KK	020020	FROM	020200							220
RK	407	0.0197	.020		TRAP	20	1			230
KK	020020	COMBINE								240
HC	3									250
KK	020030	FROM	020020							260
RK	974	0.0056	.020		TRAP	20	1			270
KK	020030	BASIN								280
BA	0.043									290
LS	0	89	0							300
UK	171	0.0100	0.200	100						310
RK	1132	0.0133	0.020		TRAP	20	1.0			320
KK	020030	COMBINE								330
HC	2									340
KK	020040	FROM	020030							350
RK	300	0.0030	.020		TRAP	20	1			360
KK	020040	BASIN								370
BA	0.006									380
LS	0	95	0							390
UK	50	0.0100	0.200	100						400
RK	576	0.0174	0.020		TRAP	20	1.0			410
KK	020300	BASIN								420
BA	0.022									430
LS	0	93	0							440
UK	175	0.0100	0.200	100						450
RK	860	0.0186	0.020		TRAP	20	1.0			460
KK	020310	FROM	020300							470
RK	655	0.0168	.020		TRAP	20	1			480
KK	020310	BASIN								490
BA	0.018									500
LS	0	95	0							510
UK	50	0.0100	0.200	100						520
RK	645	0.0047	0.020		TRAP	20	1.0			530
KK	020310	COMBINE								540
HC	2									550
KK	020040	FROM	020310							560
RK	300	0.0094	.020		TRAP	20	1			570
KK	020040	COMBINE								580
HC	3									590
KK	020050	FROM	020040							600
RK	836	0.0072	.020		TRAP	20	1			610
KK	020050	BASIN								620
BA	0.060									630
LS	0	89	0							640
UK	175	0.0100	0.200	100						650
RK	1166	0.0086	0.020		TRAP	20	1.0			660
KK	020050	COMBINE								670
HC	2									680
KK	020060	FROM	020050							690
RK	888	0.0045	.020		TRAP	20	1			700
KK	020060	BASIN								710
BA	0.027									720
LS	0	92	0							730
UK	125	0.0100	0.200	100						740
RK	772	0.0104	0.020		TRAP	20	1.0			750
KK	020060	COMBINE								760
HC	2									770
KK	020070	FROM	020060							780

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
02 - Moran Lake Basin

Page 2

10/21/98

RK	858	0.0082	.020		TRAP	20	1	790
KK	020070	BASIN						800
BA	0.015							810
LS	0	93	0					820
UK	71	0.0100	0.200	100				830
RK	730	0.0055	0.020		TRAP	20	1.0	840
KK	020400	BASIN						850
BA	0.028							860
LS	0	88	0					870
UK	160	0.0100	0.240	100				880
RK	818	0.0098	0.020		TRAP	20	1.0	890
KK	020410	FROM	020400					900
RK	885	0.0056	.020		TRAP	20	1	910
KK	020410	BASIN						920
BA	0.015							930
LS	0	91	0					940
UK	120	0.0100	0.200	100				950
RK	489	0.0123	0.020		TRAP	20	1.0	960
KK	020410	COMBINE						970
HC	2							980
KK	020070	FROM	020410					990
RK	395	0.0177	.020		TRAP	20	1	1,000
KK	020070	COMBINE						1,010
HC	3							1,020
KK	020080	FROM	020070					1,030
RK	586	0.0034	.020		TRAP	20	1	1,040
KK	020080	BASIN						1,050
BA	0.031							1,060
LS	0	89	0					1,070
UK	125	0.0100	0.200	100				1,080
RK	573	0.0122	0.020		TRAP	20	1.0	1,090
KK	020500	BASIN						1,100
BA	0.016							1,110
LS	0	86	0					1,120
UK	188	0.0100	0.200	100				1,130
RK	738	0.0136	0.020		TRAP	20	1.0	1,140
KK	020510	FROM	020500					1,150
RK	838	0.0095	.020		TRAP	20	1	1,160
KK	020510	BASIN						1,170
BA	0.024							1,180
LS	0	90	0					1,190
UK	114	0.0100	0.200	100				1,200
RK	1160	0.0086	0.020		TRAP	20	1.0	1,210
KK	020510	COMBINE						1,220
HC	2							1,230
KK	020080	FROM	020510					1,240
RK	305	0.0033	.020		TRAP	20	1	1,250
KK	020080	COMBINE						1,260
HC	3							1,270
KK	020090	FROM	020080					1,280
RK	700	0.0043	.020		TRAP	20	1	1,290
KK	020090	BASIN						1,300
BA	0.018							1,310
LS	0	89	0					1,320
UK	70	0.0100	0.200	100				1,330
RK	369	0.0163	0.020		TRAP	20	1.0	1,340
KK	020090	COMBINE						1,350
HC	2							1,360
KK	020100	FROM	020090					1,370
RK	1214	0.0074	.020		TRAP	20	1	1,380
KK	020100	BASIN						1,390
BA	0.034							1,400
LS	0	89	0					1,410
UK	143	0.0100	0.200	100				1,420
RK	456	0.0088	0.020		TRAP	20	1.0	1,430
KK	020100	COMBINE						1,440
HC	2							1,450
KK	020110	FROM	020100					1,460
RK	886	0.0028	.020		TRAP	20	1	1,470
KK	020110	BASIN						1,480
BA	0.020							1,490
LS	0	89	0					1,500
UK	129	0.0100	0.200	100				1,510
RK	661	0.0151	0.020		TRAP	20	1.0	1,520
KK	020110	COMBINE						1,530
HC	2							1,540
KK	020120	FROM	020110					1,550
RK	300	0.0019	.020		TRAP	20	1	1,560

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
02 - Moran Lake Basin

Page 3

10/21/98

KK	020120	BASIN						1,570
BA	0.034							1,580
LS	0	89	0					1,590
UK	122	0.0100	0.200	100				1,600
RK	343	0.0117	0.020		TRAP	20	1.0	1,610
KK	020600	BASIN						1,620
BA	0.016							1,630
LS	0	92	0					1,640
UK	70	0.0100	0.200	100				1,650
RK	623	0.0096	0.020		TRAP	20	1.0	1,660
KK	020610	FROM	020600					1,670
RK	1222	0.0049	.020		TRAP	20	1	1,680
KK	020610	BASIN						1,690
BA	0.031							1,700
LS	0	93	0					1,710
UK	50	0.0100	0.200	100				1,720
RK	591	0.0068	0.020		TRAP	20	1.0	1,730
KK	020610	COMBINE						1,740
HC	2							1,750
KK	020120	FROM	020610					1,760
RK	1436	0.0042	.020		TRAP	20	1	1,770
KK	020120	COMBINE						1,780
HC	3							1,790
KK	020130	FROM	020120					1,800
RK	997	0.0080	.020		TRAP	20	1	1,810
KK	020130	BASIN						1,820
BA	0.019							1,830
LS	0	93	0					1,840
UK	67	0.0100	0.200	100				1,850
RK	573	0.0175	0.020		TRAP	20	1.0	1,860
KK	020130	COMBINE						1,870
HC	2							1,880
KK	020140	FROM	020130					1,890
RK	473	0.0211	.020		TRAP	20	1	1,900
KK	020140	BASIN						1,910
BA	0.025							1,920
LS	0	91	0					1,930
UK	125	0.0100	0.250	100				1,940
RK	770	0.0130	0.020		TRAP	20	1.0	1,950
KK	020140	COMBINE						1,960
HC	2							1,970
KK	020150	FROM	020140					1,980
RK	1105	0.0127	.020		TRAP	20	1	1,990
KK	020150	BASIN						2,000
BA	0.058							2,010
LS	0	91	0					2,020
UK	120	0.0100	0.240	100				2,030
RK	971	0.0041	0.020		TRAP	20	1.0	2,040
KK	020150	COMBINE						2,050
HC	2							2,060
KK	020160	FROM	020150					2,070
RK	1490	0.0027	.020		TRAP	20	1	2,080
KK	020160	BASIN						2,090
BA	0.076							2,100
LS	0	89	0					2,110
UK	167	0.0100	0.267	100				2,120
RK	1060	0.0189	0.020		TRAP	20	1.0	2,130
KK	020160	COMBINE						2,140
HC	2							2,150
KK	020700	BASIN						2,160
BA	0.022							2,170
LS	0	94	0					2,180
UK	75	0.0100	0.200	100				2,190
RK	1233	0.0032	0.020		TRAP	20	1.0	2,200
KK	020710	FROM	020700					2,210
RK	486	0.0082	.020		TRAP	20	1	2,220
KK	020710	BASIN						2,230
BA	0.022							2,240
LS	0	90	0					2,250
UK	150	0.0100	0.267	100				2,260
RK	1523	0.0046	0.020		TRAP	20	1.0	2,270
KK	020710	COMBINE						2,280
HC	2							2,290
KK	020800	BASIN						2,300
BA	0.009							2,310
LS	0	92	0					2,320
UK	100	0.0100	0.200	100				2,330
RK	822	0.0036	0.020		TRAP	20	1.0	2,340

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
02 - Moran Lake Basin

Page 4

10/21/98

KK	020810	FROM	020800					2,350
RK	935	0.0048	.020		TRAP	20	1	2,360
KK	020810	BASIN						2,370
BA	0.017							2,380
LS	0	92	0					2,390
UK	100	0.0100	0.200	100				2,400
RK	341	0.0059	0.020		TRAP	20	1.0	2,410
KK	020810	COMBINE						2,420
HC	2							2,430
KK	020820	FROM	020810					2,440
RK	487	0.0031	.020		TRAP	20	1	2,450
KK	020820	BASIN						2,460
BA	0.006							2,470
LS	0	88	0					2,480
UK	200	0.0100	0.300	100				2,490
RK	413	0.0048	0.020		TRAP	20	1.0	2,500
KK	020820	COMBINE						2,510
HC	2							2,520
KK	020900	BASIN						2,530
BA	0.014							2,540
LS	0	94	0					2,550
UK	75	0.0100	0.200	100				2,560
RK	665	0.0060	0.020		TRAP	20	1.0	2,570
KK	020910	FROM	020900					2,580
RK	1006	0.0030	.020		TRAP	20	1	2,590
KK	020910	BASIN						2,600
BA	0.012							2,610
LS	0	88	0					2,620
UK	200	0.0100	0.300	100				2,630
RK	620	0.0048	0.020		TRAP	20	1.0	2,640
KK	020910	COMBINE						2,650
HC	2							2,660
KK	020920	FROM	020910					2,670
RK	300	0.0119	.020		TRAP	20	1	2,680
KK	020920	BASIN						2,690
BA	0.016							2,700
LS	0	90	0					2,710
UK	150	0.0100	0.267	100				2,720
RK	1702	0.0041	0.020		TRAP	20	1.0	2,730
KK	020920	COMBINE						2,740
HC	2							2,750
KK	020930	FROM	020920					2,760
RK	300	0.0588	.020		TRAP	20	1	2,770
KK	021000	BASIN						2,780
BA	0.011							2,790
LS	0	92	0					2,800
UK	100	0.0100	0.200	100				2,810
RK	846	0.0024	0.020		TRAP	20	1.0	2,820
KK	021010	FROM	021000					2,830
RK	657	0.0015	.020		TRAP	20	1	2,840
KK	021010	BASIN						2,850
BA	0.014							2,860
LS	0	91	0					2,870
UK	100	0.0100	0.200	100				2,880
RK	346	0.0087	0.020		TRAP	20	1.0	2,890
KK	021010	COMBINE						2,900
HC	2							2,910
ZZ								2,920

3

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
03 - Ocean Basin

Page 1

LOCATION			EXISTING SECTION														DESIGN DISCHARGE (cfs)					Section Capacity
ID	Comments	Type	USIE	DSIE	USGE	DSGE	Length	Slope	Man	N	No	Size*	Base*	2	5	10	25	50	100			
030010-030020		Pipe	38.40	32.28	41	36	914	.0067	.013		1	18.0		9	14	18	23	27	31	9		
030020-030030		Pipe	34.70	28.76			72	.0825	.013		1	12.0		11	21	28	37	43	50	10		
030100-030110		Pipe	50.60	44.18	56	49	930	.0069	.013		1	20.0		5	9	12	16	18	21	12		
030115-030116		Pipe	44.18	36.79	49	44	1260	.0059	.013		1	21.0		12	21	27	35	40	47	12		
030120-030130		Pipe	36.79	30.00			41	.1656	.013		1	21.0		18	32	42	55	64	75	65		
030200-030210		Pipe	43.31	20.00	46	26	136	.1714	.013		1	12.0		9	15	20	27	31	37	15		
030300-030304		Pipe	55.90	53.80	59	59	126	.0167	.013		1	30.0		7	14	19	25	30	35	53		
030304-030310		Pipe	53.80	49.40	59	59	531	.0083	.013		1	36.0		7	14	19	25	30	35	61		
030310-030320		Pipe	49.40	45.10	59	55	380	.0113	.013		1	42.0		12	23	31	41	48	57	107		
030320-030330		Pipe	45.10	40.80	55	56	577	.0075	.013		1	42.0		15	28	38	51	60	70	87		
030330-030335		Pipe	40.80	35.60	56	40	189	.0275	.013		1	42.0		21	40	55	75	88	104	167		
030335-030340		Pipe	35.60	12.50	40	18	40	.5775	.013		1	30.0		21	40	55	75	88	104	312		
030400-030410	45th Ave	Pipe	68.24	64.30	80	70	1295	.0030	.013		1	36.0		6	14	20	28	34	41	37		
030410-030420		Pipe	64.30	63.80	70	71	420	.0012	.013		1	42.0		11	24	35	49	59	71	35		
030424-030426		Pipe	63.80	60.40	71	69	551	.0062	.013		1	42.0		19	44	62	86	103	122	79		
030430-030440		Pipe	60.40	53.50	69	64	759	.0091	.013		1	42.0		22	49	70	97	116	138	96		
030440-030450		Pipe	53.50	50.00			38	.0921	.013		1	30.0		22	49	70	97	116	138	125		
030500-030510		Pipe	35.86	18.00	42	23	437	.0409	.013			12.0		1	2	3	4	6	7	7		
030510-030520		Natural Channel					75	.035						1	2	3	4	6	7			
030900-030910		Pipe	80.40	25.00			53	1.0453	.013			12.0			1	2	4	5	6	36		
031000-031010		Pipe	76.44				98	.7800	.013			12.0			1	1	2	3	4	32		
031100-031102		Pipe	4.30	3.68			157	.0039	.013		1	21.0		5	11	16	23	28	33	10		
031102-031110		Pipe	3.68	3.60			21	.0038	.013		1	21.0		5	11	16	23	28	33	10		
031200-031210		Pipe	6.38	4.93			32	.0453	.013			18.0		3	7	10	14	16	19	22		

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Storage Facilities
03 - Ocean Basin

Page 1

10/21/98

ID:	Top of Dam Overflow:	<u>Elevation</u>		<u>Length</u>		<u>Coefficient</u>		<u>Exponent</u>			
		1	2	3	4	5	6	7	8	9	10
	Volume:										
	Elevation:										
	Discharge:										
	Return Period:	2	5	10	25	50	100				
	Design Volume:										
	Basin Design:										

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
03 - Ocean Basin

Page 1

10/21/98

10/21/98												
ID: 030010	Area: 0.017	Pervious CN: 94			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	75	0.0100	0.200		Collector:	803	0.0050	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030020	Area: 0.020	Pervious CN: 88			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	200	0.0100	0.300		Collector:	809	0.0049	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030100	Area: 0.012	Pervious CN: 92			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	75	0.0100	0.200		Collector:	675	0.0074	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030110	Area: 0.015	Pervious CN: 93			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	75	0.0100	0.200		Collector:	482	0.0083	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030120	Area: 0.022	Pervious CN: 90			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	150	0.0100	0.267		Collector:	432	0.0069	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030200	Area: 0.023	Pervious CN: 91			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	100	0.0100	0.200		Collector:	095	0.0091	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030300	Area: 0.026	Pervious CN: 89			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	120	0.0100	0.240		Collector:	596	0.0067	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030310	Area: 0.014	Pervious CN: 92			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	75	0.0100	0.200		Collector:	419	0.0095	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030320	Area: 0.009	Pervious CN: 90			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	100	0.0100	0.200		Collector:	553	0.0145	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030330	Area: 0.028	Pervious CN: 87			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	167	0.0100	0.200		Collector:	171	0.0085	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 030400	Area: 0.039	Pervious CN: 86			Impervious CN:							
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	210	0.0100	0.240		Collector:	506	0.0046	0.020	TRAP	20.00	1.0	
Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
03 - Ocean Basin

Page 2

10/21/98

10/21/98

ID: 030410	Area: 0.029	Pervious CN: 86	Impervious CN:										
OVERLAND FLOW:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:		210	0.0100	0.240		Collector:		348	0.0057	0.020	TRAP	20.00	1.0
Impervious:						Main:							
ID: 030420	Area: 0.041	Pervious CN: 89	Impervious CN:										
OVERLAND FLOW:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:		125	0.0100	0.200		Collector:		982	0.0071	0.020	TRAP	20.00	1.0
Impervious:						Main:							
ID: 030430	Area: 0.015	Pervious CN: 86	Impervious CN:										
OVERLAND FLOW:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:		188	0.0100	0.250		Collector:		430	0.0047	0.020	TRAP	20.00	1.0
Impervious:						Main:							
ID: 030440	Area: 0.033	Pervious CN: 83	Impervious CN:										
OVERLAND FLOW:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:		200	0.0100	0.240		Collector:		991	0.0030	0.020	TRAP	20.00	1.0
Impervious:						Main:							
ID: 030500	Area: 0.008	Pervious CN: 82	Impervious CN:										
OVERLAND FLOW:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:		238	0.0100	0.250		Collector:		716	0.0140	0.020	TRAP	20.00	1.0
Impervious:						Main:							
ID: 030510	Area: 0.002	Pervious CN: 94	Impervious CN:										
OVERLAND FLOW:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:		<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:		50	0.0100	0.200		Collector:		183	0.0109	0.020	TRAP	20.00	1.0
Impervious:						Main:							

Page 1

(hec1 data)

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
03 - Ocean Basin

Page 2

10/21/98

BA	0.028									
LS	0	87	0							790
UK	167	0.0100	0.200	100						800
RK	1171	0.0085	0.020		TRAP	20	1.0			810
KK	030330	COMBINE								820
HC	2									830
KK	030340	FROM	030330							840
RK	300	0.1092	.020		TRAP	20	1			850
KK	030400	BASIN								860
BA	0.039									870
LS	0	86	0							880
UK	210	0.0100	0.240	100						890
RK	1506	0.0046	0.020		TRAP	20	1.0			900
KK	030410	FROM	030400							910
RK	1295	0.0069	.020		TRAP	20	1			920
KK	030410	BASIN								930
BA	0.029									940
LS	0	86	0							950
UK	210	0.0100	0.240	100						960
RK	348	0.0057	0.020		TRAP	20	1.0			970
KK	030410	COMBINE								980
HC	2									990
KK	030420	FROM	030410							1,000
RK	420	0.0024	.020		TRAP	20	1			1,010
KK	030420	BASIN								1,020
BA	0.041									1,030
LS	0	89	0							1,040
UK	125	0.0100	0.200	100						1,050
RK	1982	0.0071	0.020		TRAP	20	1.0			1,060
KK	030420	COMBINE								1,070
HC	2									1,080
KK	030430	FROM	030420							1,090
RK	551	0.0091	.020		TRAP	20	1			1,100
KK	030430	BASIN								1,110
BA	0.015									1,120
LS	0	86	0							1,130
UK	188	0.0100	0.250	100						1,140
RK	430	0.0047	0.020		TRAP	20	1.0			1,150
KK	030430	COMBINE								1,160
HC	2									1,170
KK	030440	FROM	030430							1,180
RK	799	0.0063	.020		TRAP	20	1			1,190
KK	030440	BASIN								1,200
BA	0.033									1,210
LS	0	83	0							1,220
UK	200	0.0100	0.240	100						1,230
RK	1991	0.0030	0.020		TRAP	20	1.0			1,240
KK	030440	COMBINE								1,250
HC	2									1,260
KK	030500	BASIN								1,270
BA	0.008									1,280
LS	0	82	0							1,290
UK	238	0.0100	0.250	100						1,300
RK	716	0.0140	0.020		TRAP	20	1.0			1,310
KK	030510	FROM	030500							1,320
RK	437	0.0481	.020		TRAP	20	1			1,330
KK	030510	BASIN								1,340
BA	0.002									1,350
LS	0	94	0							1,360
UK	50	0.0100	0.200	100						1,370
RK	183	0.0109	0.020		TRAP	20	1.0			1,380
KK	030510	COMBINE								1,390
HC	2									1,400
KK	030900	BASIN								1,410
BA	0.013									1,420
LS	0	72	0							1,430
UK	300	0.0100	0.200	100						1,440
RK	680	0.0088	0.020		TRAP	20	1.0			1,450
KK	030910	FROM	030900							1,460
RK	300	0.5660	.020		TRAP	20	1			1,470
KK	031000	BASIN								1,480
BA	0.008									1,490
LS	0	72	0							1,500
UK	300	0.0100	0.200	100						1,510
RK	757	0.0079	0.020		TRAP	20	1.0			1,520
KK	031010	FROM	031000							1,530
RK	300	0.3061	.020		TRAP	20	1			1,540
KK	031100	BASIN								1,550
										1,560

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
03 - Ocean Basin

Page 3

								10/21/98
BA	0.032							
LS	0	84	0					1,570
UK	200	0.0100	0.200	100				1,580
RK	2040	0.0392	0.020					1,590
KK	031110	FROM	031100		TRAP	20	1.0	1,600
RK	300	0.0282	.020					1,610
KK	031200	BASIN			TRAP	20	1	1,620
BA	0.016							1,630
LS	0	87	0					1,640
UK	175	0.0100	0.200	100				1,650
RK	988	0.0051	0.020		TRAP	20	1.0	1,660
KK	031210	FROM	031200					1,670
RK	300	0.0625	.020		TRAP	20	1	1,680
ZZ								1,690
								1,700

4

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
04 - Tannery Gulch Basin

Page 1

10/20/98

LOCATION			EXISTING SECTION											DESIGN DISCHARGE (cfs)							Section Capacity
ID	Comments	Type	USIE	DSIE	USGE	DSGE	Length	Slope	Man	N	No	Size*	Base*	2	5	10	25	50	100		
040010-040020	O/S Zone 5	Natural Channel					1861			.035				8	33	53	87	116	152		
040020-040030	O/S Zone 5	Natural Channel					2262			.035				23	68	105	167	225	298		
040030-040040	O/S Zone 5	Natural Channel					457			.035			84.2 47.4	31	82	125	207	279	367		
040040-040045		Pipe	135.50	135.00			184	.0027	.013	1	54.0			35	90	140	230	308	403	102	
040045-040050		Natural Channel			138	104	1740	.0195	.035		74.2 60.0			35	90	140	230	308	403	507	
040050-040052		Natural Channel			104	100	460	.0087	.035		90.0 62.1			38	95	148	243	325	426	457	
040052-040054		Box	91.90	88.40			430	.0081	.013		6.0 6.0			38	95	148	243	325	426	485	
040054-040060		Natural Channel			100	80	233	.0858	.035		41.3 47.1			38	95	148	243	325	426	471	
040060-040070		Roadway					1447	.0028	.020	1				40	98	154	252	337	442		
040070-040080		Roadway					493	.0041	.020					82	183	275	426	550	710		
040080-040090		Roadway					665	.0030	.020					85	193	293	452	582	749		
040090-040100	Ditch	Natural Channel					678		.035					89	206	313	482	618	792		
040100-040110	Ditch	Natural Channel					94		.035					89	206	313	482	618	792		
040200-040202	O/S Zone 5	Natural Channel					1128		.035					1	2	3	5	6	8		
040202-040210		Pipe	165.96	159.00			184	.0378	.013	1	24.0			1	2	3	5	6	8	44	
040210-040215		Pipe	159.00	149.76			105	.0880	.013	1	30.0			4	9	14	21	26	32	122	
040215-040040	O/S Zone 5	Natural Channel					184		.035					4	9	14	21	26	32		
040300-040302		Natural Channel			250	200	1065	.0469	.035		11.9 26.2			4	8	11	17	21	25	65	
040302-040304		Pipe	193.00	183.80	198	188	185	.0497	.013	1	18.0			4	8	11	17	21	25	23	
040304-040310		Pipe	183.80	179.55	188	184	99	.0429	.013	1	21.0			4	8	11	17	21	25	33	
040310-040320		Pipe	179.55	141.50	185	150	832	.0457	.013	1	21.0			7	16	23	34	42	53	34	
040320-040322		Pipe	141.50	134.50	150	149	194	.0361	.013	1	33.0			18	37	54	77	92	112	101	
040322-040330		Natural Channel			146	112	997	.0341	.035		23.0 28.9			18	37	54	77	92	112	155	
040330-040340		Natural Channel			112	104	800	.0100	.035		59.6 47.8			38	76	107	147	175	209	293	
040340-040350		Pipe	81.70	74.00			580	.0133	.013	1	48.0			44	89	123	169	201	239	166	

NOTE: Size = diameter in inches.

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
04 - Tannery Gulch Basin

Page 2

LOCATION		EXISTING SECTION										DESIGN DISCHARGE (cfs)					Section Capacity	
ID	Comments	Type	USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25		50
040350-040070	Ditch	Natural Channel					420	.1762	.035				51	101	141	194	230	273
040400-040320		Roadway			190	150	964	.0417	.020				2	4	6	9	10	13
040500-040510		Pipe	134.55	125.00	141	132	363	.0263	.013	1	21.0		8	14	19	26	30	35
040510-040330		Pipe	125.00	112.40	132		410	.0307	.013	1	24.0		10	21	29	40	47	56
040600-040070		Roadway					861	.0139	.020	1			9	15	20	26	30	35
040700-040080		Roadway					470	.0170	.020				3	8	12	17	21	26
040800-040090		Pipe	78.35	76.00			99	.0237	.013	2	18.0		5	11	17	26	32	38
																		10/20/98

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Storage Facilities
04 - Tannery Gulch Basin

Page 1

10/21/98

ID:	Top of Dam Overflow:	<u>Elevation</u>		<u>Length</u>		<u>Coefficient</u>		<u>Exponent</u>			
		1	2	3	4	5	6	7	8	9	10
	Volume:										
	Elevation:										
	Discharge:										
	Return Period:	2	5	10	25	50	100				
	Design Volume:										
	Basin Design:										

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
04 - Tannery Gulch Basin

Page 1

10/21/98

10/21/98

ID: 040010	Area: 0.459	Pervious CN: 69	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	300	0.0100	0.388		Collector:	572	0.0152	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040020	Area: 0.384	Pervious CN: 74	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	243	0.0100	0.329		Collector:	183	0.0239	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040030	Area: 0.122	Pervious CN: 80	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	250	0.0100	0.300		Collector:	729	0.0116	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040040	Area: 0.023	Pervious CN: 86	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	178	0.0100	0.244		Collector:	509	0.0236	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040050	Area: 0.039	Pervious CN: 84	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	160	0.0100	0.280		Collector:	583	0.0515	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040060	Area: 0.026	Pervious CN: 86	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	171	0.0100	0.286		Collector:	354	0.0847	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040070	Area: 0.049	Pervious CN: 89	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	200	0.0100	0.257		Collector:	683	0.0073	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040080	Area: 0.015	Pervious CN: 86	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	217	0.0100	0.333		Collector:	674	0.0074	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040090	Area: 0.007	Pervious CN: 84	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	200	0.0100	0.320		Collector:	275	0.0073	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040100	Area: 0.004	Pervious CN: 86	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	150	0.0100	0.280		Collector:	93	0.0538	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 040200	Area: 0.012	Pervious CN: 82	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	300	0.0100	0.400		Collector:	020	0.0196	0.020	TRAP	20.00	1.0	
Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
04 - Tannery Gulch Basin

Page 2

10/21/98

10/21/98

ID: 040210	Area: 0.026	Pervious CN: 84	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	220	0.0100	0.240		Collector:	420	0.1667	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040300	Area: 0.039	Pervious CN: 82	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	642	0.0122	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040310	Area: 0.025	Pervious CN: 90	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	150	0.0100	0.233		Collector:	773	0.0388	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040320	Area: 0.040	Pervious CN: 89	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	188	0.0100	0.250		Collector:	642	0.0467	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040330	Area: 0.032	Pervious CN: 91	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	120	0.0100	0.240		Collector:	059	0.0283	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040340	Area: 0.023	Pervious CN: 90	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	117	0.0100	0.233		Collector:	513	0.0156	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040350	Area: 0.027	Pervious CN: 88	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	128	0.0100	0.244		Collector:	184	0.0084	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040400	Area: 0.014	Pervious CN: 86	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.275		Collector:	865	0.0347	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040500	Area: 0.025	Pervious CN: 90	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	120	0.0100	0.240		Collector:	161	0.0258	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040510	Area: 0.020	Pervious CN: 85	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	150	0.0100	0.267		Collector:	743	0.0108	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 040600	Area: 0.022	Pervious CN: 93	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	120	0.0100	0.200		Collector:	586	0.0126	0.020	TRAP	20.00	1.0
Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
04 - Tannery Gulch Basin

Page 3

10/21/98

ID:	040700	Area:	0.029	Pervious CN:	83	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	225	0.0100	0.250		Collector:	108	0.0027	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	040800	Area:	0.041	Pervious CN:	83	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	206	0.0100	0.250		Collector:	241	0.0161	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	040900	Area:	0.013	Pervious CN:	72	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	300	0.0100	0.200		Collector:	680	0.0088	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	041000	Area:	0.008	Pervious CN:	72	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	300	0.0100	0.200		Collector:	757	0.0079	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	041100	Area:	0.032	Pervious CN:	84	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	200	0.0100	0.200		Collector:	040	0.0392	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									
ID:	041200	Area:	0.016	Pervious CN:	87	Impervious CN:										
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
		Pervious:	175	0.0100	0.200		Collector:	988	0.0051	0.020	TRAP	20.00	1.0			
		Impervious:					Main:									

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
04 - Tannery Gulch Basin

Page 1

10/22/98

ID										
IT	2			300						10
IO	5									20
KK	040010	BASIN								30
BA	0.459									40
PH	0.00	0.00	0.23	0.45	1.00	1.49	1.89	2.83		50
LS	0	69	0							60
UK	300	0.0100	0.388	100						70
RK	6572	0.0152	0.020		TRAP	20	1.0			80
KK	040020	FROM	040010							90
RK	1861	0.0215	.020		TRAP	20	1			100
KK	040020	BASIN								110
BA	0.384									120
LS	0	74	0							130
UK	243	0.0100	0.329	100						140
RK	4183	0.0239	0.020		TRAP	20	1.0			150
KK	040020	COMBINE								160
HC	2									170
KK	040030	FROM	040020							180
RK	2262	0.0177	.020		TRAP	20	1			190
KK	040030	BASIN								200
BA	0.122									210
LS	0	80	0							220
UK	250	0.0100	0.300	100						230
RK	1729	0.0116	0.020		TRAP	20	1.0			240
KK	040030	COMBINE								250
HC	2									260
KK	040040	FROM	040030							270
RK	637	0.0235	.020		TRAP	20	1			280
KK	040040	BASIN								290
BA	0.023									300
LS	0	86	0							310
UK	178	0.0100	0.244	100						320
RK	509	0.0236	0.020		TRAP	20	1.0			330
KK	040200	BASIN								340
BA	0.012									350
LS	0	82	0							360
UK	300	0.0100	0.400	100						370
RK	1020	0.0196	0.020		TRAP	20	1.0			380
KK	040210	FROM	040200							390
RK	1306	0.1455	.020		TRAP	20	1			400
KK	040210	BASIN								410
BA	0.026									420
LS	0	84	0							430
UK	220	0.0100	0.240	100						440
RK	420	0.1667	0.020		TRAP	20	1.0			450
KK	040210	COMBINE								460
HC	2									470
KK	040040	FROM	040210							480
RK	482	0.0311	.020		TRAP	20	1			490
KK	040040	COMBINE								500
HC	3									510
KK	040050	FROM	040040							520
RK	1740	0.0236	.020		TRAP	20	1			530
KK	040050	BASIN								540
BA	0.039									550
LS	0	84	0							560
UK	160	0.0100	0.280	100						570
RK	583	0.0515	0.020		TRAP	20	1.0			580
KK	040050	COMBINE								590
HC	2									600
KK	040060	FROM	040050							610
RK	1123	0.0214	.020		TRAP	20	1			620
KK	040060	BASIN								630
BA	0.026									640
LS	0	86	0							650
UK	171	0.0100	0.286	100						660
RK	354	0.0847	0.020		TRAP	20	1.0			670
KK	040060	COMBINE								680
HC	2									690
KK	040070	FROM	040060							700
RK	1387	0.0144	.020		TRAP	20	1			710
KK	040070	BASIN								720
BA	0.049									730
LS	0	89	0							740
UK	200	0.0100	0.257	100						750
RK	683	0.0073	0.020		TRAP	20	1.0			760
KK	040300	BASIN								770
										780

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
04 - Tannery Gulch Basin

Page 2

10/21/98

BA	0.039							
LS	0	82	0					790
UK	300	0.0100	0.400	100				800
RK	1642	0.0122	0.020		TRAP	20	1.0	810
KK	040310	FROM	040300					820
RK	1345	0.0491	.020		TRAP	20	1	830
KK	040310	BASIN						840
BA	0.025							850
LS	0	90	0					860
UK	150	0.0100	0.233	100				870
RK	773	0.0388	0.020		TRAP	20	1.0	880
KK	040310	COMBINE						890
HC	2							900
KK	040320	FROM	040310					910
RK	901	0.0377	.020		TRAP	20	1	920
KK	040320	BASIN						930
BA	0.040							940
LS	0	89	0					950
UK	188	0.0100	0.250	100				960
RK	642	0.0467	0.020		TRAP	20	1.0	970
KK	040400	BASIN						980
BA	0.014							990
LS	0	86	0					1,000
UK	300	0.0100	0.275	100				1,010
RK	865	0.0347	0.020		TRAP	20	1.0	1,020
KK	040320	FROM	040400					1,030
RK	995	0.0593	.020		TRAP	20	1	1,040
KK	040320	COMBINE						1,050
HC	3							1,060
KK	040330	FROM	040320					1,070
RK	1126	0.0337	.020		TRAP	20	1	1,080
KK	040330	BASIN						1,090
BA	0.032							1,100
LS	0	91	0					1,110
UK	120	0.0100	0.240	100				1,120
RK	1059	0.0283	0.020		TRAP	20	1.0	1,130
KK	040500	BASIN						1,140
BA	0.025							1,150
LS	0	90	0					1,160
UK	120	0.0100	0.240	100				1,170
RK	1161	0.0258	0.020		TRAP	20	1.0	1,180
KK	040510	FROM	040500					1,190
RK	363	0.0275	.020		TRAP	20	1	1,200
KK	040510	BASIN						1,210
BA	0.020							1,220
LS	0	85	0					1,230
UK	150	0.0100	0.267	100				1,240
RK	743	0.0108	0.020		TRAP	20	1.0	1,250
KK	040510	COMBINE						1,260
HC	2							1,270
KK	040330	FROM	040510					1,280
RK	410	0.0439	.020		TRAP	20	1	1,290
KK	040330	COMBINE						1,300
HC	3							1,310
KK	040340	FROM	040330					1,320
RK	800	0.0100	.020		TRAP	20	1	1,330
KK	040340	BASIN						1,340
BA	0.023							1,350
LS	0	90	0					1,360
UK	117	0.0100	0.233	100				1,370
RK	513	0.0156	0.020		TRAP	20	1.0	1,380
KK	040340	COMBINE						1,390
HC	2							1,400
KK	040350	FROM	040340					1,410
RK	580	0.0414	.020		TRAP	20	1	1,420
KK	040350	BASIN						1,430
BA	0.027							1,440
LS	0	88	0					1,450
UK	128	0.0100	0.244	100				1,460
RK	1184	0.0084	0.020		TRAP	20	1.0	1,470
KK	040350	COMBINE						1,480
HC	2							1,490
KK	040070	FROM	040350					1,500
RK	438	0.0457	.020		TRAP	20	1	1,510
KK	040600	BASIN						1,520
BA	0.022							1,530
LS	0	93	0					1,540
UK	120	0.0100	0.200	100				1,550
								1,560

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
04 - Tannery Gulch Basin

Page 3

10/21/98

RK	1586	0.0126	0.020		TRAP	20	1.0	
KK	040070	FROM	040600					1,570
RK	779	0.0642	.020		TRAP	20	1	1,580
KK	040070	COMBINE						1,590
HC	4							1,600
KK	040080	FROM	040070					1,610
RK	504	0.0198	.020		TRAP	20	1	1,620
KK	040080	BASIN						1,630
BA	0.015							1,640
LS	0	86	0					1,650
UK	217	0.0100	0.333	100				1,660
RK	674	0.0074	0.020		TRAP	20	1.0	1,670
KK	040700	BASIN						1,680
BA	0.029							1,690
LS	0	83	0					1,700
UK	225	0.0100	0.250	100				1,710
RK	1108	0.0027	0.020		TRAP	20	1.0	1,720
KK	040080	FROM	040700					1,730
RK	546	0.0092	.020		TRAP	20	1	1,740
KK	040080	COMBINE						1,750
HC	3							1,760
KK	040090	FROM	040080					1,770
RK	649	0.0077	.020		TRAP	20	1	1,780
KK	040090	BASIN						1,790
BA	0.007							1,800
LS	0	84	0					1,810
UK	200	0.0100	0.320	100				1,820
RK	275	0.0073	0.020		TRAP	20	1.0	1,830
KK	040800	BASIN						1,840
BA	0.041							1,850
LS	0	83	0					1,860
UK	206	0.0100	0.250	100				1,870
RK	1241	0.0161	0.020		TRAP	20	1.0	1,880
KK	040090	FROM	040800					1,890
RK	300	0.0700	.020		TRAP	20	1	1,900
KK	040090	COMBINE						1,910
HC	3							1,920
KK	040100	FROM	040090					1,930
RK	772	0.0479	.020		TRAP	20	1	1,940
KK	040100	BASIN						1,950
BA	0.004							1,960
LS	0	86	0					1,970
UK	150	0.0100	0.280	100				1,980
RK	93	0.0538	0.020		TRAP	20	1.0	1,990
KK	040100	COMBINE						2,000
HC	2							2,010
ZZ								2,020
								2,030

5

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
05 - Rodeo Creek Basin

Page 1

10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION										DESIGN DISCHARGE (cfs)					Section Capacity
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	
050010-050020	O/S Zone 5	Natural Channel					2856	.035					13	34	53	85	111	143
050020-050030	O/S Zone 5	Natural Channel					2793	.035					33	84	133	212	278	355
050030-050040	O/S Zone 5	Natural Channel					805	.035					46	119	187	298	390	499
050040-050050	O/S Zone 5	Natural Channel					925	.035					57	145	228	363	476	608
050050-050060	O/S Zone 5	Natural Channel					1862	.035					61	155	243	386	505	646
050060-050070	O/S Zone 5	Natural Channel					890	.035					64	161	253	401	525	671
050070-050080	O/S Zone 5	Natural Channel					584	.035		1	76.1	34.7	65	164	257	407	534	683
050080-050090	O/S Zone 5	Natural Channel					673	.035					71	180	282	448	587	752
050090-050100		Natural Channel			90	70	1030	.0194	.035				73	186	290	460	604	774
050100-050110		Natural Channel			70	63	1138	.0062	.035				75	190	297	470	615	789
050110-050120		Natural Channel			63	60	1527	.0020	.035				79	201	311	490	641	820
050120-050122		Natural Channel					68	.0735	.035				86	216	332	520	677	864
050122-050130		Box	60.00	55.00			311	.0148	.013	1	6.0	6.0	86	216	332	520	677	864
050130-050140		Natural Channel	50.40				1436	.0077	.035				88	220	339	528	688	877
050140-050150		Natural Channel			47	36	930	.0118	.035				99	244	371	574	744	945
050150-050152		Natural Channel			36	33	1110	.0027	.035				103	251	382	590	763	970
050152-050154		Pipe			50	49	64	.0156	.013	2	72.0		103	251	382	590	763	970
050154-050160		Natural Channel			32	30	126	.0159	.035	1	95.8	00.5	103	251	382	590	763	970
050160-050170		Natural Channel			30	26	924	.0043	.035				123	280	421	645	833	1056
050170-050180		Natural Channel			26	18	822	.0097	.035	1	134.2	79.7	166	359	512	734	911	1153
050180-050190		Natural Channel			18	14	530	.0075	.035				180	392	561	803	990	1237
050190-050200		Natural Channel			14	12	1065	.0019	.035				199	432	616	878	1079	1340
050200-050210	Pond	Natural Channel					882		.035				208	451	644	918	1125	1394
050210-050215	Pond	Natural Channel					1207		.035				217	470	670	953	1167	1442
050215-050220	Pond	Natural Channel					1054		.035				246	528	750	1059	1292	1585

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
05 - Rodeo Creek Basin

Page 2

10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION										DESIGN DISCHARGE (cfs)										Section Capacity
			USGE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100					
050300-050040		Natural Channel	182	163	613	.0310	.035			60.3	21.1	5	13	20	32	42	54	283					
050310-050040	Ditch	Natural Channel			534		.035					3	8	13	21	27	35						
050400-050410		Natural Channel	240	180	629	.0954	.035			4.7	12.8	2	5	7	11	14	17	32					
050410-050050		Natural Channel	180	140	410	.0976	.035			4.7	12.8	4	9	14	21	26	32	32					
050500-050510	O/S Zone 5	Natural Channel			1056		.035			12.9	44.4	2	5	8	13	17	22						
050510-050520	O/S Zone 5	Natural Channel			1277		.035			11.3	31.8	3	8	13	20	26	33						
050520-050080	O/S Zone 5	Natural Channel			789		.035			6.9	14.3	5	12	19	30	39	50						
050600-050610		Pipe	216.50	212.79	226	218	365	.0102	.013	18.0		1	2	3	5	6	8	11					
050610-050090		Pipe	212.79	90.00			617	.1990	.013	18.0		2	4	6	8	11	13	47					
050700-050702		Pipe	105.82	104.27	108	110	269	.0058	.013	27.0		8	13	16	21	23	27	24					
050702-050710		Pipe	104.27	102.18	110	113	378	.0055	.013	30.0		8	13	16	21	23	27	30					
050710-050112		Pipe	102.18	100.01	113		179	.0121	.013	30.0		26	43	56	71	82	95	45					
050712-050114		Pipe	100.01	98.02			155	.0128	.013	36.0		26	43	56	71	82	95	76					
050714-050120	Ditch	Natural Channel			131				.035			26	43	56	71	82	95						
050720-050722		Pipe	107.44	106.00	115	114	241	.0060	.013	1	18.0	10	16	21	26	30	34	8					
050722-050710		Pipe	105.60	102.18	114	113	301	.0114	.013	24.0		10	16	21	26	30	34	24					
050800-050802		Pipe	107.40	106.90			180	.0028	.013	1	36.0	13	26	37	51	60	71	35					
050802-050804	Ditch	Natural Channel			806				.035	1		13	26	37	51	60	71						
050804-050805		Pipe			108	108	40	.0125	.013	2	21.0	13	26	37	51	60	71	35					
050805-050806	Ditch	Natural Channel			110				.035	1		13	26	37	51	60	71						
050806-050807		Pipe	102.00	101.40			35	.0171	.013	2	30.0	13	26	37	51	60	71	107					
050807-050808	Ditch	Natural Channel			215			.0149	.035			13	26	37	51	60	71						
050808-050809		Pipe	98.31	95.30	102	99	233	.0129	.013	1	36.0	13	26	37	51	60	71	76					
050809-050810	Ditch	Natural Channel			268				.035	1		13	26	37	51	60	71						
050810-050820		Pipe	87.90	77.60			306	.0337	.013	30.0		22	44	62	85	100	119	75					

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
05 - Rodeo Creek Basin

Page 3

10/20/98

LOCATION		EXISTING SECTION										DESIGN DISCHARGE (cfs)					Section Capacity			
ID	Comments	Type	USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100		
050820-050822		Pipe	77.60	60.00			177	.0994	.013			36.0		26	52	73	99	117	138	210
050822-050824		Pipe	60.00	52.00			59	.1356	.013			36.0		26	52	73	99	117	138	246
050824-050140	Ditch	Natural Channel					76			1				26	52	73	99	117	138	
050900-050150	Ditch	Natural Channel					482							5	10	15	21	25	30	
051000-051005		Pipe	81.70	76.58		91	922	.0056	.013	1	36.0		9	19	27	36	43	50	50	
051005-051010		Pipe	76.58	61.24	91	76	1803	.0085	.013	1	42.0		9	19	27	36	43	50	93	
051010-051020		Pipe	61.24	49.50	76	63	708	.0166	.013	1	42.0		19	38	54	75	89	105	130	
051020-050160		Pipe	49.50	29.00	63		565	.0363	.013	1	42.0		24	49	69	96	114	135	192	
051100-051110		Pipe	87.82	77.26	97	87	1103	.0096	.013	1	36.0		15	27	37	48	56	65	65	
051110-051118		Pipe	77.26	60.58	87	71	2019	.0083	.013	1	36.0		25	44	59	78	90	106	61	
051118-051120		Pipe	60.58	56.59	71		464	.0086	.013	1	42.0		25	44	59	78	90	106	93	
051120-051130		Natural Channel			66	56	666	.0150	.035		39.8	38.6	45	83	114	154	179	209	211	
051130-050170		Natural Channel			56	28	531	.0527	.035	1	39.8	38.6	45	85	118	161	189	223	396	
051200-051203		Pipe	78.08	76.26	84	81	347	.0052	.013	1	27.0		11	21	28	38	44	51	22	
051203-051204		Pipe	76.26	69.68	81		373	.0176	.013		30.0		11	21	28	38	44	51	54	
051204-051206		Natural Channel			74	70	301	.0133	.035		16.1	26.6	11	21	28	38	44	51	56	
051206-051208		Pipe	66.00	63.60			134	.0179	.013		36.0		11	21	28	38	44	51	89	
051208-051210		Pipe	63.60	63.51			45	.0020	.013	2	30.0		11	21	28	38	44	51	37	
051210-051120		Natural Channel	63.51	56.59	67	56	427	.0162	.035		10.4	13.5	19	36	49	65	76	89	47	
051300-051308		Pipe	52.12	49.20	60		476	.0061	.013	1	21.0		5	9	13	17	20	24	12	
051308-051310		Pipe	49.20	44.27	58	52	297	.0166	.013	1	18.0		5	9	13	17	20	24	14	
051310-050112		Pipe	42.50	31.24	53		161	.0699	.013	2	18.0		13	27	38	53	62	74	56	
051312-050180		Natural Channel			42	18	634	.0379	.035		11.9	16.1	13	27	38	53	62	74	80	
051320-051322		Pipe	54.20	48.72		52	498	.0110	.013		18.0		3	7	10	15	17	21	11	
051322-051310		Pipe	48.72	44.27	52	52	207	.0215	.013		24.0		3	7	10	15	17	21	33	
NOTE: Size = 18" unless otherwise noted.																				

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
05 - Rodeo Creek Basin

Page 4

10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION										DESIGN DISCHARGE (cfs)					Section Capacity
			USIE	DSIE	USGE	DSGE	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100	
051400-051402		Pipe	41.37	26.03	46		383	.0401	.013	1	21.0	6	12	17	23	27	32	32
051410-051414		Pipe	28.03	16.32			369	.0263	.013	1	24.0	17	32	43	58	69	81	37
051414-051415		Natural Channel	16.32	15.00			171	.0077	.035		16.1 33.5	17	32	43	58	69	81	37
051415-051416		Pipe	15.00	14.50			75	.0067	.013	1	24.0	17	32	43	58	69	81	19
051416-051417		Natural Channel	14.50	14.00			50	.0100	.035		16.1 33.5	17	32	43	58	69	81	42
051417-051420		Pipe	14.00	12.50			84	.0179	.013	2	24.0	17	32	43	58	69	81	61
051420-051425		Natural Channel			13	10	232	.0108	.035		38.0 42.4	32	60	81	110	128	150	156
051425-051430		Pipe	9.39	4.31			77	.0660	.013		30.0	32	60	81	110	128	150	105
051430-050215	Pond	Natural Channel					454					37	71	97	132	154	182	
051500-051410		Pipe	42.60	26.03	47	31	493	.0336	.013	1	21.0	8	14	19	25	29	35	29
051600-051606		Pipe	27.95	14.00	43	24	371	.0376	.013	1	33.0	11	19	24	32	36	42	103
051606-051610		Pipe	14.00	9.70			235	.0183	.013	1	36.0	11	19	24	32	36	42	90
051700-051710		Pipe	41.65	31.26	48	39	859	.0121	.013	1	18.0	18	31	42	54	63	73	12
051710-051712		Pipe	31.26	28.96	39	33	183	.0126	.013	1	21.0	24	42	55	72	82	95	18
051712-051716		Pipe	28.96	27.31			43	.0384	.013		24.0	24	42	55	72	82	95	44
051716-051720		Natural Channel			30	10	853	.0234	.035	1	13.0 26.4	24	42	55	72	82	95	53
051800-051801		Pipe	45.80	40.00			727	.0080	.013	1	21.0	2	3	4	6	7	8	14
051805-051810		Pipe	40.00				771	.0519	.013	1	24.0	2	3	4	6	7	8	52
051900-051904		Pipe	36.50	25.60	44		319	.0342	.013		15.0	2	4	5	7	8	9	12
051904-051910		Pipe	25.60	22.10			159	.0220	.013	1	21.0	2	4	5	7	8	9	24

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
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County of Santa Cruz
Stormwater Facilities Management System
Storage Facilities
05 - Rodeo Creek Basin

Page 1

10/21/98

ID:	Top of Dam Overflow:	<u>Elevation</u>		<u>Length</u>		<u>Coefficient</u>		<u>Exponent</u>			
		1	2	3	4	5	6	7	8	9	10
	Volume:										
	Elevation:										
	Discharge:										
	Return Period:	2	5	10	25	50	100				
	Design Volume:										
	Basin Design:										

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
05 - Rodeo Creek Basin

Page 1

10/21/98

ID: 050010	Area: 0.345	Pervious CN: 73	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	937	0.0144	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050020	Area: 0.490	Pervious CN: 74	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	025	0.0114	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050030	Area: 0.334	Pervious CN: 74	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	776	0.0147	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050040	Area: 0.050	Pervious CN: 77	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.325		Collector:	161	0.0517	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050050	Area: 0.038	Pervious CN: 76	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.314		Collector:	644	0.0776	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050060	Area: 0.058	Pervious CN: 78	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	601	0.0250	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050070	Area: 0.033	Pervious CN: 71	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	535	0.1869	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050080	Area: 0.050	Pervious CN: 73	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.340		Collector:	433	0.1848	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050090	Area: 0.027	Pervious CN: 78	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.325		Collector:	670	0.0896	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050100	Area: 0.034	Pervious CN: 83	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	243	0.0100	0.286		Collector:	440	0.1364	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050110	Area: 0.072	Pervious CN: 86	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	156	0.0100	0.250		Collector:	485	0.0168	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
05 - Rodeo Creek Basin

Page 2

10/21/98

ID: 050120	Area: 0.043	Pervious CN: 85	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	171	0.0100	0.257		Collector:	630	0.0476	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050130	Area: 0.031	Pervious CN: 87	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	150	0.0100	0.244		Collector:	120	0.0071	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050140	Area: 0.054	Pervious CN: 88	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	150	0.0100	0.229		Collector:	707	0.0707	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050150	Area: 0.028	Pervious CN: 85	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	210	0.0100	0.240		Collector:	749	0.0229	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050160	Area: 0.073	Pervious CN: 86	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	183	0.0100	0.227		Collector:	409	0.0106	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050170	Area: 0.038	Pervious CN: 85	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	200	0.0100	0.255		Collector:	069	0.0094	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050180	Area: 0.044	Pervious CN: 82	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	220	0.0100	0.260		Collector:	764	0.0131	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050190	Area: 0.095	Pervious CN: 87	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	159	0.0100	0.238		Collector:	806	0.0111	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050200	Area: 0.054	Pervious CN: 86	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	171	0.0100	0.250		Collector:	039	0.0241	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050210	Area: 0.048	Pervious CN: 87	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	127	0.0100	0.255		Collector:	764	0.0196	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 050220	Area: 0.082	Pervious CN: 87	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	145	0.0100	0.260		Collector:	451	0.0222	0.020	TRAP	20.00	1.0				
Impervious:					Main:										

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
05 - Rodeo Creek Basin

Page 3

10/21/98

ID: 050300	Area: 0.122	Pervious CN: 74	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	325	0.0150	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050310	Area: 0.079	Pervious CN: 74	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	343	0.0239	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050400	Area: 0.025	Pervious CN: 81	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	062	0.0235	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050410	Area: 0.020	Pervious CN: 81	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.250		Collector:	594	0.0421	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050500	Area: 0.049	Pervious CN: 74	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	371	0.0219	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050510	Area: 0.026	Pervious CN: 74	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	352	0.0426	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050520	Area: 0.036	Pervious CN: 75	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.400		Collector:	417	0.1918	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050600	Area: 0.012	Pervious CN: 79	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.300		Collector:	793	0.1261	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050610	Area: 0.008	Pervious CN: 81	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	300	0.0100	0.280		Collector:	555	0.1441	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050700	Area: 0.014	Pervious CN: 95	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	50	0.0100	0.200		Collector:	275	0.0078	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050710	Area: 0.022	Pervious CN: 93	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	75	0.0100	0.200		Collector:	171	0.0085	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
05 - Rodeo Creek Basin

Page 4

10/21/98

ID: 050720	Area: 0.017	Pervious CN: 95	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	50	0.0100	0.200		Collector:	012	0.0099	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050800	Area: 0.054	Pervious CN: 87	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	120	0.0100	0.200		Collector:	390	0.0072	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050810	Area: 0.035	Pervious CN: 88	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	83	0.0100	0.200		Collector:	533	0.0038	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050820	Area: 0.013	Pervious CN: 90	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	83	0.0100	0.200		Collector:	307	0.0153	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 050900	Area: 0.027	Pervious CN: 86	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	158	0.0100	0.267		Collector:	857	0.0117	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 051000	Area: 0.041	Pervious CN: 88	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	180	0.0100	0.200		Collector:	387	0.0108	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 051010	Area: 0.049	Pervious CN: 87	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	186	0.0100	0.200		Collector:	463	0.0086	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 051020	Area: 0.027	Pervious CN: 86	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	195	0.0100	0.200		Collector:	886	0.0090	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 051100	Area: 0.040	Pervious CN: 91	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	83	0.0100	0.200		Collector:	467	0.0068	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 051110	Area: 0.026	Pervious CN: 91	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	75	0.0100	0.200		Collector:	451	0.0089	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									
ID: 051120	Area: 0.022	Pervious CN: 83	Impervious CN:												
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>			
	Pervious:	211	0.0100	0.267		Collector:	676	0.0060	0.020	TRAP	20.00	1.0			
	Impervious:					Main:									

Page 5

ID:	051130	Area:	0.021	Pervious CN:	81	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	256	0.0100	0.289		Collector:	686	0.0146	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051200	Area:	0.032	Pervious CN:	90	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	75	0.0100	0.200		Collector:	808	0.0111	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051210	Area:	0.029	Pervious CN:	89	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	138	0.0100	0.225		Collector:	406	0.0099	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051300	Area:	0.015	Pervious CN:	88	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	67	0.0100	0.200		Collector:	654	0.0092	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051310	Area:	0.021	Pervious CN:	89	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	100	0.0100	0.200		Collector:	520	0.0077	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051320	Area:	0.018	Pervious CN:	85	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	150	0.0100	0.200		Collector:	855	0.0070	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051400	Area:	0.022	Pervious CN:	88	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	100	0.0100	0.200		Collector:	606	0.0165	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051410	Area:	0.012	Pervious CN:	89	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	150	0.0100	0.250		Collector:	363	0.0138	0.020	TRAP	20.00	1.0
		Impervious:					Main:						
ID:	051420	Area:	0.047	Pervious CN:	90	Impervious CN:							
		OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
		Pervious:	100	0.0100	0.222		Collector:	425	0.0070	0.020	TRAP	20.00	1.0

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
05 - Rodeo Creek Basin

Page 6

10/21/98

ID: 051600	Area: 0.024	Pervious CN: 93	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	75	0.0100	0.200		Collector:	208	0.0058	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051610	Area: 0.010	Pervious CN: 90	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	188	0.0100	0.250		Collector:	278	0.0288	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051700	Area: 0.042	Pervious CN: 92	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	71	0.0100	0.200		Collector:	366	0.0059	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051710	Area: 0.015	Pervious CN: 93	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	133	0.0100	0.200		Collector:	341	0.0147	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051720	Area: 0.014	Pervious CN: 83	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	264	0.0100	0.286		Collector:	209	0.0144	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051800	Area: 0.007	Pervious CN: 89	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	175	0.0100	0.300		Collector:	316	0.0190	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051810	Area: 0.016	Pervious CN: 88	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	200	0.0100	0.240		Collector:	220	0.0091	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051900	Area: 0.006	Pervious CN: 93	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	133	0.0100	0.200		Collector:	474	0.0169	0.020	TRAP	20.00	1.0				
Impervious:					Main:										
ID: 051910	Area: 0.010	Pervious CN: 92	Impervious CN:												
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>				
Pervious:	113	0.0100	0.200		Collector:	329	0.0304	0.020	TRAP	20.00	1.0				
Impervious:					Main:										

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
05 - Rodeo Creek Basin

Page 1

10/22/98

ID										
IT	2			300						10
IO	5									20
KK	050010	BASIN								30
BA	0.345									40
PH	0.00	0.00	0.23	0.45	1.00	1.49	1.89	2.83		50
LS	0	73	0							60
UK	300	0.0100	0.400	100						70
RK	6937	0.0144	0.020		TRAP	20	1.0			80
KK	050020	FROM	050010							90
RK	2856	0.0298	.020		TRAP	20	1			100
KK	050020	BASIN								110
BA	0.490									120
LS	0	74	0							130
UK	300	0.0100	0.400	100						140
RK	7025	0.0114	0.020		TRAP	20	1.0			150
KK	050020	COMBINE								160
HC	2									170
KK	050030	FROM	050020							180
RK	2793	0.0036	.020		TRAP	20	1			190
KK	050030	BASIN								200
BA	0.334									210
LS	0	74	0							220
UK	300	0.0100	0.400	100						230
RK	4776	0.0147	0.020		TRAP	20	1.0			240
KK	050030	COMBINE								250
HC	2									260
KK	050040	FROM	050030							270
RK	805	0.0211	.020		TRAP	20	1			280
KK	050040	BASIN								290
BA	0.050									300
LS	0	77	0							310
UK	300	0.0100	0.325	100						320
RK	1161	0.0517	0.020		TRAP	20	1.0			330
KK	050310	BASIN								340
BA	0.079									350
LS	0	74	0							360
UK	300	0.0100	0.400	100						370
RK	3343	0.0239	0.020		TRAP	20	1.0			380
KK	050040	FROM	050310							390
RK	534	0.2378	.020		TRAP	20	1			400
KK	050300	BASIN								410
BA	0.122									420
LS	0	74	0							430
UK	300	0.0100	0.400	100						440
RK	3325	0.0150	0.020		TRAP	20	1.0			450
KK	050040	FROM	050300							460
RK	613	0.0310	.020		TRAP	20	1			470
KK	050040	COMBINE								480
HC	4									490
KK	050050	FROM	050040							500
RK	925	0.0249	.020		TRAP	20	1			510
KK	050050	BASIN								520
BA	0.038									530
LS	0	76	0							540
UK	300	0.0100	0.314	100						550
RK	644	0.0776	0.020		TRAP	20	1.0			560
KK	050400	BASIN								570
BA	0.025									580
LS	0	81	0							590
UK	300	0.0100	0.300	100						600
RK	1062	0.0235	0.020		TRAP	20	1.0			610
KK	050410	FROM	050400							620
RK	629	0.0954	.020		TRAP	20	1			630
KK	050410	BASIN								640
BA	0.020									650
LS	0	81	0							660
UK	300	0.0100	0.250	100						670
RK	594	0.0421	0.020		TRAP	20	1.0			680
KK	050410	COMBINE								690
HC	2									700
KK	050050	FROM	050410							710
RK	410	0.0976	.020		TRAP	20	1			720
KK	050050	COMBINE								730
HC	3									740
KK	050060	FROM	050050							750
RK	1862	0.0134	.020		TRAP	20	1			760
KK	050060	BASIN								770
										780

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
05 - Rodeo Creek Basin

Page 2

10/21/98

BA	0.058								10/21/98
LS	0	78	0						790
UK	300	0.0100	0.300	100					800
RK	601	0.0250	0.020		TRAP	20	1.0		810
KK	050060	COMBINE							820
HC	2								830
KK	050070	FROM	050060						840
RK	890	0.0169	.020		TRAP	20	1		850
KK	050070	BASIN							860
BA	0.033								870
LS	0	71	0						880
UK	300	0.0100	0.300	100					890
RK	535	0.1869	0.020		TRAP	20	1.0		900
KK	050070	COMBINE							910
HC	2								920
KK	050080	FROM	050070						930
RK	584	0.0068	.020		TRAP	20	1		940
KK	050080	BASIN							950
BA	0.050								960
LS	0	73	0						970
UK	300	0.0100	0.340	100					980
RK	433	0.1848	0.020		TRAP	20	1.0		990
KK	050500	BASIN							1,000
BA	0.049								1,010
LS	0	74	0						1,020
UK	300	0.0100	0.400	100					1,030
RK	1371	0.0219	0.020		TRAP	20	1.0		1,040
KK	050510	FROM	050500						1,050
RK	1056	0.0947	.020		TRAP	20	1		1,060
KK	050510	BASIN							1,070
BA	0.026								1,080
LS	0	74	0						1,090
UK	300	0.0100	0.400	100					1,100
RK	352	0.0426	0.020		TRAP	20	1.0		1,110
KK	050510	COMBINE							1,120
HC	2								1,130
KK	050520	FROM	050510						1,140
RK	1277	0.0470	.020		TRAP	20	1		1,150
KK	050520	BASIN							1,160
BA	0.036								1,170
LS	0	75	0						1,180
UK	300	0.0100	0.400	100					1,190
RK	417	0.1918	0.020		TRAP	20	1.0		1,200
KK	050520	COMBINE							1,210
HC	2								1,220
KK	050080	FROM	050520						1,230
RK	789	0.0558	.020		TRAP	20	1		1,240
KK	050080	COMBINE							1,250
HC	3								1,260
KK	050090	FROM	050080						1,270
RK	673	0.0089	.020		TRAP	20	1		1,280
KK	050090	BASIN							1,290
BA	0.027								1,300
LS	0	78	0						1,310
UK	300	0.0100	0.325	100					1,320
RK	670	0.0896	0.020		TRAP	20	1.0		1,330
KK	050600	BASIN							1,340
BA	0.012								1,350
LS	0	79	0						1,360
UK	300	0.0100	0.300	100					1,370
RK	793	0.1261	0.020		TRAP	20	1.0		1,380
KK	050610	FROM	050600						1,390
RK	365	0.0411	.020		TRAP	20	1		1,400
KK	050610	BASIN							1,410
BA	0.008								1,420
LS	0	81	0						1,430
UK	300	0.0100	0.280	100					1,440
RK	555	0.1441	0.020		TRAP	20	1.0		1,450
KK	050610	COMBINE							1,460
HC	2								1,470
KK	050090	FROM	050610						1,480
RK	617	0.2107	.020		TRAP	20	1		1,490
KK	050090	COMBINE							1,500
HC	3								1,510
KK	050100	FROM	050090						1,520
RK	1030	0.0194	.020		TRAP	20	1		1,530
KK	050100	BASIN							1,540
BA	0.034								1,550
									1,560

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
05 - Rodeo Creek Basin

Page 3

10/21/98

LS	0	83	0						
UK	243	0.0100	0.286	100					1,570
RK	440	0.1364	0.020		TRAP	20	1.0		1,580
KK	050100	COMBINE							1,590
HC	2								1,600
KK	050110	FROM	050100						1,610
RK	1138	0.0062	.020		TRAP	20	1		1,620
KK	050110	BASIN							1,630
BA	0.072								1,640
LS	0	86	0						1,650
UK	156	0.0100	0.250	100					1,660
RK	1485	0.0168	0.020		TRAP	20	1.0		1,670
KK	050110	COMBINE							1,680
HC	2								1,690
KK	050120	FROM	050110						1,700
RK	1527	0.0020	.020		TRAP	20	1		1,710
KK	050120	BASIN							1,720
BA	0.043								1,730
LS	0	85	0						1,740
UK	171	0.0100	0.257	100					1,750
RK	630	0.0476	0.020		TRAP	20	1.0		1,760
KK	050700	BASIN							1,770
BA	0.014								1,780
LS	0	95	0						1,790
UK	50	0.0100	0.200	100					1,800
RK	1275	0.0078	0.020		TRAP	20	1.0		1,810
KK	050710	FROM	050700						1,820
RK	647	0.0002	.020		TRAP	20	1		1,830
KK	050710	BASIN							1,840
BA	0.022								1,850
LS	0	93	0						1,860
UK	75	0.0100	0.200	100					1,870
RK	1171	0.0085	0.020		TRAP	20	1.0		1,880
KK	050720	BASIN							1,890
BA	0.017								1,900
LS	0	95	0						1,910
UK	50	0.0100	0.200	100					1,920
RK	1012	0.0099	0.020		TRAP	20	1.0		1,930
KK	050710	FROM	050720						1,940
RK	541	0.0018	.020		TRAP	20	1		1,950
KK	050710	COMBINE							1,960
HC	3								1,970
KK	050120	FROM	050710						1,980
RK	465	0.1140	.020		TRAP	20	1		1,990
KK	050120	COMBINE							2,000
HC	3								2,010
KK	050130	FROM	050120						2,020
RK	379	0.0053	.020		TRAP	20	1		2,030
KK	050130	BASIN							2,040
BA	0.031								2,050
LS	0	87	0						2,060
UK	150	0.0100	0.244	100					2,070
RK	1120	0.0071	0.020		TRAP	20	1.0		2,080
KK	050130	COMBINE							2,090
HC	2								2,100
KK	050140	FROM	050130						2,110
RK	1436	0.0077	.020		TRAP	20	1		2,120
KK	050140	BASIN							2,130
BA	0.054								2,140
LS	0	88	0						2,150
UK	150	0.0100	0.229	100					2,160
RK	707	0.0707	0.020		TRAP	20	1.0		2,170
KK	050800	BASIN							2,180
BA	0.054								2,190
LS	0	87	0						2,200
UK	120	0.0100	0.200	100					2,210
RK	1390	0.0072	0.020		TRAP	20	1.0		2,220
KK	050810	FROM	050800						2,230
RK	1771	0.0113	.020		TRAP	20	1		2,240
KK	050810	BASIN							2,250
BA	0.035								2,260
LS	0	88	0						2,270
UK	83	0.0100	0.200	100					2,280
RK	533	0.0038	0.020		TRAP	20	1.0		2,290
KK	050810	COMBINE							2,300
HC	2								2,310
KK	050820	FROM	050810						2,320
RK	302	0.0331	.020		TRAP	20	1		2,330
									2,340

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
05 - Rodeo Creek Basin

Page 4

10/21/98

KK	050820	BASIN							
BA	0.013								2,350
LS	0	90	0						2,360
UK	83	0.0100	0.200	100					2,370
RK	1307	0.0153	0.020		TRAP	20	1.0		2,380
KK	050820	COMBINE							2,390
HC	2								2,400
KK	050140	FROM	050820						2,410
RK	312	0.1154	.020		TRAP	20	1		2,420
KK	050140	COMBINE							2,430
HC	3								2,440
KK	050150	FROM	050140						2,450
RK	930	0.0118	.020		TRAP	20	1		2,460
KK	050150	BASIN							2,470
BA	0.028								2,480
LS	0	85	0						2,490
UK	210	0.0100	0.240	100					2,500
RK	1749	0.0229	0.020		TRAP	20	1.0		2,510
KK	050900	BASIN							2,520
BA	0.027								2,530
LS	0	86	0						2,540
UK	158	0.0100	0.267	100					2,550
RK	857	0.0117	0.020		TRAP	20	1.0		2,560
KK	050150	FROM	050900						2,570
RK	514	0.0623	.020		TRAP	20	1		2,580
KK	050150	COMBINE							2,590
HC	3								2,600
KK	050160	FROM	050150						2,610
RK	1301	0.0046	.020		TRAP	20	1		2,620
KK	050160	BASIN							2,630
BA	0.073								2,640
LS	0	86	0						2,650
UK	183	0.0100	0.227	100					2,660
RK	1409	0.0106	0.020		TRAP	20	1.0		2,670
KK	051000	BASIN							2,680
BA	0.041								2,690
LS	0	88	0						2,700
UK	180	0.0100	0.200	100					2,710
RK	1387	0.0108	0.020		TRAP	20	1.0		2,720
KK	051010	FROM	051000						2,730
RK	2711	0.0044	.020		TRAP	20	1		2,740
KK	051010	BASIN							2,750
BA	0.049								2,760
LS	0	87	0						2,770
UK	186	0.0100	0.200	100					2,780
RK	463	0.0086	0.020		TRAP	20	1.0		2,790
KK	051010	COMBINE							2,800
HC	2								2,810
KK	051020	FROM	051010						2,820
RK	708	0.0184	.020		TRAP	20	1		2,830
KK	051020	BASIN							2,840
BA	0.027								2,850
LS	0	86	0						2,860
UK	195	0.0100	0.200	100					2,870
RK	886	0.0090	0.020		TRAP	20	1.0		2,880
KK	051020	COMBINE							2,890
HC	2								2,900
KK	050160	FROM	051020						2,910
RK	565	0.0584	.020		TRAP	20	1		2,920
KK	050160	COMBINE							2,930
HC	3								2,940
KK	050170	FROM	050160						2,950
RK	925	0.0043	.020		TRAP	20	1		2,960
KK	050170	BASIN							2,970
BA	0.038								2,980
LS	0	85	0						2,990
UK	200	0.0100	0.255	100					3,000
RK	1069	0.0094	0.020		TRAP	20	1.0		3,010
KK	051100	BASIN							3,020
BA	0.040								3,030
LS	0	91	0						3,040
UK	83	0.0100	0.200	100					3,050
RK	1467	0.0068	0.020		TRAP	20	1.0		3,060
KK	051110	FROM	051100						3,070
RK	1103	0.0091	.020		TRAP	20	1		3,080
KK	051110	BASIN							3,090
BA	0.026								3,100
LS	0	91	0						3,110
									3,120

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
05 - Rodeo Creek Basin

Page 5

10/21/98

UK	75	0.0100	0.200	100				
RK	451	0.0089	0.020					3,130
KK	051110	COMBINE			TRAP	20	1.0	3,140
HC	2							3,150
KK	051120	FROM	051110					3,160
RK	2483	0.0129	.020		TRAP	20	1	3,170
KK	051120	BASIN						3,180
BA	0.022							3,190
LS	0	83	0					3,200
UK	211	0.0100	0.267	100				3,210
RK	1676	0.0060	0.020		TRAP	20	1.0	3,220
KK	051200	BASIN						3,230
BA	0.032							3,240
LS	0	90	0					3,250
UK	75	0.0100	0.200	100				3,260
RK	1808	0.0111	0.020		TRAP	20	1.0	3,270
KK	051210	FROM	051200					3,280
RK	1205	0.0116	.020		TRAP	20	1	3,290
KK	051210	BASIN						3,300
BA	0.029							3,310
LS	0	89	0					3,320
UK	138	0.0100	0.225	100				3,330
RK	406	0.0099	0.020		TRAP	20	1.0	3,340
KK	051210	COMBINE						3,350
HC	2							3,360
KK	051120	FROM	051210					3,370
RK	427	0.0304	.020		TRAP	20	1	3,380
KK	051120	COMBINE						3,390
HC	3							3,400
KK	051130	FROM	051120					3,410
RK	666	0.0285	.020		TRAP	20	1	3,420
KK	051130	BASIN						3,430
BA	0.021							3,440
LS	0	81	0					3,450
UK	256	0.0100	0.289	100				3,460
RK	686	0.0146	0.020		TRAP	20	1.0	3,470
KK	051130	COMBINE						3,480
HC	2							3,490
KK	050170	FROM	051130					3,500
RK	531	0.0207	.020		TRAP	20	1	3,510
KK	050170	COMBINE						3,520
HC	3							3,530
KK	050180	FROM	050170					3,540
RK	834	0.0096	.020		TRAP	20	1	3,550
KK	050180	BASIN						3,560
BA	0.044							3,570
LS	0	82	0					3,580
UK	220	0.0100	0.260	100				3,590
RK	764	0.0131	0.020		TRAP	20	1.0	3,600
KK	051300	BASIN						3,610
BA	0.015							3,620
LS	0	88	0					3,630
UK	67	0.0100	0.200	100				3,640
RK	654	0.0092	0.020		TRAP	20	1.0	3,650
KK	051310	FROM	051300					3,660
RK	773	0.0052	.020		TRAP	20	1	3,670
KK	051310	BASIN						3,680
BA	0.021							3,690
LS	0	89	0					3,700
UK	100	0.0100	0.200	100				3,710
RK	520	0.0077	0.020		TRAP	20	1.0	3,720
KK	051320	BASIN						3,730
BA	0.018							3,740
LS	0	85	0					3,750
UK	150	0.0100	0.200	100				3,760
RK	855	0.0070	0.020		TRAP	20	1.0	3,770
KK	051310	FROM	051320					3,780
RK	705	0.0085	.020		TRAP	20	1	3,790
KK	051310	COMBINE						3,800
HC	3							3,810
KK	050180	FROM	051310					3,820
RK	796	0.0477	.020		TRAP	20	1	3,830
KK	050180	COMBINE						3,840
HC	3							3,850
KK	050190	FROM	050180					3,860
RK	530	0.0075	.020		TRAP	20	1	3,870
KK	050190	BASIN						3,880
BA	0.095							3,890
								3,900

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
05 - Rodeo Creek Basin

Page 6

								10/21/98
LS	0	87	0					
UK	159	0.0100	0.238	100				3,910
RK	1806	0.0111	0.020		TRAP	20	1.0	3,920
KK	050190	COMBINE						3,930
HC	2							3,940
KK	050200	FROM	050190					3,950
RK	1065	0.0009	.020		TRAP	20	1	3,960
KK	050200	BASIN						3,970
BA	0.054							3,980
LS	0	86	0					3,990
UK	171	0.0100	0.250	100				4,000
RK	1039	0.0241	0.020		TRAP	20	1.0	4,010
KK	050200	COMBINE						4,020
HC	2							4,030
KK	050210	FROM	050200					4,040
RK	884	0.0057	.020		TRAP	20	1	4,050
KK	050210	BASIN						4,060
BA	0.048							4,070
LS	0	87	0					4,080
UK	127	0.0100	0.255	100				4,090
RK	764	0.0196	0.020		TRAP	20	1.0	4,100
KK	050210	COMBINE						4,110
HC	2							4,120
KK	050215	FROM	050210					4,130
RK	1212	0.0017	.020		TRAP	20	1	4,140
KK	051400	BASIN						4,150
BA	0.022							4,160
LS	0	88	0					4,170
UK	100	0.0100	0.200	100				4,180
RK	606	0.0165	0.020		TRAP	20	1.0	4,190
KK	051410	FROM	051400					4,200
RK	383	0.0418	.020		TRAP	20	1	4,210
KK	051410	BASIN						4,220
BA	0.012							4,230
LS	0	89	0					4,240
UK	150	0.0100	0.250	100				4,250
RK	363	0.0138	0.020		TRAP	20	1.0	4,260
KK	051500	BASIN						4,270
BA	0.024							4,280
LS	0	90	0					4,290
UK	114	0.0100	0.229	100				4,300
RK	913	0.0110	0.020		TRAP	20	1.0	4,310
KK	051410	FROM	051500					4,320
RK	493	0.0325	.020		TRAP	20	1	4,330
KK	051410	COMBINE						4,340
HC	3							4,350
KK	051420	FROM	051410					4,360
RK	751	0.0093	.020		TRAP	20	1	4,370
KK	051420	BASIN						4,380
BA	0.047							4,390
LS	0	90	0					4,400
UK	100	0.0100	0.222	100				4,410
RK	1425	0.0070	0.020		TRAP	20	1.0	4,420
KK	051420	COMBINE						4,430
HC	2							4,440
KK	051430	FROM	051420					4,450
RK	309	0.0259	.020		TRAP	20	1	4,460
KK	051430	BASIN						4,470
BA	0.027							4,480
LS	0	87	0					4,490
UK	136	0.0100	0.257	100				4,500
RK	1110	0.0090	0.020		TRAP	20	1.0	4,510
KK	051430	COMBINE						4,520
HC	2							4,530
KK	050215	FROM	051430					4,540
RK	466	0.0215	.020		TRAP	20	1	4,550
KK	050215	COMBINE						4,560
HC	2							4,570
KK	050220	FROM	050215					4,580
RK	1048	0.0002	.020		TRAP	20	1	4,590
KK	050220	BASIN						4,600
BA	0.082							4,610
LS	0	87	0					4,620
UK	145	0.0100	0.260	100				4,630
RK	451	0.0222	0.020		TRAP	20	1.0	4,640
KK	050220	COMBINE						4,650
HC	2							4,660
KK	051600	BASIN						4,670
								4,680

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
05 - Rodeo Creek Basin

Page 7

10/21/98

BA	0.024							
LS	0	93	0					4,690
UK	75	0.0100	0.200	100				4,700
RK	1208	0.0058	0.020		TRAP	20	1.0	4,710
KK	051610	FROM	051600					4,720
RK	607	0.0560	.020		TRAP	20	1	4,730
KK	051610	BASIN						4,740
BA	0.010							4,750
LS	0	90	0					4,760
UK	188	0.0100	0.250	100				4,770
RK	278	0.0288	0.020		TRAP	20	1.0	4,780
KK	051610	COMBINE						4,790
HC	2							4,800
KK	051700	BASIN						4,810
BA	0.042							4,820
LS	0	92	0					4,830
UK	71	0.0100	0.200	100				4,840
RK	1366	0.0059	0.020		TRAP	20	1.0	4,850
KK	051710	FROM	051700					4,860
RK	884	0.0079	.020		TRAP	20	1	4,870
KK	051710	BASIN						4,880
BA	0.015							4,890
LS	0	93	0					4,900
UK	133	0.0100	0.200	100				4,910
RK	341	0.0147	0.020		TRAP	20	1.0	4,920
KK	051710	COMBINE						4,930
HC	2							4,940
KK	051720	FROM	051710					4,950
RK	1078	0.0306	.020		TRAP	20	1	4,960
KK	051720	BASIN						4,970
BA	0.014							4,980
LS	0	83	0					4,990
UK	264	0.0100	0.286	100				5,000
RK	209	0.0144	0.020		TRAP	20	1.0	5,010
KK	051720	COMBINE						5,020
HC	2							5,030
KK	051800	BASIN						5,040
BA	0.007							5,050
LS	0	89	0					5,060
UK	175	0.0100	0.300	100				5,070
RK	316	0.0190	0.020		TRAP	20	1.0	5,080
KK	051810	FROM	051800					5,090
RK	1498	0.0093	.020		TRAP	20	1	5,100
KK	051810	BASIN						5,110
BA	0.016							5,120
LS	0	88	0					5,130
UK	200	0.0100	0.240	100				5,140
RK	220	0.0091	0.020		TRAP	20	1.0	5,150
KK	051810	COMBINE						5,160
HC	2							5,170
KK	051900	BASIN						5,180
BA	0.006							5,190
LS	0	93	0					5,200
UK	133	0.0100	0.200	100				5,210
RK	474	0.0169	0.020		TRAP	20	1.0	5,220
KK	051910	FROM	051900					5,230
RK	417	0.0288	.020		TRAP	20	1	5,240
KK	051910	BASIN						5,250
BA	0.010							5,260
LS	0	92	0					5,270
UK	113	0.0100	0.200	100				5,280
RK	329	0.0304	0.020		TRAP	20	1.0	5,290
KK	051910	COMBINE						5,300
HC	2							5,310
ZZ								5,320
								5,330

6

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
06 - Soquel Creek Basin

Page 1 10/20/98

LOCATION			EXISTING SECTION										DESIGN DISCHARGE (cfs)							Section Capacity
ID	Comments	Type	USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100		
060100-060110	O/S Zone 5	Natural Channel					1589						226	3181	5013	8144	10882	14167		
060110-060120	O/S Zone 5	Natural Channel					1362						234	3206	5054	8214	10976	14287		
060120-060130	O/S Zone 5	Natural Channel					1196						234	3207	5055	8215	10978	14288		
060130-060140	O/S Zone 5	Natural Channel					639						239	3222	5080	8255	11034	14361		
060140-060150	Soquel Creek	Natural Channel					900						344	3512	5530	8966	11964	15562		
060150-060160	Soquel Creek	Natural Channel					347						347	3520	5542	8984	11986	15590		
060160-060170	Soquel Creek	Natural Channel					749						350	3527	5552	8999	12005	15613		
060170-060180	Soquel Creek	Natural Channel					787		.035				351	3530	5557	9003	12012	15620		
060180-060190	Soquel Creek	Natural Channel					782						376	3598	5657	9155	12208	15868		
060190-060200	Soquel Creek	Natural Channel					544						377	3602	5663	9162	12217	15879		
060200-060210	Soquel Creek	Natural Channel					844						378	3606	5667	9169	12222	15884		
060210-060220	Soquel Creek	Natural Channel					504						381	3615	5681	9189	12245	15910		
060220-060230	Soquel Creek	Natural Channel					321						381	3617	5683	9193	12248	15914		
060230-060240	Soquel Creek	Natural Channel					281						382	3621	5688	9200	12257	15926		
060240-060250	Soquel Creek	Natural Channel					774						387	3641	5717	9239	12306	15984		
060250-060260	Soquel Creek	Natural Channel					1726						390	3651	5729	9254	12329	16011		
060260-060270	Soquel Creek	Natural Channel					885						392	3659	5741	9272	12346	16030		
060270-060280	Soquel Creek	Natural Channel					1271						466	3834	6001	9671	12862	16686		
060400-060410	O/S Zone 5	Natural Channel					1343						2	5	7	12	15	19		
060410-060420	O/S Zone 5	Natural Channel					1343						6	14	21	34	44	56		
060420-060430	O/S Zone 5	Natural Channel					1145						8	19	30	48	62	79		
060430-060432	O/S Zone 5	Box					89	.0050	.013	1	4.0	4.0	8	21	34	54	71	91	129	
060432-060110	O/S Zone 5	Natural Channel					895						8	21	34	54	71	91		
060500-060510		Pipe	105.87	101.78		104	252	.0162	.013	1	24.0		1	2	4	5	7	29		
060510-060520		Pipe	101.00	90.00	104	94	526	.0209	.013	1	21.0		2	4	7	11	15	20	23	

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
06 - Soquel Creek Basin

Page 2

10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION					Man N	Slope	No	Size*	Base*	DESIGN DISCHARGE (cfs)					Section Capacity
			USIE	DSIE	USGE	DSGE	Length						2	5	10	25	50	
060520-060525		Pipe	90.00	82.10	94		454	.0174	.013	1	24.0		3	7	11	18	25	32
060525-060530		Box	72.20	67.42			93	.0514	.013	1	2.5	4.0	3	7	11	18	25	32
060530-060130	Ditch	Natural Channel					228						5	14	21	34	45	60
060600-060510	Ditch	Natural Channel					387						1	2	3	4	4	6
060700-060702		Pipe	116.00	104.45	122	109	213	.0542	.013	1	18.0		1	2	3	5	7	9
060702-060704		Pipe	104.45	103.90	109	109	83	.0066	.013	1	21.0		1	2	3	5	7	9
060704-060708	Ditch	Natural Channel					434						1	2	3	5	7	9
060708-060520		Pipe	97.25	90.00	100	94	288	.0252	.013	1	18.0		1	2	3	5	7	9
060800-060810		Pipe	164.90	120.30	172	127	612	.0729	.013	1	30.0		2	3	3	5	7	9
060810-060530		Pipe	120.30	67.42	127	90	965	.0548	.013	1	33.0		1	5	9	14	19	26
060900-060910		Pipe	132.47	122.05	142	127	475	.0219	.013	1	12.0		1	1	2	3	4	5
060910-060810		Pipe	122.05	120.30	127	127	254	.0069	.013	1	30.0		2	4	4	6	8	11
061000-061010	O/S Zone 5	Natural Channel					2640						95	259	408	652	858	1099
061010-061020	O/S Zone 5	Natural Channel					1309						102	279	440	704	926	1188
061020-060140	O/S Zone 5	Natural Channel					1829						104	284	449	717	944	1212
061100-061102	O/S Zone 5	Natural Channel					884						2	8	12	20	27	35
061102-061104	O/S Zone 5	Box					121	.013	.013	1	2.5	5.0	2	8	12	20	27	35
061104-061010	O/S Zone 5	Natural Channel					312	.035	.035	1			2	8	12	20	27	35
061200-060150		Pipe	48.00	44.00	54		471	.0085	.013	1	30.0		5	12	18	27	34	43
061300-060305		Pipe			78	76	176	.0114	.013	1	33.0		1	3	5	7	9	11
061305-060160		Pipe			76	74	185	.0108	.013	1	30.0		1	3	5	7	9	11
061400-060170		Pipe			48	46	215	.0093	.013	1	24.0		2	3	4	6	7	8
061500-061510		Natural Channel			248	196	998	.0521	.035	1	8.7	21.4	2	4	7	11	14	18
061510-061520		Natural Channel			196	110	1051	.0818	.035		8.7	21.4	3	7	11	17	23	29
061520-061530		Natural Channel			110	90	1043	.0192	.035		23.4	65.6	5	11	18	29	38	49

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
06 - Soquel Creek Basin

Page 3 10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION					No	Size*	Base*	DESIGN DISCHARGE (cfs)										Section Capacity
			USGE	DSGE	DSIE	USIE	Slope	Man N			2	5	10	25	50	100	200	300	400	500	
061530-061540		Natural Channel	90	50			1213 .0330	.035		16.2 34.4	7	15	24	38	50	66					76
061540-061545		Natural Channel	50	46			491 .0081	.035		75.3 42.2	20	49	79	126	161	204					423
061545-061550		Box			33.67	38.49	507 .0095	.013		3.0 5.0	20	49	79	126	161	204					160
061550-060180		Box			26.88	33.67	565 .0120	.013	1	3.0 5.0	27	66	105	161	203	253					180
061600-061610		Natural Channel	210	160			905 .0552	.035		10.0 25.8	1	3	5	7	9	12					53
061610-061620		Natural Channel	160	100			1290 .0465	.035		10.0 25.8	3	7	11	17	22	28					49
061620-061540		Natural Channel	100	50			1437 .0348	.035		10.0 25.8	9	21	33	51	66	84					42
061700-061702		Pipe	40	38	35.00	38.00	168 .0179	.013		15.0	2	6	8	12	14	17					9
061702-061550		Pipe		35	33.67	35.00	531 .0025	.013	1	12.0	2	6	8	12	14	17					2
061800-061810	O/S Zone 5	Natural Channel					1879	.035			2	4	6	9	11	14					
061810-061820		Natural Channel	150	88			1378 .0450	.035		6.9 18.4	4	9	13	20	25	32					32
061820-061830		Pipe	52		42.80	82.94	719 .0558	.013	1	36.0	7	17	26	41	53	66					158
061830-060180		Pipe	52		30.00	42.80	461 .0278	.013	1	36.0	11	26	42	65	83	104					111
061900-061820		Pipe		87	82.94	113.00	690 .0436	.013	1	18.0	2	4	5	8	10	13					22
062000-060190		Pipe	33		24.52	25.75	288 .0043	.013	1	30.0	3	6	9	12	14	17					27
062100-060202		Pipe			43.80	51.64	80 .0980	.013	1	15.0	3	8	11	16	19	23					20
062102-060200		Pipe	60		38.20	43.80	176 .0318	.013	1	18.0	3	8	11	16	19	23					19
062200-060210		Pipe	37	35	28.60	30.99	711 .0034	.013	1	18.0	7	13	17	23	26	30					6
062300-060220		Pipe	30	12			151 .1192	.013	1	15.0	5	9	12	17	20	24					22
062400-060402		Pipe	70	50	41.90	61.00	471 .0406	.013	1	15.0	6	10	14	19	22	27					13
062402-060230	Ditch	Natural Channel					244	.035	1		6	10	14	19	22	27					
062500-062508		Pipe			97.80	106.39	710 .0121	.013	1	24.0	10	16	20	26	30	34					25
062508-062510		Pipe	105	121	85.36	96.41	350 .0316	.013	1	30.0	10	16	20	26	30	34					73
062510-062512		Pipe			80.30	81.50	252 .0048	.013	1	48.0	40	65	83	105	118	138					100
062512-062514		Pipe			54.50	80.30	1355 .0190	.013	1	60.0	40	65	83	105	118	138					359

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
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County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
06 - Soquel Creek Basin

Page 4 10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION										DESIGN DISCHARGE (cfs)										Section Capacity
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100					
062514-062520	CMP	Pipe			70	60	87	.1149	.024	1	72.0		40	65	83	105	118	138	778				
062520-060240	Ditch	Natural Channel					150		.035	1			53	92	121	159	183	212					
062600-062504		Pipe	111.39	105.43	116		371	.0161	.013	1	36.0		8	13	16	20	23	27	85				
062604-062506		Pipe	105.43	103.50	112		269	.0072	.013	1	24.0		8	13	16	20	23	27	19				
062606-062508	Ditch	Natural Channel					234		.035				8	13	16	20	23	27					
062608-062510		Pipe	93.00	85.36			155	.0493	.013	1	36.0		8	13	16	20	23	27	148				
062700-062702		Pipe	87.50	82.50			924	.0054	.013	1	18.0		3	6	8	10	12	14	8				
062702-062704		Pipe	82.50	62.70		69	414	.0478	.013	1	21.0		3	6	8	10	12	14	35				
062704-062520		Pipe	62.70	53.16	69		440	.0217	.013	1	24.0		3	6	8	10	12	14	33				
062800-062810		Roadway		57.00	110	61	888	.0552	.020	1			1	2	4	9	12	16					
062810-062816		Pipe	57.00	29.90			558	.0486	.013	1	12.0		1	2	4	9	12	16	8				
062816-062818		Pipe	29.90	23.45			207	.0312	.013	1	18.0		1	2	4	9	12	16	19				
062818-062820		Pipe	23.45	23.20			351	.0007	.013	1	27.0		1	2	4	9	12	16	8				
062820-060250		Pipe	23.20	13.20			645	.0155	.013	1	27.0		5	12	19	31	41	52	39				
062828-060250	Ditch	Natural Channel					137		.035				5	12	19	31	41	52					
063000-063010	O/S Zone 5	Natural Channel					1705		.035		9.8 19.4		5	11	15	23	28	35					
063010-063030	O/S Zone 5	Natural Channel					1356		.035		9.8 19.4		9	20	30	44	55	67					
063030-063040		Natural Channel			146	130	954	.0168	.035		23.3 27.3		12	26	39	58	73	90	115				
063040-063050		Pipe	122.00	117.70	130		184	.0234	.013	1	48.0		13	28	42	63	79	98	222				
063050-063052		Natural Channel			126	120	257	.0233	.035		24.1 15.5		15	32	47	72	91	113	210				
063052-063054		Pipe			120	120	94	.0053	.013	1	48.0		15	32	47	72	91	113	105				
063054-063060		Natural Channel			120	92	863	.0319	.035		24.1 15.5		15	32	47	72	91	113	245				
063060-063062		Natural Channel			92	90	389	.0051	.035		86.5 42.2		46	102	155	238	305	385	422				
063062-063070		Pipe	80.25	77.42			302	.0094	.013	1	54.0		46	102	155	238	305	385	191				
063070-063072		Natural Channel			80	74	565	.0106	.035		95.3 48.6		76	174	265	406	518	646	655				

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County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
06 - Soquel Creek Basin

10/20/98

Page 5

ID	LOCATION Comments	Type	EXISTING SECTION					DESIGN DISCHARGE (cfs)										Section Capacity	
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50		100
063072-063080		Box			80	78	300	.0067	.013	1	6.0	6.0	76	174	265	406	518	646	441
063080-063090		Natural Channel			85	74	840	.0131	.035	1	53.3	43.2	79	182	276	423	540	673	298
063090-063100		Natural Channel			74	54	755	.0265	.035		56.6	31.0	82	188	286	442	565	705	585
063100-063110		Natural Channel			54	44	1092	.0092	.035		69.0	41.4	85	195	298	459	586	732	395
063110-063120		Natural Channel			44	42	908	.0022	.035		114.3	50.7	86	199	304	470	600	750	392
063120-060270		Pipe			50	40	1539	.0065	.013	1	72.0		97	226	348	537	683	853	342
063200-063210		Natural Channel			200	155	1049	.0429	.035		13.3	30.1	14	31	47	70	88	109	68
063210-063212		Natural Channel			155	133	1316	.0167	.035		13.3	30.1	18	41	61	92	117	145	42
063212-063214		Box	119.80	119.20	131		47	.0128	.013	1	4.0	4.0	18	41	61	92	117	145	207
063214-063230		Pipe	119.20	114.50			105	.0448	.013	1	54.0		18	41	61	92	117	145	416
063230-063240		Natural Channel			130	108	865	.0254	.035		28.1	28.2	26	61	92	142	183	232	190
063240-063244		Natural Channel			108	104	758	.0053	.035		44.2	33.9	28	64	97	150	193	245	163
063244-063250		Pipe	93.70	92.60			69	.0159	.013	1	36.0		28	64	97	150	193	245	84
063250-063060		Natural Channel	92.60		99	92	418	.0167	.035		40.0	69.8	30	68	103	159	205	260	151
063300-063310		Natural Channel			180	150	907	.0331	.035		11.6	18.7	7	17	26	41	53	67	65
063310-063320		Natural Channel			150	130	1289	.0155	.035		11.6	18.7	9	20	31	48	63	79	45
063320-063230		Pipe	120.27	114.50			105	.0550	.013	1	54.0		10	23	34	53	69	87	461
063400-063410		Natural Channel			290	230	937	.0640	.035		7.3	8.7	3	6	8	12	15	18	70
063410-063420		Natural Channel			230	160	1306	.0536	.035		7.3	8.7	6	14	20	30	37	46	64
063420-063430		Natural Channel			160	119	1430	.0287	.035		12.3	19.3	10	23	34	49	62	75	66
063430-063440		Pipe			118	115	65	.0462	.013	1	18.0		16	35	52	79	97	118	23
063440-063442		Box			115	113	81	.0247	.013	1	3.0	4.0	21	46	70	103	127	153	195
063442-063444		Pipe			113	113	30	.0167	.013	1	48.0		21	46	70	103	127	153	186
063444-063070		Natural Channel			113	80	681	.0477	.035	1	11.6	19.6	21	46	70	103	127	153	76
063500-063430		Pipe	115.23	113.20	121		320	.0063	.013	1	18.0		4	8	12	16	20	23	8

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County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
06 - Soquel Creek Basin

10/20/98

Page 6

ID	LOCATION Comments	Type	EXISTING SECTION					DESIGN DISCHARGE (cfs)							Section Capacity					
			USGE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5		10	25	50	100	
063600-063602		Pipe		149.06	147.26		147	.0122	.013	1	12.0		2	4	6	8	10	12		4
063602-063604		Pipe		147.26	111.70	154	130	753	.0472	.013	1	15.0	2	4	6	8	10	12		14
063604-063440		Pipe		111.70	109.50	130		95	.0232	.013	1	18.0	2	4	6	8	10	12		16
063700-063710		Natural Channel			270	180		939	.0958	.035		4.4	3	6	8	12	15	18		27
063710-063720		Natural Channel			180	157		821	.0280	.035		4.4	6	13	19	28	35	43		15
063720-063722		Pipe			156	144		298	.0403	.013	1	30.0	9	21	30	44	54	65		82
063722-063724		Natural Channel			144	134		158	.0633	.035		12.2	9	21	30	44	54	65		93
063724-063726		Pipe		128.80	126.32			179	.0139	.013	1	33.0	9	21	30	44	54	65		62
063726-063730		Pipe			126	125		93	.0108	.013	1	42.0	9	21	30	44	54	65		105
063730-063732		Pipe			125	114		299	.0368	.013	1	24.0	14	31	46	67	83	99		43
063732-063070		Natural Channel			114	80		794	.0428	.035	1	9.4	14	31	46	67	83	99		68
063800-063805		Pipe		109.80	107.00			224	.0125	.013	1	21.0	4	8	12	16	19	23		18
063805-063810		Pipe		102.70	86.80	110		316	.0503	.013	1	24.0	4	8	12	16	19	23		51
063810-063090	Ditch	Natural Channel						301		.035			4	8	12	18	24	32		
063900-063100		Pipe		98.52	58.00			404	.1003	.013	1	18.0	1	2	3	4	5	6		33
064000-064002		Pipe		75.54				503	.1502	.013	1	18.0	1	3	5	9	12	15		41
064002-064010		Roadway				50		601	.0102	.020			1	3	5	9	12	15		
064010-064020		Pipe		46.17	43.18			865	.0035	.013	1	18.0	7	16	25	39	48	58		6
064020-064022		Pipe		43.18	41.00			161	.0135	.013	1	18.0	9	21	33	50	61	74		12
064022-063120	CMP	Pipe		41.00	38.00			77	.0390	.024	1	24.0	9	21	33	50	61	74		24

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County of Santa Cruz
Stormwater Facilities Management System
Storage Facilities
06 - Soquel Creek Basin

10/21/98

Page 1

ID:	Top of Dam Overflow:	<u>Elevation</u>		<u>Length</u>	<u>Coefficient</u>		<u>Exponent</u>				
		1	2	3	4	5	6	7	8	9	10
	Volume:										
	Elevation:										
	Discharge:										
	Return Period:	2	5	10	25	50	100				
	Design Volume:										
	Basin Design:										

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 1

ID: 060010	Area: 12.436	Pervious CN: 76	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	226	0.0100	0.337		Collector:	463	0.0445	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060020	Area: 19.023	Pervious CN: 72	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	258	0.0100	0.367		Collector:	379	0.0350	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060100	Area: 4.656	Pervious CN: 70	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	264	0.0100	0.350		Collector:	973	0.0134	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060110	Area: 0.179	Pervious CN: 65	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	300	0.0100	0.375		Collector:	201	0.0192	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060120	Area: 0.053	Pervious CN: 63	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	300	0.0100	0.375		Collector:	048	0.0488	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060130	Area: 0.095	Pervious CN: 64	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	300	0.0100	0.373		Collector:	195	0.0456	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060140	Area: 0.070	Pervious CN: 71	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	265	0.0100	0.338		Collector:	007	0.0993	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060150	Area: 0.016	Pervious CN: 83	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	170	0.0100	0.240		Collector:	538	0.0465	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060160	Area: 0.048	Pervious CN: 81	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	167	0.0100	0.267		Collector:	662	0.0150	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060170	Area: 0.021	Pervious CN: 83	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	138	0.0100	0.250		Collector:	969	0.0155	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							
ID: 060180	Area: 0.029	Pervious CN: 84	Impervious CN:										
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
	Pervious:	120	0.0100	0.240		Collector:	647	0.0232	0.020	TRAP	20.00	1.0	
	Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 2

ID:	060190	Area:	0.021	Pervious CN:	87	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	100	0.0100	0.233		Collector:	777	0.0322	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060200	Area:	0.007	Pervious CN:	84	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	125	0.0100	0.250		Collector:	390	0.0256	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060210	Area:	0.054	Pervious CN:	84	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	150	0.0100	0.233		Collector:	108	0.0181	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060230	Area:	0.013	Pervious CN:	87	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	107	0.0100	0.229		Collector:	193	0.0777	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060250	Area:	0.020	Pervious CN:	88	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	83	0.0100	0.200		Collector:	516	0.0078	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060260	Area:	0.065	Pervious CN:	86	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	150	0.0100	0.200		Collector:	892	0.0067	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060270	Area:	0.086	Pervious CN:	86	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	144	0.0100	0.200		Collector:	103	0.0038	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060280	Area:	0.029	Pervious CN:	82	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	191	0.0100	0.236		Collector:	117	0.0090	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060400	Area:	0.044	Pervious CN:	74	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	149	0.0696	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060410	Area:	0.082	Pervious CN:	74	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	451	0.0414	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	060420	Area:	0.055	Pervious CN:	73	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.367		Collector:	746	0.0402	0.020	TRAP	20.00	1.0
	Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 3

ID: 060430	Area: 0.042	Pervious CN: 68	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.380		Collector:	353	0.0739	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060500	Area: 0.017	Pervious CN: 70	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	250	0.0100	0.340		Collector:	095	0.0183	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060510	Area: 0.015	Pervious CN: 75	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	217	0.0100	0.300		Collector:	981	0.0714	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060520	Area: 0.015	Pervious CN: 69	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	429	0.0233	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060530	Area: 0.019	Pervious CN: 79	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	233	0.0100	0.333		Collector:	400	0.0250	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060600	Area: 0.012	Pervious CN: 73	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	238	0.0100	0.325		Collector:	782	0.0639	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060700	Area: 0.016	Pervious CN: 76	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	238	0.0100	0.350		Collector:	712	0.1404	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060800	Area: 0.032	Pervious CN: 67	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	056	0.0947	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060810	Area: 0.017	Pervious CN: 67	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	685	0.0730	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060900	Area: 0.017	Pervious CN: 67	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	010	0.0990	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 060910	Area: 0.021	Pervious CN: 67	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	015	0.0985	0.020	TRAP	20.00	1.0
Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 4

ID:	061000	Area:	2.728	Pervious CN:	73	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	110	0.0093	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061010	Area:	0.140	Pervious CN:	74	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.357		Collector:	786	0.1272	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061020	Area:	0.060	Pervious CN:	74	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.357		Collector:	524	0.0656	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061100	Area:	0.104	Pervious CN:	69	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	318	0.0431	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061200	Area:	0.052	Pervious CN:	81	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	207	0.0100	0.286		Collector:	239	0.0807	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061300	Area:	0.012	Pervious CN:	81	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	167	0.0100	0.267		Collector:	550	0.0182	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061400	Area:	0.005	Pervious CN:	88	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	67	0.0100	0.200		Collector:	477	0.0419	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061500	Area:	0.040	Pervious CN:	74	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	704	0.0587	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061510	Area:	0.027	Pervious CN:	73	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	627	0.0478	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061520	Area:	0.043	Pervious CN:	75	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	250	0.0100	0.350		Collector:	743	0.0538	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	061530	Area:	0.033	Pervious CN:	79	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	200	0.0100	0.300		Collector:	596	0.0839	0.020	TRAP	20.00	1.0
	Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 5

ID: 061540	Area: 0.062	Pervious CN: 87	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	136	0.0100	0.255		Collector:	947	0.1056	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061550	Area: 0.032	Pervious CN: 88	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	100	0.0100	0.233		Collector:	653	0.0613	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061600	Area: 0.024	Pervious CN: 76	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	093	0.0640	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061610	Area: 0.037	Pervious CN: 74	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.400		Collector:	491	0.0713	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061620	Area: 0.073	Pervious CN: 83	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	215	0.0100	0.292		Collector:	788	0.0196	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061700	Area: 0.016	Pervious CN: 84	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	138	0.0100	0.250		Collector:	775	0.0516	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061800	Area: 0.021	Pervious CN: 81	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.367		Collector:	391	0.0719	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061810	Area: 0.029	Pervious CN: 79	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.309		Collector:	357	0.2241	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061820	Area: 0.026	Pervious CN: 83	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	205	0.0100	0.255		Collector:	478	0.0418	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061830	Area: 0.038	Pervious CN: 84	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	162	0.0100	0.246		Collector:	245	0.0161	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 061900	Area: 0.017	Pervious CN: 81	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	256	0.0100	0.289		Collector:	461	0.0548	0.020	TRAP	20.00	1.0
Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 6

ID: 062000	Area: 0.011	Pervious CN: 88	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	75	0.0100	0.200		Collector:	753	0.0199	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062100	Area: 0.021	Pervious CN: 85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	175	0.0100	0.233		Collector:	894	0.0112	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062200	Area: 0.018	Pervious CN: 90	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	63	0.0100	0.200		Collector:	050	0.0143	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062300	Area: 0.015	Pervious CN: 88	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	75	0.0100	0.200		Collector:	546	0.0366	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062400	Area: 0.016	Pervious CN: 89	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	67	0.0100	0.200		Collector:	596	0.0134	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062500	Area: 0.017	Pervious CN: 94	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	50	0.0100	0.200		Collector:	485	0.0124	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062510	Area: 0.042	Pervious CN: 94	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	67	0.0100	0.200		Collector:	347	0.0058	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062520	Area: 0.048	Pervious CN: 88	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	136	0.0100	0.200		Collector:	875	0.0057	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062600	Area: 0.013	Pervious CN: 95	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	50	0.0100	0.200		Collector:	665	0.0150	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062700	Area: 0.008	Pervious CN: 92	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	70	0.0100	0.200		Collector:	914	0.0066	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 062800	Area: 0.030	Pervious CN: 68	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	110	0.0080	0.160		Collector:	450	0.0069	0.020	TRAP	20.00	1.0
	Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 7

ID:	062820	Area:	0.036	Pervious CN:	84	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	200	0.0100	0.222		Collector:	578	0.0260	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063000	Area:	0.053	Pervious CN:	82	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	708	0.0585	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063010	Area:	0.050	Pervious CN:	82	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	492	0.0610	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063030	Area:	0.027	Pervious CN:	86	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.300		Collector:	435	0.0690	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063040	Area:	0.009	Pervious CN:	89	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	233	0.0100	0.267		Collector:	173	0.0173	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063050	Area:	0.017	Pervious CN:	84	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	243	0.0100	0.257		Collector:	766	0.0170	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063060	Area:	0.018	Pervious CN:	83	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	260	0.0100	0.280		Collector:	305	0.0164	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063070	Area:	0.031	Pervious CN:	83	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	233	0.0100	0.267		Collector:	408	0.0196	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063080	Area:	0.032	Pervious CN:	85	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	186	0.0100	0.257		Collector:	861	0.0116	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063090	Area:	0.011	Pervious CN:	73	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	142	0.0083	0.200		Collector:	275	0.0364	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID:	063100	Area:	0.035	Pervious CN:	77	Impervious CN:						
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	150	0.0088	0.200		Collector:	782	0.0384	0.020	TRAP	20.00	1.0
	Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 8

ID: 063110	Area: 0.034	Pervious CN: 72	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	157	0.0086	0.171		Collector:	393	0.0179	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063120	Area: 0.049	Pervious CN: 84	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	188	0.0100	0.233		Collector:	490	0.0121	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063200	Area: 0.168	Pervious CN: 81	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.350		Collector:	520	0.0072	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063210	Area: 0.023	Pervious CN: 85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.320		Collector:	353	0.0850	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063220	Area: 0.027	Pervious CN: 86	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	200	0.0100	0.244		Collector:	516	0.0388	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063230	Area: 0.005	Pervious CN: 85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	200	0.0100	0.257		Collector:	382	0.0340	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063240	Area: 0.020	Pervious CN: 85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	214	0.0100	0.257		Collector:	328	0.0396	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063250	Area: 0.021	Pervious CN: 85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	233	0.0100	0.267		Collector:	941	0.0159	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063300	Area: 0.138	Pervious CN: 76	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.400		Collector:	194	0.0077	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063310	Area: 0.021	Pervious CN: 86	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.300		Collector:	550	0.0545	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063320	Area: 0.016	Pervious CN: 82	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	267	0.0100	0.267		Collector:	217	0.0461	0.020	TRAP	20.00	1.0
	Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

10/21/98

Page 9

ID: 063400	Area: 0.025	Pervious CN: 83	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.350		Collector:	931	0.1074	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063410	Area: 0.038	Pervious CN: 83	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.350		Collector:	362	0.0829	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063420	Area: 0.036	Pervious CN: 85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.300		Collector:	508	0.1575	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063430	Area: 0.019	Pervious CN: 89	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	238	0.0100	0.250		Collector:	291	0.0687	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063440	Area: 0.021	Pervious CN: 91	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	160	0.0100	0.240		Collector:	527	0.0380	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063500	Area: 0.022	Pervious CN: 88	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	233	0.0100	0.267		Collector:	936	0.0103	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063600	Area: 0.010	Pervious CN: 90	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.200		Collector:	651	0.0461	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063700	Area: 0.022	Pervious CN: 85	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.300		Collector:	765	0.0567	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063710	Area: 0.029	Pervious CN: 84	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	300	0.0100	0.271		Collector:	445	0.1798	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063720	Area: 0.024	Pervious CN: 86	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	271	0.0100	0.257		Collector:	612	0.1307	0.020	TRAP	20.00	1.0
	Impervious:					Main:						
ID: 063730	Area: 0.034	Pervious CN: 87	Impervious CN:									
	OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
	Pervious:	243	0.0100	0.257		Collector:	542	0.0369	0.020	TRAP	20.00	1.0
	Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
06 - Soquel Creek Basin

Page 10

10/21/98

ID: 063800	Area: 0.019	Pervious CN: 86	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	150	0.0100	0.200		Collector:	058	0.0113	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 063810	Area: 0.029	Pervious CN: 63	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	125	0.0075	0.150		Collector:	905	0.0110	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 063900	Area: 0.007	Pervious CN: 85	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	300	0.0100	0.300		Collector:	871	0.0092	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 064000	Area: 0.022	Pervious CN: 73	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	142	0.0083	0.167		Collector:	042	0.0115	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 064010	Area: 0.039	Pervious CN: 85	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	170	0.0100	0.200		Collector:	615	0.0130	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 064020	Area: 0.016	Pervious CN: 83	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	188	0.0100	0.200		Collector:	886	0.0056	0.020	TRAP	20.00	1.0	
Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

10/22/98

Page 1

ID									10
IT	2			300					20
IO	5								30
KK	060010	BASIN							40
BA	12.436								50
PH	0.00	0.00	0.23	0.45	1.00	1.49	1.89	2.83	60
LS	0	76	0						70
UK	226	0.0100	0.337	100	TRAP	20	1.0		80
RK	40463	0.0445	0.020						90
KK	060020	BASIN							100
BA	19.023								110
LS	0	72	0						120
UK	258	0.0100	0.367	100	TRAP	20	1.0		130
RK	51379	0.0350	0.020						140
KK	060020	COMBINE							150
HC	2								160
KK	060100	FROM	060020		TRAP	20	1		170
RK	20014	.03	.020						180
KK	060100	BASIN							190
BA	4.656								200
LS	0	70	0						210
UK	264	0.0100	0.350	100	TRAP	20	1.0		220
RK	14973	0.0134	0.020						230
KK	060100	COMBINE							240
HC	2								250
KK	060110	FROM	060100		TRAP	20	1		260
RK	1589	0.0057	.020						270
KK	060110	BASIN							280
BA	0.179								290
LS	0	65	0						300
UK	300	0.0100	0.375	100	TRAP	20	1.0		310
RK	5201	0.0192	0.020						320
KK	060400	BASIN							330
BA	0.044								340
LS	0	74	0						350
UK	300	0.0100	0.400	100	TRAP	20	1.0		360
RK	1149	0.0696	0.020						370
KK	060410	FROM	060400		TRAP	20	1		380
RK	1343	0.0596	.020						390
KK	060410	BASIN							400
BA	0.082								410
LS	0	74	0						420
UK	300	0.0100	0.400	100	TRAP	20	1.0		430
RK	1451	0.0414	0.020						440
KK	060410	COMBINE							450
HC	2								460
KK	060420	FROM	060410		TRAP	20	1		470
RK	1343	0.0372	.020						480
KK	060420	BASIN							490
BA	0.055								500
LS	0	73	0						510
UK	300	0.0100	0.367	100	TRAP	20	1.0		520
RK	746	0.0402	0.020						530
KK	060420	COMBINE							540
HC	2								550
KK	060430	FROM	060420		TRAP	20	1		560
RK	1145	0.0349	.020						570
KK	060430	BASIN							580
BA	0.042								590
LS	0	68	0						600
UK	300	0.0100	0.380	100	TRAP	20	1.0		610
RK	1353	0.0739	0.020						620
KK	060430	COMBINE							630
HC	2								640
KK	060110	FROM	060430		TRAP	20	1		650
RK	983	0.0315	.020						660
KK	060110	COMBINE							670
HC	3								680
KK	060120	FROM	060110		TRAP	20	1		690
RK	1362	0.0095	.020						700
KK	060120	BASIN							710
BA	0.053								720
LS	0	63	0						730
UK	300	0.0100	0.375	100	TRAP	20	1.0		740
RK	2048	0.0488	0.020						750
KK	060120	COMBINE							760
HC	2								770
KK	060130	FROM	060120						780

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 2

10/21/98

RK	1196	0.0017	.020		TRAP	20	1	790
KK	060130	BASIN						800
BA	0.095							810
LS	0	64	0					820
UK	300	0.0100	0.373	100				830
RK	2195	0.0456	0.020		TRAP	20	1.0	840
KK	060500	BASIN						850
BA	0.017							860
LS	0	70	0					870
UK	250	0.0100	0.340	100				880
RK	1095	0.0183	0.020		TRAP	20	1.0	890
KK	060510	FROM	060500					900
RK	300	0.0146	.020		TRAP	20	1	910
KK	060510	BASIN						920
BA	0.015							930
LS	0	75	0					940
UK	217	0.0100	0.300	100				950
RK	981	0.0714	0.020		TRAP	20	1.0	960
KK	060600	BASIN						970
BA	0.012							980
LS	0	73	0					990
UK	238	0.0100	0.325	100				1,000
RK	782	0.0639	0.020		TRAP	20	1.0	1,010
KK	060510	FROM	060600					1,020
RK	387	0.0103	.020		TRAP	20	1	1,030
KK	060510	COMBINE						1,040
HC	3							1,050
KK	060520	FROM	060510					1,060
RK	526	0.0114	.020		TRAP	20	1	1,070
KK	060520	BASIN						1,080
BA	0.015							1,090
LS	0	69	0					1,100
UK	300	0.0100	0.400	100				1,110
RK	429	0.0233	0.020		TRAP	20	1.0	1,120
KK	060700	BASIN						1,130
BA	0.016							1,140
LS	0	76	0					1,150
UK	238	0.0100	0.350	100				1,160
RK	712	0.1404	0.020		TRAP	20	1.0	1,170
KK	060520	FROM	060700					1,180
RK	1011	0.0257	.020		TRAP	20	1	1,190
KK	060520	COMBINE						1,200
HC	3							1,210
KK	060530	FROM	060520					1,220
RK	547	0.0475	.020		TRAP	20	1	1,230
KK	060530	BASIN						1,240
BA	0.019							1,250
LS	0	79	0					1,260
UK	233	0.0100	0.333	100				1,270
RK	400	0.0250	0.020		TRAP	20	1.0	1,280
KK	060800	BASIN						1,290
BA	0.032							1,300
LS	0	67	0					1,310
UK	300	0.0100	0.400	100				1,320
RK	1056	0.0947	0.020		TRAP	20	1.0	1,330
KK	060810	FROM	060800					1,340
RK	645	0.0698	.020		TRAP	20	1	1,350
KK	060810	BASIN						1,360
BA	0.017							1,370
LS	0	67	0					1,380
UK	300	0.0100	0.400	100				1,390
RK	685	0.0730	0.020		TRAP	20	1.0	1,400
KK	060900	BASIN						1,410
BA	0.017							1,420
LS	0	67	0					1,430
UK	300	0.0100	0.400	100				1,440
RK	1010	0.0990	0.020		TRAP	20	1.0	1,450
KK	060910	FROM	060900					1,460
RK	474	0.0211	.020		TRAP	20	1	1,470
KK	060910	BASIN						1,480
BA	0.021							1,490
LS	0	67	0					1,500
UK	300	0.0100	0.400	100				1,510
RK	1015	0.0985	0.020		TRAP	20	1.0	1,520
KK	060910	COMBINE						1,530
HC	2							1,540
KK	060810	FROM	060910					1,550
RK	300	0.0079	.020		TRAP	20	1	1,560

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

10/21/98

Page 3

KK	060810	COMBINE					1,570
HC	3						1,580
KK	060530	FROM	060810				1,590
RK	965	0.0601	.020	TRAP	20	1	1,600
KK	060530	COMBINE					1,610
HC	3						1,620
KK	060130	FROM	060530				1,630
RK	300	0.1607	.020	TRAP	20	1	1,640
KK	060130	COMBINE					1,650
HC	3						1,660
KK	060140	FROM	060130				1,670
RK	639	0.0063	.020	TRAP	20	1	1,680
KK	060140	BASIN					1,690
BA	0.070						1,700
LS	0	71	0				1,710
UK	265	0.0100	0.338	100			1,720
RK	1007	0.0993	0.020	TRAP	20	1.0	1,730
KK	061000	BASIN					1,740
BA	2.728						1,750
LS	0	73	0				1,760
UK	300	0.0100	0.400	100			1,770
RK	16110	0.0093	0.020	TRAP	20	1.0	1,780
KK	061010	FROM	061000				1,790
RK	2640	0.0159	.020	TRAP	20	1	1,800
KK	061010	BASIN					1,810
BA	0.140						1,820
LS	0	74	0				1,830
UK	300	0.0100	0.357	100			1,840
RK	786	0.1272	0.020	TRAP	20	1.0	1,850
KK	061100	BASIN					1,860
BA	0.104						1,870
LS	0	69	0				1,880
UK	300	0.0100	0.400	100			1,890
RK	2318	0.0431	0.020	TRAP	20	1.0	1,900
KK	061010	FROM	061100				1,910
RK	1322	0.0666	.020	TRAP	20	1	1,920
KK	061010	COMBINE					1,930
HC	3						1,940
KK	061020	FROM	061010				1,950
RK	1309	0.0092	.020	TRAP	20	1	1,960
KK	061020	BASIN					1,970
BA	0.060						1,980
LS	0	74	0				1,990
UK	300	0.0100	0.357	100			2,000
RK	1524	0.0656	0.020	TRAP	20	1.0	2,010
KK	061020	COMBINE					2,020
HC	2						2,030
KK	060140	FROM	061020				2,040
RK	1829	0.0252	.020	TRAP	20	1	2,050
KK	060140	COMBINE					2,060
HC	3						2,070
KK	060150	FROM	060140				2,080
RK	900	0.0044	.020	TRAP	20	1	2,090
KK	060150	BASIN					2,100
BA	0.016						2,110
LS	0	83	0				2,120
UK	170	0.0100	0.240	100			2,130
RK	538	0.0465	0.020	TRAP	20	1.0	2,140
KK	061200	BASIN					2,150
BA	0.052						2,160
LS	0	81	0				2,170
UK	207	0.0100	0.286	100			2,180
RK	1239	0.0807	0.020	TRAP	20	1.0	2,190
KK	060150	FROM	061200				2,200
RK	471	0.0510	.020	TRAP	20	1	2,210
KK	060150	COMBINE					2,220
HC	3						2,230
KK	060160	FROM	060150				2,240
RK	347	0.0058	.020	TRAP	20	1	2,250
KK	060160	BASIN					2,260
BA	0.048						2,270
LS	0	81	0				2,280
UK	167	0.0100	0.267	100			2,290
RK	1662	0.0150	0.020	TRAP	20	1.0	2,300
KK	061300	BASIN					2,310
BA	0.012						2,320
LS	0	81	0				2,330
UK	167	0.0100	0.267	100			2,340

(hec1data)

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 4

10/21/98

RK	550	0.0182	0.020		TRAP	20	1.0	2,350
KK	060160	FROM	061300					2,360
RK	360	0.1556	.020		TRAP	20	1	2,370
KK	060160	COMBINE						2,380
HC	3							2,390
KK	060170	FROM	060160					2,400
RK	749	0.0080	.020		TRAP	20	1	2,410
KK	060170	BASIN						2,420
BA	0.021							2,430
LS	0	83	0					2,440
UK	138	0.0100	0.250	100				2,450
RK	969	0.0155	0.020		TRAP	20	1.0	2,460
KK	061400	BASIN						2,470
BA	0.005							2,480
LS	0	88	0					2,490
UK	67	0.0100	0.200	100				2,500
RK	477	0.0419	0.020		TRAP	20	1.0	2,510
KK	060170	FROM	061400					2,520
RK	300	0.1209	.020		TRAP	20	1	2,530
KK	060170	COMBINE						2,540
HC	3							2,550
KK	060180	FROM	060170					2,560
RK	787	0.0025	.020		TRAP	20	1	2,570
KK	060180	BASIN						2,580
BA	0.029							2,590
LS	0	84	0					2,600
UK	120	0.0100	0.240	100				2,610
RK	647	0.0232	0.020		TRAP	20	1.0	2,620
KK	061500	BASIN						2,630
BA	0.040							2,640
LS	0	74	0					2,650
UK	300	0.0100	0.400	100				2,660
RK	1704	0.0587	0.020		TRAP	20	1.0	2,670
KK	061510	FROM	061500					2,680
RK	998	0.0200	.020		TRAP	20	1	2,690
KK	061510	BASIN						2,700
BA	0.027							2,710
LS	0	73	0					2,720
UK	300	0.0100	0.400	100				2,730
RK	627	0.0478	0.020		TRAP	20	1.0	2,740
KK	061510	COMBINE						2,750
HC	2							2,760
KK	061520	FROM	061510					2,770
RK	1051	0.0856	.020		TRAP	20	1	2,780
KK	061520	BASIN						2,790
BA	0.043							2,800
LS	0	75	0					2,810
UK	250	0.0100	0.350	100				2,820
RK	743	0.0538	0.020		TRAP	20	1.0	2,830
KK	061520	COMBINE						2,840
HC	2							2,850
KK	061530	FROM	061520					2,860
RK	1043	0.0288	.020		TRAP	20	1	2,870
KK	061530	BASIN						2,880
BA	0.033							2,890
LS	0	79	0					2,900
UK	200	0.0100	0.300	100				2,910
RK	596	0.0839	0.020		TRAP	20	1.0	2,920
KK	061530	COMBINE						2,930
HC	2							2,940
KK	061540	FROM	061530					2,950
RK	1213	0.0247	.020		TRAP	20	1	2,960
KK	061540	BASIN						2,970
BA	0.062							2,980
LS	0	87	0					2,990
UK	136	0.0100	0.255	100				3,000
RK	947	0.1056	0.020		TRAP	20	1.0	3,010
KK	061600	BASIN						3,020
BA	0.024							3,030
LS	0	76	0					3,040
UK	300	0.0100	0.400	100				3,050
RK	1093	0.0640	0.020		TRAP	20	1.0	3,060
KK	061610	FROM	061600					3,070
RK	905	0.0442	.020		TRAP	20	1	3,080
KK	061610	BASIN						3,090
BA	0.037							3,100
LS	0	74	0					3,110
UK	300	0.0100	0.400	100				3,120

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 5

10/21/98

RK	491	0.0713	0.020		TRAP	20	1.0	3,130
KK	061610	COMBINE						3,140
HC	2							3,150
KK	061620	FROM	061610					3,160
RK	1290	0.0233	.020		TRAP	20	1	3,170
KK	061620	BASIN						3,180
BA	0.073							3,190
LS	0	83	0					3,200
UK	215	0.0100	0.292	100				3,210
RK	1788	0.0196	0.020		TRAP	20	1.0	3,220
KK	061620	COMBINE						3,230
HC	2							3,240
KK	061540	FROM	061620					3,250
RK	1437	0.0209	.020		TRAP	20	1	3,260
KK	061540	COMBINE						3,270
HC	3							3,280
KK	061550	FROM	061540					3,290
RK	997	0.0150	.020		TRAP	20	1	3,300
KK	061550	BASIN						3,310
BA	0.032							3,320
LS	0	88	0					3,330
UK	100	0.0100	0.233	100				3,340
RK	653	0.0613	0.020		TRAP	20	1.0	3,350
KK	061700	BASIN						3,360
BA	0.016							3,370
LS	0	84	0					3,380
UK	138	0.0100	0.250	100				3,390
RK	775	0.0516	0.020		TRAP	20	1.0	3,400
KK	061550	FROM	061700					3,410
RK	699	0.0072	.020		TRAP	20	1	3,420
KK	061550	COMBINE						3,430
HC	3							3,440
KK	060180	FROM	061550					3,450
RK	565	0.0265	.020		TRAP	20	1	3,460
KK	060180	COMBINE						3,470
HC	3							3,480
KK	061800	BASIN						3,490
BA	0.021							3,500
LS	0	81	0					3,510
UK	300	0.0100	0.367	100				3,520
RK	1391	0.0719	0.020		TRAP	20	1.0	3,530
KK	061810	FROM	061800					3,540
RK	1879	0.0665	.020		TRAP	20	1	3,550
KK	061810	BASIN						3,560
BA	0.029							3,570
LS	0	79	0					3,580
UK	300	0.0100	0.309	100				3,590
RK	357	0.2241	0.020		TRAP	20	1.0	3,600
KK	061810	COMBINE						3,610
HC	2							3,620
KK	061820	FROM	061810					3,630
RK	1378	0.0450	.020		TRAP	20	1	3,640
KK	061820	BASIN						3,650
BA	0.026							3,660
LS	0	83	0					3,670
UK	205	0.0100	0.255	100				3,680
RK	478	0.0418	0.020		TRAP	20	1.0	3,690
KK	061900	BASIN						3,700
BA	0.017							3,710
LS	0	81	0					3,720
UK	256	0.0100	0.289	100				3,730
RK	1461	0.0548	0.020		TRAP	20	1.0	3,740
KK	061820	FROM	061900					3,750
RK	690	0.0464	.020		TRAP	20	1	3,760
KK	061820	COMBINE						3,770
HC	3							3,780
KK	061830	FROM	061820					3,790
RK	719	0.0515	.020		TRAP	20	1	3,800
KK	061830	BASIN						3,810
BA	0.038							3,820
LS	0	84	0					3,830
UK	162	0.0100	0.246	100				3,840
RK	1245	0.0161	0.020		TRAP	20	1.0	3,850
KK	061830	COMBINE						3,860
HC	2							3,870
KK	060180	FROM	061830					3,880
RK	462	0.0671	.020		TRAP	20	1	3,890
KK	060180	COMBINE						3,900

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

10/21/98

Page 6

HC	2						3,910
KK	060190	FROM	060180				3,920
RK	782	0.0051	.020	TRAP	20	1	3,930
KK	060190	BASIN					3,940
BA	0.021						3,950
LS	0	87	0				3,960
UK	100	0.0100	0.233	100			3,970
RK	777	0.0322	0.020	TRAP	20	1.0	3,980
KK	062000	BASIN					3,990
BA	0.011						4,000
LS	0	88	0				4,010
UK	75	0.0100	0.200	100			4,020
RK	753	0.0199	0.020	TRAP	20	1.0	4,030
KK	060190	FROM	062000				4,040
RK	300	0.0625	.020	TRAP	20	1	4,050
KK	060190	COMBINE					4,060
HC	3						4,070
KK	060200	FROM	060190				4,080
RK	544	0.0018	.020	TRAP	20	1	4,090
KK	060200	BASIN					4,100
BA	0.007						4,110
LS	0	84	0				4,120
UK	125	0.0100	0.250	100			4,130
RK	390	0.0256	0.020	TRAP	20	1.0	4,140
KK	062100	BASIN					4,150
BA	0.021						4,160
LS	0	85	0				4,170
UK	175	0.0100	0.233	100			4,180
RK	894	0.0112	0.020	TRAP	20	1.0	4,190
KK	060200	FROM	062100				4,200
RK	300	0.1765	.020	TRAP	20	1	4,210
KK	060200	COMBINE					4,220
HC	3						4,230
KK	060210	FROM	060200				4,240
RK	844	0.0012	.020	TRAP	20	1	4,250
KK	060210	BASIN					4,260
BA	0.054						4,270
LS	0	84	0				4,280
UK	150	0.0100	0.233	100			4,290
RK	1108	0.0181	0.020	TRAP	20	1.0	4,300
KK	062200	BASIN					4,310
BA	0.018						4,320
LS	0	90	0				4,330
UK	63	0.0100	0.200	100			4,340
RK	1050	0.0143	0.020	TRAP	20	1.0	4,350
KK	060210	FROM	062200				4,360
RK	711	0.0295	.020	TRAP	20	1	4,370
KK	060210	COMBINE					4,380
HC	3						4,390
KK	060220	FROM	060210				4,400
RK	504	0.0030	.020	TRAP	20	1	4,410
KK	062300	BASIN					4,420
BA	0.015						4,430
LS	0	88	0				4,440
UK	75	0.0100	0.200	100			4,450
RK	546	0.0366	0.020	TRAP	20	1.0	4,460
KK	060220	FROM	062300				4,470
RK	300	0.1159	.020	TRAP	20	1	4,480
KK	060220	COMBINE					4,490
HC	2						4,500
KK	060230	FROM	060220				4,510
RK	321	0.0016	.020	TRAP	20	1	4,520
KK	060230	BASIN					4,530
BA	0.013						4,540
LS	0	87	0				4,550
UK	107	0.0100	0.229	100			4,560
RK	193	0.0777	0.020	TRAP	20	1.0	4,570
KK	062400	BASIN					4,580
BA	0.016						4,590
LS	0	89	0				4,600
UK	67	0.0100	0.200	100			4,610
RK	596	0.0134	0.020	TRAP	20	1.0	4,620
KK	060230	FROM	062400				4,630
RK	720	0.1083	.020	TRAP	20	1	4,640
KK	060230	COMBINE					4,650
HC	3						4,660
KK	060240	FROM	060230				4,670
RK	500	0.0018	.020	TRAP	20	1	4,680

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 7

10/21/98

KK	062500	BASIN						4,690
BA	0.017							4,700
LS	0	94	0					4,710
UK	50	0.0100	0.200	100				4,720
RK	485	0.0124	0.020		TRAP	20	1.0	4,730
KK	062510	FROM	062500					4,740
RK	1061	0.0283	.020		TRAP	20	1	4,750
KK	062510	BASIN						4,760
BA	0.042							4,770
LS	0	94	0					4,780
UK	67	0.0100	0.200	100				4,790
RK	347	0.0058	0.020		TRAP	20	1.0	4,800
KK	062600	BASIN						4,810
BA	0.013							4,820
LS	0	95	0					4,830
UK	50	0.0100	0.200	100				4,840
RK	665	0.0150	0.020		TRAP	20	1.0	4,850
KK	062510	FROM	062600					4,860
RK	1029	0.0369	.020		TRAP	20	1	4,870
KK	062510	COMBINE						4,880
HC	3							4,890
KK	062520	FROM	062510					4,900
RK	1694	0.0413	.020		TRAP	20	1	4,910
KK	062520	BASIN						4,920
BA	0.048							4,930
LS	0	88	0					4,940
UK	136	0.0100	0.200	100				4,950
RK	875	0.0057	0.020		TRAP	20	1.0	4,960
KK	062700	BASIN						4,970
BA	0.008							4,980
LS	0	92	0					4,990
UK	70	0.0100	0.200	100				5,000
RK	914	0.0066	0.020		TRAP	20	1.0	5,010
KK	062520	FROM	062700					5,020
RK	1778	0.0326	.020		TRAP	20	1	5,030
KK	062520	COMBINE						5,040
HC	3							5,050
KK	060240	FROM	062520					5,060
RK	300	0.2467	.020		TRAP	20	1	5,070
KK	060240	COMBINE						5,080
HC	2							5,090
KK	060250	FROM	060240					5,100
RK	774	0.0006	.020		TRAP	20	1	5,110
KK	060250	BASIN						5,120
BA	0.020							5,130
LS	0	88	0					5,140
UK	83	0.0100	0.200	100				5,150
RK	516	0.0078	0.020		TRAP	20	1.0	5,160
KK	062800	BASIN						5,170
BA	0.030							5,180
LS	0	68	0					5,190
UK	110	0.0080	0.160	100				5,200
RK	1450	0.0069	0.020		TRAP	20	1.0	5,210
KK	062810	FROM	062800					5,220
RK	888	0.0552	.020		TRAP	20	1	5,230
KK	062820	FROM	062810					5,240
RK	1115	0.0296	.020		TRAP	20	1	5,250
KK	062820	BASIN						5,260
BA	0.036							5,270
LS	0	84	0					5,280
UK	200	0.0100	0.222	100				5,290
RK	578	0.0260	0.020		TRAP	20	1.0	5,300
KK	062820	COMBINE						5,310
HC	2							5,320
KK	060250	FROM	062820					5,330
RK	826	0.0206	.020		TRAP	20	1	5,340
KK	060250	COMBINE						5,350
HC	3							5,360
KK	060260	FROM	060250					5,370
RK	1726	0.0012	.020		TRAP	20	1	5,380
KK	060260	BASIN						5,390
BA	0.065							5,400
LS	0	86	0					5,410
UK	150	0.0100	0.200	100				5,420
RK	892	0.0067	0.020		TRAP	20	1.0	5,430
KK	060260	COMBINE						5,440
HC	2							5,450
KK	060270	FROM	060260					5,460

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 8

10/21/98

RK	885	0.0006	.020		TRAP	20	1	5,470
KK	060270	BASIN						5,480
BA	0.086							5,490
LS	0	86	0					5,500
UK	144	0.0100	0.200	100				5,510
RK	2103	0.0038	0.020		TRAP	20	1.0	5,520
KK	060270	COMBINE						5,530
HC	2							5,540
KK	063000	BASIN						5,550
BA	0.053							5,560
LS	0	82	0					5,570
UK	300	0.0100	0.400	100				5,580
RK	1708	0.0585	0.020		TRAP	20	1.0	5,590
KK	063010	FROM	063000					5,600
RK	1705	0.0528	.020		TRAP	20	1	5,610
KK	063010	BASIN						5,620
BA	0.050							5,630
LS	0	82	0					5,640
UK	300	0.0100	0.400	100				5,650
RK	492	0.0610	0.020		TRAP	20	1.0	5,660
KK	063010	COMBINE						5,670
HC	2							5,680
KK	063030	FROM	063010					5,690
RK	1356	0.0369	.020		TRAP	20	1	5,700
KK	063030	BASIN						5,710
BA	0.027							5,720
LS	0	86	0					5,730
UK	300	0.0100	0.300	100				5,740
RK	435	0.0690	0.020		TRAP	20	1.0	5,750
KK	063030	COMBINE						5,760
HC	2							5,770
KK	063040	FROM	063030					5,780
RK	876	0.0228	.020		TRAP	20	1	5,790
KK	063040	BASIN						5,800
BA	0.009							5,810
LS	0	89	0					5,820
UK	233	0.0100	0.267	100				5,830
RK	173	0.0173	0.020		TRAP	20	1.0	5,840
KK	063040	COMBINE						5,850
HC	2							5,860
KK	063050	FROM	063040					5,870
RK	300	0.0153	.020		TRAP	20	1	5,880
KK	063050	BASIN						5,890
BA	0.017							5,900
LS	0	84	0					5,910
UK	243	0.0100	0.257	100				5,920
RK	1766	0.0170	0.020		TRAP	20	1.0	5,930
KK	063050	COMBINE						5,940
HC	2							5,950
KK	063060	FROM	063050					5,960
RK	1224	0.0278	.020		TRAP	20	1	5,970
KK	063060	BASIN						5,980
BA	0.018							5,990
LS	0	83	0					6,000
UK	260	0.0100	0.280	100				6,010
RK	305	0.0164	0.020		TRAP	20	1.0	6,020
KK	063200	BASIN						6,030
BA	0.168							6,040
LS	0	81	0					6,050
UK	300	0.0100	0.350	100				6,060
RK	5520	0.0072	0.020		TRAP	20	1.0	6,070
KK	063210	FROM	063200					6,080
RK	1049	0.0429	.020		TRAP	20	1	6,090
KK	063210	BASIN						6,100
BA	0.023							6,110
LS	0	85	0					6,120
UK	300	0.0100	0.320	100				6,130
RK	353	0.0850	0.020		TRAP	20	1.0	6,140
KK	063210	COMBINE						6,150
HC	2							6,160
KK	063220	FROM	063210					6,170
RK	1316	0.0167	.020		TRAP	20	1	6,180
KK	063220	BASIN						6,190
BA	0.027							6,200
LS	0	86	0					6,210
UK	200	0.0100	0.244	100				6,220
RK	516	0.0388	0.020		TRAP	20	1.0	6,230
KK	063220	COMBINE						6,240

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 9

10/21/98

HC	2							6,250
KK	063230	FROM	063220					6,260
RK	300	0.0199	.020		TRAP	20	1	6,270
KK	063230	BASIN						6,280
BA	0.005							6,290
LS	0	85	0					6,300
UK	200	0.0100	0.257	100				6,310
RK	382	0.0340	0.020		TRAP	20	1.0	6,320
KK	063300	BASIN						6,330
BA	0.138							6,340
LS	0	76	0					6,350
UK	300	0.0100	0.400	100				6,360
RK	5194	0.0077	0.020		TRAP	20	1.0	6,370
KK	063310	FROM	063300					6,380
RK	907	0.0441	.020		TRAP	20	1	6,390
KK	063310	BASIN						6,400
BA	0.021							6,410
LS	0	86	0					6,420
UK	300	0.0100	0.300	100				6,430
RK	550	0.0545	0.020		TRAP	20	1.0	6,440
KK	063310	COMBINE						6,450
HC	2							6,460
KK	063320	FROM	063310					6,470
RK	1309	0.0222	.020		TRAP	20	1	6,480
KK	063320	BASIN						6,490
BA	0.016							6,500
LS	0	82	0					6,510
UK	267	0.0100	0.267	100				6,520
RK	217	0.0461	0.020		TRAP	20	1.0	6,530
KK	063320	COMBINE						6,540
HC	2							6,550
KK	063230	FROM	063320					6,560
RK	300	0.0119	.020		TRAP	20	1	6,570
KK	063230	COMBINE						6,580
HC	3							6,590
KK	063240	FROM	063230					6,600
RK	865	0.0254	.020		TRAP	20	1	6,610
KK	063240	BASIN						6,620
BA	0.020							6,630
LS	0	85	0					6,640
UK	214	0.0100	0.257	100				6,650
RK	328	0.0396	0.020		TRAP	20	1.0	6,660
KK	063240	COMBINE						6,670
HC	2							6,680
KK	063250	FROM	063240					6,690
RK	862	0.0104	.020		TRAP	20	1	6,700
KK	063250	BASIN						6,710
BA	0.021							6,720
LS	0	85	0					6,730
UK	233	0.0100	0.267	100				6,740
RK	941	0.0159	0.020		TRAP	20	1.0	6,750
KK	063250	COMBINE						6,760
HC	2							6,770
KK	063060	FROM	063250					6,780
RK	383	0.0183	.020		TRAP	20	1	6,790
KK	063060	COMBINE						6,800
HC	3							6,810
KK	063070	FROM	063060					6,820
RK	690	0.0072	.020		TRAP	20	1	6,830
KK	063070	BASIN						6,840
BA	0.031							6,850
LS	0	83	0					6,860
UK	233	0.0100	0.267	100				6,870
RK	408	0.0196	0.020		TRAP	20	1.0	6,880
KK	063400	BASIN						6,890
BA	0.025							6,900
LS	0	83	0					6,910
UK	300	0.0100	0.350	100				6,920
RK	931	0.1074	0.020		TRAP	20	1.0	6,930
KK	063410	FROM	063400					6,940
RK	937	0.0640	.020		TRAP	20	1	6,950
KK	063410	BASIN						6,960
BA	0.038							6,970
LS	0	83	0					6,980
UK	300	0.0100	0.350	100				6,990
RK	362	0.0829	0.020		TRAP	20	1.0	7,000
KK	063410	COMBINE						7,010
HC	2							7,020

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 10

10/21/98

KK	063420	FROM	063410					7,030
RK	1306	0.0536	.020		TRAP	20	1	7,040
KK	063420	BASIN						7,050
BA	0.036							7,060
LS	0	85	0					7,070
UK	300	0.0100	0.300	100				7,080
RK	508	0.1575	0.020		TRAP	20	1.0	7,090
KK	063420	COMBINE						7,100
HC	2							7,110
KK	063430	FROM	063420					7,120
RK	1430	0.0287	.020		TRAP	20	1	7,130
KK	063430	BASIN						7,140
BA	0.019							7,150
LS	0	89	0					7,160
UK	238	0.0100	0.250	100				7,170
RK	291	0.0687	0.020		TRAP	20	1.0	7,180
KK	063500	BASIN						7,190
BA	0.022							7,200
LS	0	88	0					7,210
UK	233	0.0100	0.267	100				7,220
RK	1936	0.0103	0.020		TRAP	20	1.0	7,230
KK	063430	FROM	063500					7,240
RK	320	0.0063	.020		TRAP	20	1	7,250
KK	063430	COMBINE						7,260
HC	3							7,270
KK	063440	FROM	063430					7,280
RK	300	0.0154	.020		TRAP	20	1	7,290
KK	063440	BASIN						7,300
BA	0.021							7,310
LS	0	91	0					7,320
UK	160	0.0100	0.240	100				7,330
RK	527	0.0380	0.020		TRAP	20	1.0	7,340
KK	063600	BASIN						7,350
BA	0.010							7,360
LS	0	90	0					7,370
UK	300	0.0100	0.200	100				7,380
RK	651	0.0461	0.020		TRAP	20	1.0	7,390
KK	063440	FROM	063600					7,400
RK	995	0.0422	.020		TRAP	20	1	7,410
KK	063440	COMBINE						7,420
HC	3							7,430
KK	063070	FROM	063440					7,440
RK	795	0.0390	.020		TRAP	20	1	7,450
KK	063070	COMBINE						7,460
HC	3							7,470
KK	063700	BASIN						7,480
BA	0.022							7,490
LS	0	85	0					7,500
UK	300	0.0100	0.300	100				7,510
RK	1765	0.0567	0.020		TRAP	20	1.0	7,520
KK	063710	FROM	063700					7,530
RK	939	0.0958	.020		TRAP	20	1	7,540
KK	063710	BASIN						7,550
BA	0.029							7,560
LS	0	84	0					7,570
UK	300	0.0100	0.271	100				7,580
RK	445	0.1798	0.020		TRAP	20	1.0	7,590
KK	063710	COMBINE						7,600
HC	2							7,610
KK	063720	FROM	063710					7,620
RK	821	0.0280	.020		TRAP	20	1	7,630
KK	063720	BASIN						7,640
BA	0.024							7,650
LS	0	86	0					7,660
UK	271	0.0100	0.257	100				7,670
RK	612	0.1307	0.020		TRAP	20	1.0	7,680
KK	063720	COMBINE						7,690
HC	2							7,700
KK	063730	FROM	063720					7,710
RK	728	0.0426	.020		TRAP	20	1	7,720
KK	063730	BASIN						7,730
BA	0.034							7,740
LS	0	87	0					7,750
UK	243	0.0100	0.257	100				7,760
RK	542	0.0369	0.020		TRAP	20	1.0	7,770
KK	063730	COMBINE						7,780
HC	2							7,790
KK	063070	FROM	063730					7,800

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

10/21/98

Page 11

RK	1094	0.0356	.020		TRAP	20	1	7,810
KK	063070	COMBINE						7,820
HC	2							7,830
KK	063080	FROM	063070					7,840
RK	865	0.0023	.020		TRAP	20	1	7,850
KK	063080	BASIN						7,860
BA	0.032							7,870
LS	0	85	0					7,880
UK	186	0.0100	0.257	100				7,890
RK	861	0.0116	0.020		TRAP	20	1.0	7,900
KK	063080	COMBINE						7,910
HC	2							7,920
KK	063090	FROM	063080					7,930
RK	840	0.0131	.020		TRAP	20	1	7,940
KK	063090	BASIN						7,950
BA	0.011							7,960
LS	0	73	0					7,970
UK	142	0.0083	0.200	100				7,980
RK	275	0.0364	0.020		TRAP	20	1.0	7,990
KK	063800	BASIN						8,000
BA	0.019							8,010
LS	0	86	0					8,020
UK	150	0.0100	0.200	100				8,030
RK	1058	0.0113	0.020		TRAP	20	1.0	8,040
KK	063810	FROM	063800					8,050
RK	540	0.0222	.020		TRAP	20	1	8,060
KK	063810	BASIN						8,070
BA	0.029							8,080
LS	0	63	0					8,090
UK	125	0.0075	0.150	100				8,100
RK	905	0.0110	0.020		TRAP	20	1.0	8,110
KK	063810	COMBINE						8,120
HC	2							8,130
KK	063090	FROM	063810					8,140
RK	301	0.0930	.020		TRAP	20	1	8,150
KK	063090	COMBINE						8,160
HC	3							8,170
KK	063100	FROM	063090					8,180
RK	755	0.0265	.020		TRAP	20	1	8,190
KK	063100	BASIN						8,200
BA	0.035							8,210
LS	0	77	0					8,220
UK	150	0.0088	0.200	100				8,230
RK	782	0.0384	0.020		TRAP	20	1.0	8,240
KK	063900	BASIN						8,250
BA	0.007							8,260
LS	0	85	0					8,270
UK	300	0.0100	0.300	100				8,280
RK	871	0.0092	0.020		TRAP	20	1.0	8,290
KK	063100	FROM	063900					8,300
RK	404	0.0891	.020		TRAP	20	1	8,310
KK	063100	COMBINE						8,320
HC	3							8,330
KK	063110	FROM	063100					8,340
RK	1092	0.0092	.020		TRAP	20	1	8,350
KK	063110	BASIN						8,360
BA	0.034							8,370
LS	0	72	0					8,380
UK	157	0.0086	0.171	100				8,390
RK	1393	0.0179	0.020		TRAP	20	1.0	8,400
KK	063110	COMBINE						8,410
HC	2							8,420
KK	063120	FROM	063110					8,430
RK	908	0.0022	.020		TRAP	20	1	8,440
KK	063120	BASIN						8,450
BA	0.049							8,460
LS	0	84	0					8,470
UK	188	0.0100	0.233	100				8,480
RK	1490	0.0121	0.020		TRAP	20	1.0	8,490
KK	064000	BASIN						8,500
BA	0.022							8,510
LS	0	73	0					8,520
UK	142	0.0083	0.167	100				8,530
RK	1042	0.0115	0.020		TRAP	20	1.0	8,540
KK	064010	FROM	064000					8,550
RK	1109	0.0289	.020		TRAP	20	1	8,560
KK	064010	BASIN						8,570
BA	0.039							8,580

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
06 - Soquel Creek Basin

Page 12

10/21/98

LS	0	85	0					8,590
UK	170	0.0100	0.200	100				8,600
RK	615	0.0130	0.020		TRAP	20	1.0	8,610
KK	064010	COMBINE						8,620
HC	2							8,630
KK	064020	FROM	064010					8,640
RK	865	0.0046	.020		TRAP	20	1	8,650
KK	064020	BASIN						8,660
BA	0.016							8,670
LS	0	83	0					8,680
UK	188	0.0100	0.200	100				8,690
RK	886	0.0056	0.020		TRAP	20	1.0	8,700
KK	064020	COMBINE						8,710
HC	2							8,720
KK	063120	FROM	064020					8,730
RK	300	0.0084	.020		TRAP	20	1	8,740
KK	063120	COMBINE						8,750
HC	3							8,760
KK	060270	FROM	063120					8,770
RK	1546	0.0217	.020		TRAP	20	1	8,780
KK	060270	COMBINE						8,790
HC	2							8,800
KK	060280	FROM	060270					8,810
RK	1271	0.0004	.020		TRAP	20	1	8,820
KK	060280	BASIN						8,830
BA	0.029							8,840
LS	0	82	0					8,850
UK	191	0.0100	0.236	100				8,860
RK	1117	0.0090	0.020		TRAP	20	1.0	8,870
KK	060280	COMBINE						8,880
HC	2							8,890
ZZ								8,900

7

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
07 - Arana Gulch Basin

Page 1 10/20/98

ID	LOCATION Comments	Type	EXISTING SECTION					DESIGN DISCHARGE (cfs)										Section Capacity
			USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	
070010-070012		Pipe	321.36	310.00	327	314	355	.0320	.013		18.0	3	6	8	12	15	18	19
070012-070020		Pipe	310.00	309.00			217	.0046	.013	24.0		3	6	8	12	15	18	15
070020-070022		Pipe	305.74	303.00	313	310	140	.0196	.013	24.0		3	7	11	17	20	25	32
070022-070030	Natural Channel				310	200	1371	.0802	.035	16.5	24.5	3	7	11	17	20	25	152
070030-070040	Natural Channel				200	140	1531	.0392	.035	1	16.5	24.5	9	21	32	46	57	107
070040-070050	Natural Channel				140	120	729	.0274	.035	16.5	24.5	17	40	62	97	123	152	89
070050-070060	Roadway			99.60	110	105	304	.0164	.020			21	49	75	117	148	183	
070060-070070	Pipe				114	54	1029	.0583	.013	1	24.0	23	54	84	131	166	205	55
070100-070110	Natural Channel				290	200	2387	.0377	.035	16.5	24.5	2	4	7	10	12	15	105
070110-070040	Natural Channel				200	140	1252	.0479	.035	16.5	24.5	6	14	21	31	39	48	118
071000-071010	Pipe		106.40	65.00	113		872	.0475	.013	18.0		4	7	9	12	14	16	23
071010-071020	Ditch	Natural Channel					400		.035	1		8	14	19	25	29	34	
072000-072005	Pipe		92.00	74.50	100	81	423	.0414	.013	1	18.0	3	6	7	10	11	13	21
072005-072010	Pipe		74.50	63.40	81		525	.0211	.013	24.0		3	6	7	10	11	13	33
072010-072020	Pipe		63.40				150	.4227	.013	18.0		7	12	16	21	24	28	68
073000-073005	Pipe		119.00	112.35			409	.0163	.013	1	15.0	10	18	24	32	37	43	8
073005-073010	Pipe		112.35	94.00	118	98	1019	.0180	.013	24.0		10	18	24	32	37	43	30
073010-073020	Pipe		92.75	85.00	97		479	.0162	.013	30.0		31	52	68	88	101	118	52
073020-073025	Ditch	Natural Channel					171		.035	1		46	76	99	129	147	169	
073025-073030	Pipe		81.00	63.00			529	.0340	.013	1	30.0	46	76	99	129	147	169	76
073030-073040	Natural Channel				76	40	862	.0418	.035	18.8	26.4	58	97	126	162	186	216	130
073100-073105	Pipe		88.43	87.00			82	.0174	.013	1	18.0	8	14	18	23	26	30	14
073105-073030	Natural Channel				94	82	247	.0486	.035	10.1	21.6	8	14	18	23	26	30	57
075010-075011	Pipe		82.22	81.89	85	85	51	.0065	.013	15.0		2	3	3	4	5	6	5
075011-075012	Pipe		81.89	81.45			54	.0081	.013	24.0		2	3	3	4	5	6	20

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Conveyance Facilities
07 - Arana Gulch Basin

Page 2

10/20/98

LOCATION		EXISTING SECTION										DESIGN DISCHARGE (cfs)					Section		
ID	Comments	Type	USIE	DSIE	USGE	DSGE	Length	Slope	Man N	No	Size*	Base*	2	5	10	25	50	100	Capacity
075012-075013		Pipe	81.45	80.69			106	.0072	.013		30.0		2	3	3	4	5	6	35
075013-075014		Pipe	80.69	80.10			119	.0050	.013		24.0		2	3	3	4	5	6	16
075014-075020		Pipe	80.10	75.85	83	83	406	.0105	.013		18.0		2	3	3	4	5	6	11
075020-075026		Natural Channel	75.85	73.80			474	.0043	.035		51.4	40.3	8	14	19	24	27	32	73
075026-075028		Pipe	73.80	52.10		60	567	.0383	.013		24.0		8	14	19	24	27	32	44
075028-075030		Pipe			60	56	141	.0284	.013		36.0		8	14	19	24	27	32	112
075100-075102		Pipe	88.29	82.90			383	.0141	.013	1	18.0		6	10	13	16	19	22	13
075102-075110		Pipe	82.90	81.88			364	.0028	.013	1	18.0		6	10	13	16	19	22	6
075110-075112		Pipe	81.88	76.26			209	.0269	.013	1	16.0		11	19	25	32	37	43	13
075112-075114		Pipe	76.26	72.30			44	.0900	.013	1	24.0		11	19	25	32	37	43	68
075114-075116		Pipe	72.30	71.25			182	.0058	.013	1	33.0		11	19	25	32	37	43	40
075120-075126		Pipe	71.25	63.81	82	68	848	.0088	.013	1	33.0		19	33	43	56	65	75	50
075126-075130		Pipe	63.81	58.68	68	71	87	.0590	.013	1	36.0		19	33	43	56	65	75	162
075130-075132		Pipe	58.68	40.30	71		248	.0741	.013	1	48.0		39	68	90	116	134	157	391
075132-075140		Natural Channel			54	16	799	.0476	.035		54.4	49.3	39	68	90	116	134	157	538
075140-075150	Ditch	Natural Channel					93		.035				44	81	110	146	169	200	
075200-075140	Ditch	Natural Channel					173		.035				6	13	19	26	32	38	
076040-076050		Pipe	82.92	35.00	91		337	.1422	.013	1	27.0		6	11	15	19	22	26	117

*NOTE: Size = diameter in inches for pipes, depth in feet for boxes and improved channels, and area in square feet for natural channels.
Base = Base width in feet for boxes and improved channels, and wetted perimeter in feet for natural channels.

County of Santa Cruz
Stormwater Facilities Management System
Storage Facilities
07 - Arana Gulch Basin

Page 1

10/21/98

ID:		<u>Elevation</u>		<u>Length</u>	<u>Coefficient</u>		<u>Exponent</u>				
	Top of Dam Overflow:	1	2	3	4	5	6	7	8	9	10
	Volume:										
	Elevation:										
	Discharge:										
	Return Period:	2	5	10	25	50	100				
	Design Volume:										
	Basin Design:										

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
07 - Arana Gulch Basin

Page 1

10/21/98

ID: 070010	Area: 0.022	Pervious CN: 84	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.275		Collector:	371	0.0146	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070020	Area: 0.006	Pervious CN: 89	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	233	0.0100	0.233		Collector:	185	0.0541	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070030	Area: 0.047	Pervious CN: 84	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	233	0.0100	0.233		Collector:	605	0.0413	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070040	Area: 0.057	Pervious CN: 79	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	300	0.0100	0.300		Collector:	397	0.1259	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070050	Area: 0.042	Pervious CN: 81	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	256	0.0100	0.289		Collector:	646	0.0365	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070060	Area: 0.022	Pervious CN: 86	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	200	0.0100	0.278		Collector:	300	0.1538	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070070	Area: 0.026	Pervious CN: 83	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	233	0.0100	0.300		Collector:	695	0.0432	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070100	Area: 0.019	Pervious CN: 83	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	267	0.0100	0.317		Collector:	475	0.0203	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 070110	Area: 0.050	Pervious CN: 80	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	267	0.0100	0.333		Collector:	463	0.0648	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 071000	Area: 0.009	Pervious CN: 93	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	75	0.0100	0.200		Collector:	705	0.0142	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 071010	Area: 0.013	Pervious CN: 90	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	130	0.0100	0.240		Collector:	334	0.0210	0.020	TRAP	20.00	1.0
Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
07 - Arana Gulch Basin

Page 2

10/21/98

ID: 071020	Area: 0.004	Pervious CN: 85	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	180	0.0100	0.280		Collector:	198	0.0202	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 072000	Area: 0.007	Pervious CN: 93	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	75	0.0100	0.200		Collector:	390	0.0205	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 072010	Area: 0.009	Pervious CN: 92	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	88	0.0100	0.200		Collector:	225	0.0133	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 073000	Area: 0.029	Pervious CN: 92	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	150	0.0100	0.200		Collector:	345	0.1487	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 073010	Area: 0.042	Pervious CN: 94	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	67	0.0100	0.200		Collector:	811	0.0099	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 073020	Area: 0.029	Pervious CN: 94	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	67	0.0100	0.200		Collector:	020	0.0137	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 073030	Area: 0.012	Pervious CN: 92	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	125	0.0100	0.250		Collector:	370	0.0108	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 073040	Area: 0.018	Pervious CN: 92	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	125	0.0100	0.250		Collector:	698	0.0057	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 073100	Area: 0.016	Pervious CN: 94	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	67	0.0100	0.200		Collector:	496	0.0060	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 075010	Area: 0.003	Pervious CN: 94	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	75	0.0100	0.200		Collector:	231	0.0173	0.020	TRAP	20.00	1.0
Impervious:					Main:						
ID: 075020	Area: 0.015	Pervious CN: 93	Impervious CN:								
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>
Pervious:	83	0.0100	0.200		Collector:	744	0.0161	0.020	TRAP	20.00	1.0
Impervious:					Main:						

County of Santa Cruz
Stormwater Facilities Management System
Drainage Area Factors
07 - Arana Gulch Basin

Page 3

10/21/98

ID: 075030	Area: 0.028	Pervious CN: 87	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	170	0.0100	0.280		Collector:	177	0.0212	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 075100	Area: 0.013	Pervious CN: 93	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	100	0.0100	0.200		Collector:	553	0.0127	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 075110	Area: 0.013	Pervious CN: 93	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	100	0.0100	0.200		Collector:	445	0.0180	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 075120	Area: 0.023	Pervious CN: 92	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	167	0.0100	0.200		Collector:	076	0.0074	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 075130	Area: 0.051	Pervious CN: 92	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	80	0.0100	0.200		Collector:	580	0.0121	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 075140	Area: 0.011	Pervious CN: 84	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	210	0.0100	0.320		Collector:	282	0.0922	0.020	TRAP	20.00	1.0	
Impervious:					Main:							
ID: 075200	Area: 0.036	Pervious CN: 86	Impervious CN:									
OVERLAND FLOW:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Pct</u>	ROUTING:	<u>Length</u>	<u>Slope</u>	<u>Rough's</u>	<u>Shape</u>	<u>Width</u>	<u>S/S</u>	
Pervious:	179	0.0100	0.286		Collector:	123	0.0463	0.020	TRAP	20.00	1.0	
Impervious:					Main:							

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
07 - Arana Gulch Basin

Page 1

10/22/98

ID									10
IT	2			300					20
IO	5								30
KK	070010	BASIN							40
BA	0.022								50
PH	0.00	0.00	0.23	0.45	1.00	1.49	1.89	2.83	60
LS	0	84	0						70
UK	300	0.0100	0.275	100					80
RK	1371	0.0146	0.020		TRAP	20	1.0		90
KK	070020	FROM	070010						100
RK	572	0.0210	.020		TRAP	20	1		110
KK	070020	BASIN							120
BA	0.006								130
LS	0	89	0						140
UK	233	0.0100	0.233	100					150
RK	185	0.0541	0.020		TRAP	20	1.0		160
KK	070020	COMBINE							170
HC	2								180
KK	070030	FROM	070020						190
RK	1493	0.0777	.020		TRAP	20	1		200
KK	070030	BASIN							210
BA	0.047								220
LS	0	84	0						230
UK	233	0.0100	0.233	100					240
RK	605	0.0413	0.020		TRAP	20	1.0		250
KK	070030	COMBINE							260
HC	2								270
KK	070040	FROM	070030						280
RK	1531	0.0392	.020		TRAP	20	1		290
KK	070040	BASIN							300
BA	0.057								310
LS	0	79	0						320
UK	300	0.0100	0.300	100					330
RK	397	0.1259	0.020		TRAP	20	1.0		340
KK	070100	BASIN							350
BA	0.019								360
LS	0	83	0						370
UK	267	0.0100	0.317	100					380
RK	1475	0.0203	0.020		TRAP	20	1.0		390
KK	070110	FROM	070100						400
RK	2387	0.0377	.020		TRAP	20	1		410
KK	070110	BASIN							420
BA	0.050								430
LS	0	80	0						440
UK	267	0.0100	0.333	100					450
RK	463	0.0648	0.020		TRAP	20	1.0		460
KK	070110	COMBINE							470
HC	2								480
KK	070040	FROM	070110						490
RK	1252	0.0479	.020		TRAP	20	1		500
KK	070040	COMBINE							510
HC	3								520
KK	070050	FROM	070040						530
RK	729	0.0274	.020		TRAP	20	1		540
KK	070050	BASIN							550
BA	0.042								560
LS	0	81	0						570
UK	256	0.0100	0.289	100					580
RK	1646	0.0365	0.020		TRAP	20	1.0		590
KK	070050	COMBINE							600
HC	2								610
KK	070060	FROM	070050						620
RK	300	0.0209	.020		TRAP	20	1		630
KK	070060	BASIN							640
BA	0.022								650
LS	0	86	0						660
UK	200	0.0100	0.278	100					670
RK	1300	0.1538	0.020		TRAP	20	1.0		680
KK	070060	COMBINE							690
HC	2								700
KK	070070	FROM	070060						710
RK	1029	0.0583	.020		TRAP	20	1		720
KK	070070	BASIN							730
BA	0.026								740
LS	0	83	0						750
UK	233	0.0100	0.300	100					760
RK	695	0.0432	0.020		TRAP	20	1.0		770
KK	070070	COMBINE							780

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
07 - Arana Gulch Basin

Page 2

10/21/98

HC	2								790
KK	071000	BASIN							800
BA	0.009								810
LS	0	93	0						820
UK	75	0.0100	0.200	100					830
RK	705	0.0142	0.020		TRAP	20	1.0		840
KK	071010	FROM	071000						850
RK	872	0.0550	.020		TRAP	20	1		860
KK	071010	BASIN							870
BA	0.013								880
LS	0	90	0						890
UK	130	0.0100	0.240	100					900
RK	334	0.0210	0.020		TRAP	20	1.0		910
KK	071010	COMBINE							920
HC	2								930
KK	071020	FROM	071010						940
RK	401	0.0599	.020		TRAP	20	1		950
KK	071020	BASIN							960
BA	0.004								970
LS	0	85	0						980
UK	180	0.0100	0.280	100					990
RK	198	0.0202	0.020		TRAP	20	1.0		1,000
KK	071020	COMBINE							1,010
HC	2								1,020
KK	072000	BASIN							1,030
BA	0.007								1,040
LS	0	93	0						1,050
UK	75	0.0100	0.200	100					1,060
RK	390	0.0205	0.020		TRAP	20	1.0		1,070
KK	072010	FROM	072000						1,080
RK	948	0.0422	.020		TRAP	20	1		1,090
KK	072010	BASIN							1,100
BA	0.009								1,110
LS	0	92	0						1,120
UK	88	0.0100	0.200	100					1,130
RK	225	0.0133	0.020		TRAP	20	1.0		1,140
KK	072010	COMBINE							1,150
HC	2								1,160
KK	072020	FROM	072010						1,170
RK	300	0.2000	.020		TRAP	20	1		1,180
KK	073000	BASIN							1,190
BA	0.029								1,200
LS	0	92	0						1,210
UK	150	0.0100	0.200	100					1,220
RK	1345	0.1487	0.020		TRAP	20	1.0		1,230
KK	073010	FROM	073000						1,240
RK	1429	0.0154	.020		TRAP	20	1		1,250
KK	073010	BASIN							1,260
BA	0.042								1,270
LS	0	94	0						1,280
UK	67	0.0100	0.200	100					1,290
RK	811	0.0099	0.020		TRAP	20	1.0		1,300
KK	073010	COMBINE							1,310
HC	2								1,320
KK	073020	FROM	073010						1,330
RK	473	0.0211	.020		TRAP	20	1		1,340
KK	073020	BASIN							1,350
BA	0.029								1,360
LS	0	94	0						1,370
UK	67	0.0100	0.200	100					1,380
RK	1020	0.0137	0.020		TRAP	20	1.0		1,390
KK	073020	COMBINE							1,400
HC	2								1,410
KK	073030	FROM	073020						1,420
RK	704	0.0085	.020		TRAP	20	1		1,430
KK	073030	BASIN							1,440
BA	0.012								1,450
LS	0	92	0						1,460
UK	125	0.0100	0.250	100					1,470
RK	370	0.0108	0.020		TRAP	20	1.0		1,480
KK	073100	BASIN							1,490
BA	0.016								1,500
LS	0	94	0						1,510
UK	67	0.0100	0.200	100					1,520
RK	496	0.0060	0.020		TRAP	20	1.0		1,530
KK	073030	FROM	073100						1,540
RK	637	0.0204	.020		TRAP	20	1		1,550
KK	073030	COMBINE							1,560

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
07 - Arana Gulch Basin

Page 3

10/21/98

HC	3							1,570
KK	073040	FROM	073030					1,580
RK	935	0.0043	.020		TRAP	20	1	1,590
KK	073040	COMBINE						1,600
HC	2							1,610
KK	073050	FROM	073040					1,620
RK	337	0.1187	.020		TRAP	20	1	1,630
KK	075010	BASIN	075010					1,640
BA	0.003							1,650
LS	0	94	0					1,660
UK	75	0.0100	0.200	100				1,670
RK	231	0.0173	0.020		TRAP	20	1.0	1,680
KK	075020	FROM	075020					1,690
RK	736	0.0136	.020		TRAP	20	1	1,700
KK	075020	BASIN	075020					1,710
BA	0.015							1,720
LS	0	93	0					1,730
UK	83	0.0100	0.200	100				1,740
RK	744	0.0161	0.020		TRAP	20	1.0	1,750
KK	075020	COMBINE	075020					1,760
HC	2							1,770
KK	075030	FROM	075030					1,780
RK	1183	0.0321	.020		TRAP	20	1	1,790
KK	075030	BASIN	075030					1,800
BA	0.028							1,810
LS	0	87	0					1,820
UK	170	0.0100	0.280	100				1,830
RK	1177	0.0212	0.020		TRAP	20	1.0	1,840
KK	075030	COMBINE	075030					1,850
HC	2							1,860
KK	075100	BASIN	075100					1,870
BA	0.013							1,880
LS	0	93	0					1,890
UK	100	0.0100	0.200	100				1,900
RK	553	0.0127	0.020		TRAP	20	1.0	1,910
KK	075110	FROM	075110					1,920
RK	746	0.0080	.020		TRAP	20	1	1,930
KK	075110	BASIN	075110					1,940
BA	0.013							1,950
LS	0	93	0					1,960
UK	100	0.0100	0.200	100				1,970
RK	445	0.0180	0.020		TRAP	20	1.0	1,980
KK	075110	COMBINE	075110					1,990
HC	2							2,000
KK	075120	FROM	075120					2,010
RK	436	0.0046	.020		TRAP	20	1	2,020
KK	075120	BASIN	075120					2,030
BA	0.023							2,040
LS	0	92	0					2,050
UK	167	0.0100	0.200	100				2,060
RK	1076	0.0074	0.020		TRAP	20	1.0	2,070
KK	075120	COMBINE	075120					2,080
HC	2							2,090
KK	075130	FROM	075130					2,100
RK	935	0.0107	.020		TRAP	20	1	2,110
KK	075130	BASIN	075130					2,120
BA	0.051							2,130
LS	0	92	0					2,140
UK	80	0.0100	0.200	100				2,150
RK	580	0.0121	0.020		TRAP	20	1.0	2,160
KK	075130	COMBINE	075130					2,170
HC	2							2,180
KK	075140	FROM	075140					2,190
RK	1047	0.0535	.020		TRAP	20	1	2,200
KK	075140	BASIN	075140					2,210
BA	0.011							2,220
LS	0	84	0					2,230
UK	210	0.0100	0.320	100				2,240
RK	282	0.0922	0.020		TRAP	20	1.0	2,250
KK	075200	BASIN	075200					2,260
BA	0.036							2,270
LS	0	86	0					2,280
UK	179	0.0100	0.286	100				2,290
RK	1123	0.0463	0.020		TRAP	20	1.0	2,300
KK	075140	FROM	075140					2,310
RK	300	0.0920	.020		TRAP	20	1	2,320
KK	075140	COMBINE	075140					2,330
HC	3							2,340

County of Santa Cruz
Stormwater Facilities Management System
HEC1 Input Data 10 Year Storm
07 - Arana Gulch Basin

Page 4

10/21/98

KK	075150	FROM	075150					2,350
RK	300	0.0215	.020					2,360
KK	076040	BASIN			TRAP	20	1	2,370
BA	0.018							2,380
LS	0	92	0					2,390
UK	125	0.0100	0.250	100				2,400
RK	698	0.0057	0.020		TRAP	20	1.0	2,410
KK	076050	FROM	076040					2,420
RK	336	.1	.020		TRAP	20	1.0	2,430
ZZ								2,440