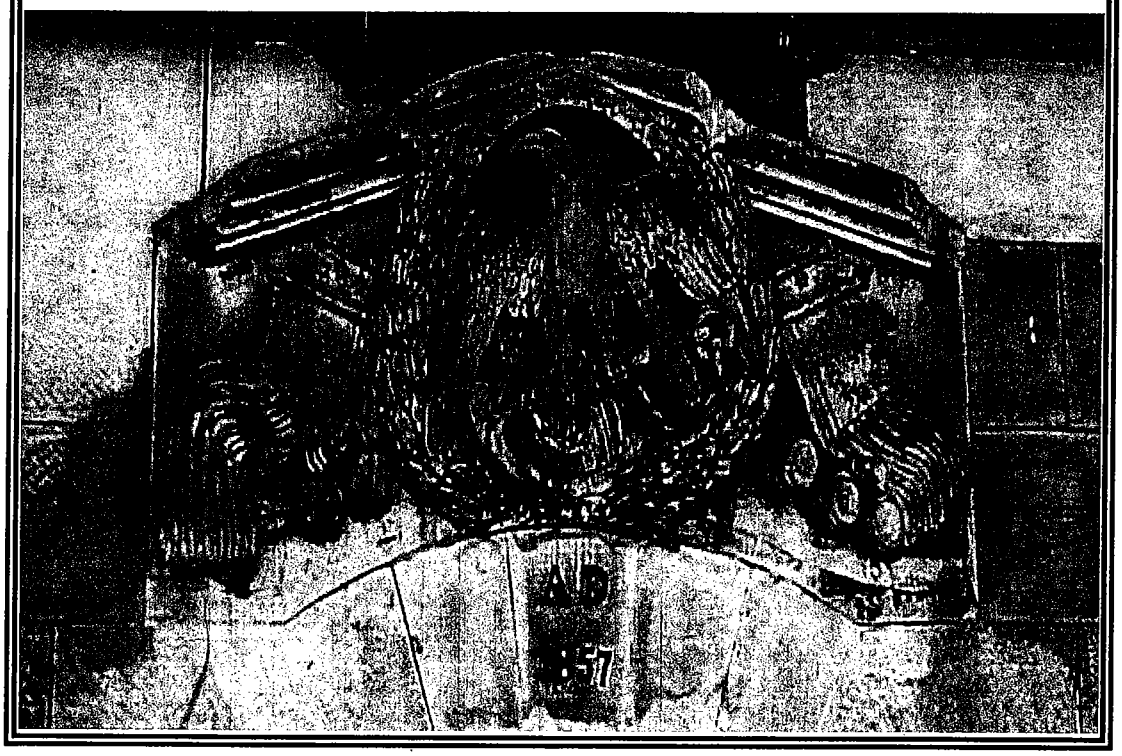
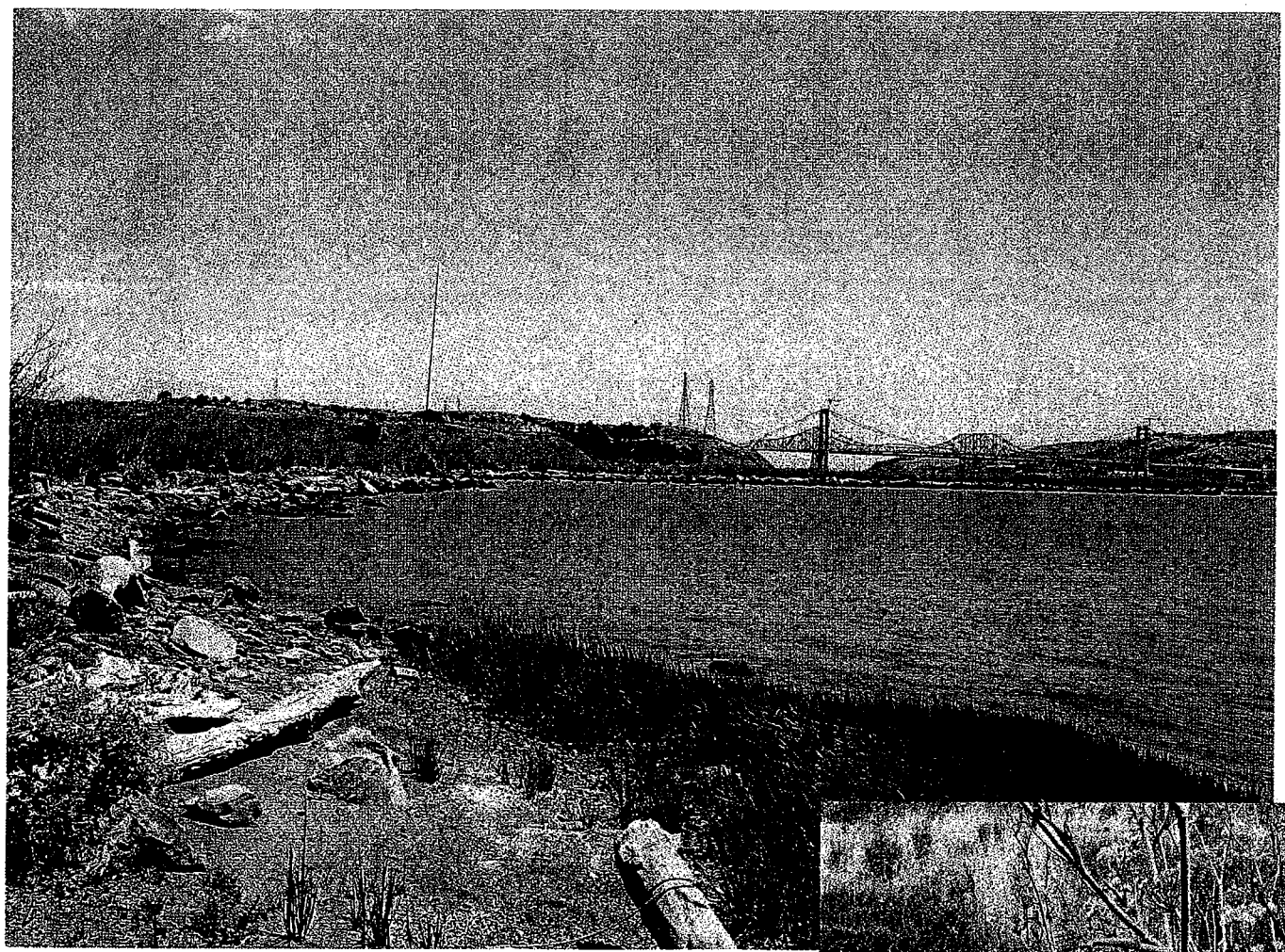
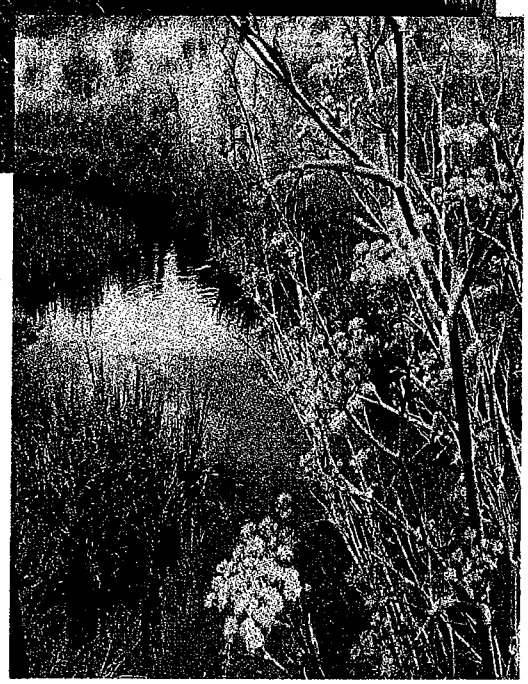
Appendix A

Master Utility Plans



LENNAR MARE ISLAND





Mare Island Amended & Restated Specific Plan

MASTER UTILITY PLANS

Prepared By:

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ENGINEERS
SURVEYORS
INSPECTORS

Executive Summary

Introduction

At Lennar Mare Island's (LMI) request and with their authorization, Chaudhary & Associates, Inc. (C&A) in conjunction with Korve Engineering, LFR Reimer, West Yost & Associates, and Robert Gray and Associates has prepared master planning documents for the wet and dry utilities on Mare Island, Vallejo, California. This section provides an overall summary of the contents of this Master Utility Plans booklet. Included in this booklet are narratives, exhibits, and calculations for the storm drainage and sanitary sewer systems for the Island. Additionally, a narrative and exhibit is included for the dry utilities, i.e. natural gas, electrical power distribution, telecommunications, and cable communications. Included by reference is the master planning for the potable water system. The water model for Mare Island exists as a separate document prepared by Korve Engineering.

Organization

This booklet consists of four (4) sections. The first section provides an introduction and a description of the organization and contents of each section,

Section 2 provides data, calculations, and pipeline alignments for the storm drainage basins of Mare Island. Included in this section are a narrative and exhibit of the east and west draining basins, a narrative and exhibit of the western collector that discharges water from the western neighborhoods to the water system adjacent to the western ammunition magazines which outlets to San Pablo Bay. Also included are calculations, and diagrammatic pipe runs for each basin or sub-basin. Note that most of the master

planning is for the southern section of the Island (south of the Causeway and "G" Street). Due to the limited information available regarding master planning for the North Island business park, this data and master planning will follow at a later date.

Section Three (3) provides island wide planning and calculations for the existing and proposed sanitary sewer collection system on Mare Island. This section was prepared by LFR Reimer in conjunction with C&A and West Yost & Associates. Exhibits and calculations have been provided for three geographical areas, i.e. North Island, residential areas, and the industrial area; additionally, a section is included for the primary pump station (DOM-4) which pumps the waste water across the causeway to the Vallejo Sanitation and Flood Control District's mainland "North Interceptor" pipeline.

Section Four (4) provides island wide planning for the dry utilities. These utilities include: electrical power distribution, natural gas transmission, telecommunications, and cable communications. While the communication components will be in all the new joint trench construction, some of the existing utilities that feed existing buildings will remain in existing easements where relocation is not feasible. This section includes a narrative discussion on the status of each of these utilities and an island wide exhibit for proposed new joint trench locations.

STORM DRAINAGE

Introduction

This section of the Master Utility Plans provides basin wide planning and calculations for the proposed storm drainage facilities on Mare Island. Included in this section is an island wide exhibit that shows all the proposed drainage basins with a separate color for each basin. This color scheme continues through the entire section to provide ease of identification when reviewing the proposed facilities and calculations. Also included is a detailed exhibit of the western outfall channel to San Pablo Bay. Additionally, the drainage basins are divided geographically into two sections. One section for those basins draining east into the Mare Island Strait, and a second section for those basins draining west and discharging to San Pablo Bay. Each drainage basin section contains a color exhibit of the tributary area, calculations, and a line diagram.

This storm drainage section of the Master Utility Plans has been prepared by Chaudhary and Associates and includes data and methodology from previous reports prepared by LFR Reimer for Lennar Mare Island.

Storm Drainage Basins

East Draining Basins

Ten basins are proposed from 'G' Street southward that will drain to the Napa River. North of 'G' Street, basins have not been established due to limited information available from the Master Developer of this area. Once site planning has been completed, master planning of the storm drainage facilities for this area should be added to this section.

Discharge flows to the Napa River range from 13 cubic feet per second (cfs) from the "Mike " basin detention pond, to approximately 110 cfs from the "Lima" basin. Each of these east-draining outfalls is tidally influenced and a tide gate structure will be included at an appropriate location to minimize the sediment loading associated with the high tides. The tide gate structure will include a pressure sensitive pinch valve as well as a mechanical gate valve for maintenance purposes. Additionally, the existing impervious surfaces on the east side of the Island limit the use of Best Management Practices (BMP's), therefore, storm water treatment systems will be evaluated and included just upstream of the tide gate structure. A bypass for the treatment system will be included for high flows and maintenance purposes.

West Draining Basins

Three major basins, "Echo, Hotel, and Kilo", have been identified and segmented into sub-sections for ease in identifying their discharge points and preparation of the supporting calculations. These basins drain either to existing wetlands or to a "Western Collector" that carries the flows to an existing channel that terminates in San Pablo Bay at the southwestern edge of Mare Island near Building A165 (see Western Outfall exhibit). Flows that discharge to the existing wetlands have been calculated and previously submitted to the Vallejo Sanitation and Flood Control District, in December, 2002 (North Wetlands Hydrology Report, Chaudhary & Associates, December 27, 2002). Overflows from the wetlands discharge to the "Western Collector" as well as 15 year design storm flows from the southerly basins. An exhibit of the "Western Collector" and supporting calculations are included with the West Basins section. Appropriate storm water treatment systems will be designed and included with Improvement Plans for each of these basins.

Western Outfall to San Pablo Bay

An exhibit has been prepared to show the route that storm water will transit on its way to the final discharge point at San Pablo Bay. This outfall channel is located south of Rebeiro Road and northeast of Building A178 and continues on a southerly route past the western magazine area and parallels Tyler Road near the discharge point at Building

A165. Photos along the route are included on the exhibit. The exhibit is located in the second clear jacket of the exhibits section.

Storm Water Collection Hydraulics

The Vallejo Sanitation and Flood Control District Policies and Engineering Design Standards, dated May, 2002, were the governing documents in the preparation of calculations and pipeline design herein.

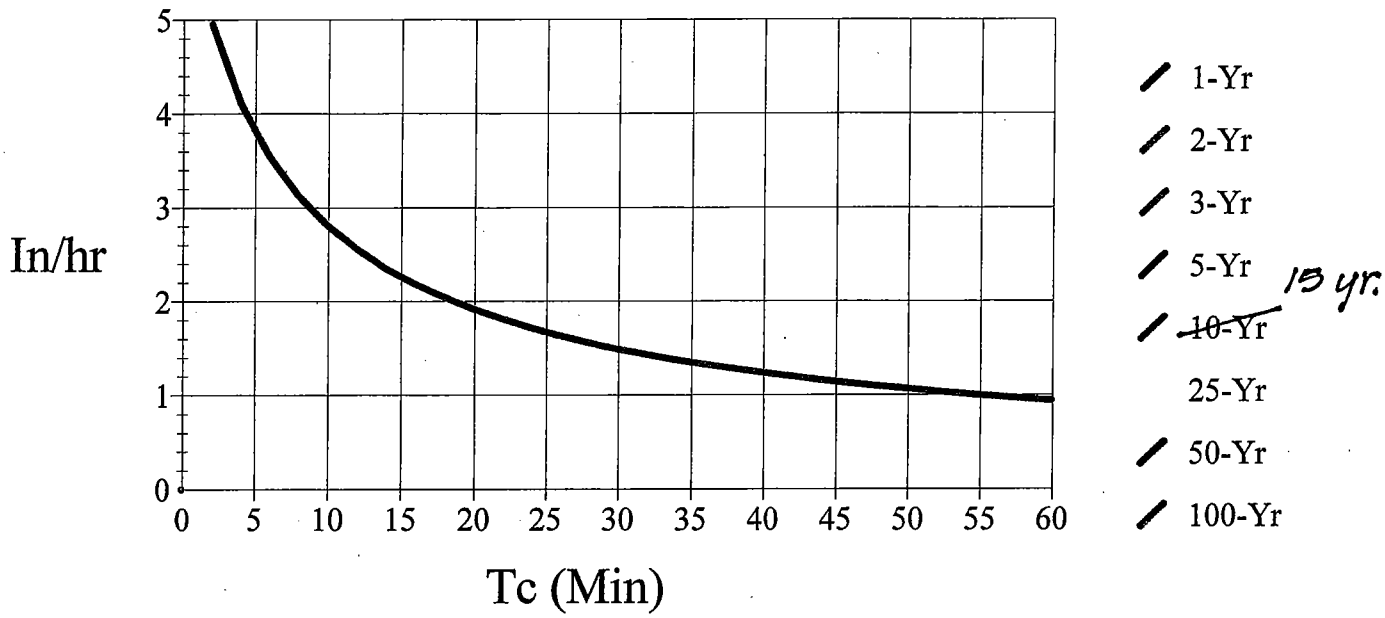
Hydrologic analysis of these basins was accomplished using applications contained within a computer program named Hydraflow Hydrographs produced by Intellisolve, Alpharetta, GA.

Design rainfall criteria, coefficients, and hydrologic analysis procedures were obtained from the Solano County Water Agency Hydrology Manual, dated June 1999. Pertinent data is included in the reference section of this narrative. Design precipitation values from the Solano County Hydrology Manual were used to calculate the Intensity-Duration-Frequency curve for Mare Island (see reference section). This I-D-F curve was used in the Hydraflow application for calculating storm drain pipe sizes.

Hydraflow Storm Sewer Tabulations were prepared for each of the drainage basins. The software does not generate a 15-year return period IDF curve, but the data used to generate the 10-year return period was the 15-year data from the Solano County Hydrology Manual.

Reference Data Section

I-D-F Curve - VALLEJO-15YR.IDF



Hydraflow IDF Report

Return Period (Yrs)	Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	-------
2	0.0000	0.0000	0.0000	-------
3	0.0000	0.0000	0.0000	-------
5	0.0000	0.0000	0.0000	-------
10	21.0720	5.0000	0.7440	-------
25	0.0000	0.0000	0.0000	-------
50	26.0176	5.0000	0.7438	-------
100	29.1090	5.0000	0.7470	-------

Q:\HYDROLOGY\hydraflow-coeff\VALLEJO-20MAP.15.50.100.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
~~10~~ 15	3.80	2.81	2.27	1.92	1.68	1.50	1.35	1.24	1.15	1.07	1.00	0.94
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	4.69	3.47	2.80	2.37	2.07	1.85	1.67	1.53	1.42	1.32	1.24	1.17
100	5.21	3.85	3.11	2.63	2.29	2.04	1.85	1.69	1.57	1.46	1.37	1.29

Tc = time in minutes

CITY OF VALLEJO
15-YR RETURN PERIOD

Hydraflow Unit Coefficients

Linear Regression Analysis

Note: Coefficients per Solano County Hydrology Manual (Table 3-4A)

Annual Mean Precipitation = 20 inches, therefore, use Map 20 with 15-yr return period

(From Table 3-4A)

I (inches)	*I* (in/hr)	Y (log I)	T/C (min)	T/C + 5 (min)	X (log T/C +5)
0.34	4.08	0.610660163	5	10	1.00000
0.46	2.76	0.440909082	10	15	1.17609
0.55	2.2	0.342422681	15	20	1.30103
0.61	1.83	0.26245109	20	25	1.39794
0.6766	1.62384	0.210543235	25	30	1.47712
0.74	1.48	0.170261715	30	35	1.54407
0.8233	1.23495	0.091649374	40	45	1.65321
0.9066	1.08792	0.036596961	50	55	1.74036
0.99	0.99	-0.004364805	60	65	1.81291

C = y intercept 1.32

B= antilog c

B= 21.07186

m= slope = -e e= (0.74428691)

Table 3-4A. Solano County Design Rainfall for San Francisco Bay Drainage Region

2-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.13	0.18	0.21	0.28	0.38	0.51	0.61	0.82	1.11	1.49	1.95	2.04	2.30	2.48	2.67	2.98	3.31	3.87	4.65	5.13	7.54	13.61
15	0.14	0.19	0.22	0.30	0.41	0.55	0.65	0.88	1.18	1.59	2.07	2.19	2.47	2.67	2.87	3.21	3.57	4.16	4.97	5.50	8.11	14.58
16	0.15	0.20	0.24	0.32	0.43	0.59	0.70	0.94	1.26	1.70	2.20	2.34	2.64	2.86	3.07	3.44	3.82	4.45	5.29	5.87	8.68	15.55
17	0.16	0.21	0.25	0.34	0.46	0.62	0.74	1.00	1.34	1.81	2.32	2.49	2.81	3.05	3.27	3.67	4.07	4.74	5.61	6.24	9.25	16.53
18	0.17	0.23	0.27	0.36	0.49	0.66	0.78	1.06	1.42	1.91	2.45	2.64	2.97	3.24	3.47	3.91	4.33	5.03	5.93	6.61	9.82	17.50
19	0.18	0.24	0.28	0.38	0.52	0.70	0.83	1.11	1.50	2.02	2.57	2.79	3.14	3.43	3.67	4.14	4.58	5.33	6.25	6.98	10.39	18.47
20	0.19	0.25	0.30	0.40	0.54	0.73	0.87	1.17	1.58	2.13	2.70	2.94	3.31	3.62	3.87	4.37	4.83	5.62	6.57	7.35	10.96	19.44
22	0.21	0.28	0.33	0.44	0.60	0.81	0.96	1.29	1.74	2.34	2.94	3.24	3.65	4.00	4.27	4.83	5.34	6.20	7.21	8.09	12.10	21.39
24	0.22	0.30	0.36	0.48	0.65	0.88	1.05	1.41	1.90	2.55	3.19	3.54	3.99	4.38	4.67	5.30	5.84	6.79	7.85	8.84	13.24	23.33
26	0.24	0.33	0.39	0.52	0.71	0.95	1.13	1.52	2.05	2.76	3.44	3.84	4.33	4.76	5.07	5.76	6.35	7.37	8.49	9.58	14.38	25.27
28	0.26	0.35	0.42	0.57	0.76	1.02	1.22	1.64	2.21	2.98	3.69	4.14	4.67	5.13	5.47	6.22	6.85	7.96	9.13	10.32	15.52	27.22
30	0.28	0.38	0.45	0.61	0.82	1.10	1.31	1.76	2.37	3.19	3.94	4.44	5.01	5.51	5.87	6.69	7.36	8.54	9.78	11.06	16.66	29.16
32	0.30	0.40	0.48	0.65	0.87	1.17	1.39	1.88	2.53	3.40	4.19	4.74	5.34	5.89	6.28	7.15	7.86	9.13	10.42	11.80	17.80	31.11
34	0.32	0.43	0.51	0.69	0.92	1.24	1.48	1.99	2.68	3.61	4.44	5.04	5.68	6.27	6.68	7.61	8.37	9.71	11.06	12.54	18.94	33.05
36	0.34	0.45	0.54	0.73	0.98	1.32	1.57	2.11	2.84	3.83	4.69	5.34	6.02	6.65	7.08	8.08	8.88	10.30	11.70	13.28	20.08	35.00
38	0.36	0.48	0.57	0.77	1.03	1.39	1.66	2.23	3.00	4.04	4.94	5.64	6.36	7.03	7.48	8.54	9.38	10.88	12.34	14.02	21.22	36.94
40	0.37	0.50	0.60	0.81	1.09	1.46	1.74	2.35	3.16	4.25	5.19	5.94	6.70	7.41	7.88	9.00	9.89	11.47	12.98	14.76	22.36	38.88
45	0.42	0.57	0.67	0.91	1.22	1.65	1.96	2.64	3.55	4.78	5.82	6.69	7.55	8.36	8.88	10.16	11.15	12.93	14.58	16.62	25.21	43.75

5-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.18	0.25	0.29	0.40	0.53	0.72	0.85	1.15	1.55	2.08	2.81	2.93	3.27	3.54	3.81	4.22	4.62	5.33	6.39	7.06	10.25	17.80
15	0.20	0.26	0.32	0.42	0.57	0.77	0.92	1.23	1.66	2.23	2.99	3.15	3.51	3.81	4.10	4.55	4.97	5.74	6.83	7.57	11.02	19.07
16	0.21	0.28	0.34	0.45	0.61	0.82	0.98	1.31	1.77	2.38	3.17	3.36	3.75	4.08	4.38	4.88	5.32	6.14	7.27	8.08	11.80	20.34
17	0.22	0.30	0.36	0.48	0.65	0.87	1.04	1.40	1.88	2.53	3.35	3.58	3.99	4.35	4.67	5.20	5.67	6.54	7.71	8.59	12.57	21.62
18	0.24	0.32	0.38	0.51	0.69	0.92	1.10	1.48	1.99	2.68	3.53	3.80	4.23	4.62	4.95	5.53	6.02	6.95	8.15	9.10	13.35	22.89
19	0.25	0.34	0.40	0.54	0.72	0.97	1.16	1.56	2.10	2.83	3.71	4.01	4.47	4.89	5.24	5.86	6.38	7.35	8.59	9.60	14.12	24.16
20	0.26	0.35	0.42	0.57	0.76	1.03	1.22	1.64	2.21	2.98	3.89	4.23	4.71	5.17	5.53	6.19	6.73	7.75	9.03	10.11	14.90	25.43
22	0.29	0.39	0.46	0.62	0.84	1.13	1.34	1.81	2.43	3.28	4.25	4.66	5.19	5.71	6.10	6.84	7.43	8.56	9.92	11.13	16.45	27.97
24	0.31	0.42	0.50	0.68	0.91	1.23	1.46	1.97	2.65	3.57	4.61	5.09	5.68	6.25	6.67	7.50	8.14	9.37	10.80	12.15	18.00	30.52
26	0.34	0.46	0.55	0.74	0.99	1.33	1.59	2.14	2.88	3.87	4.97	5.52	6.16	6.79	7.24	8.16	8.84	10.18	11.68	13.17	19.55	33.06
28	0.37	0.49	0.59	0.79	1.07	1.44	1.71	2.30	3.10	4.17	5.33	5.95	6.64	7.33	7.81	8.81	9.54	10.98	12.56	14.19	21.10	35.60
30	0.39	0.53	0.63	0.85	1.14	1.54	1.83	2.46	3.32	4.47	5.69	6.39	7.12	7.87	8.39	9.47	10.25	11.79	13.44	15.21	22.65	38.14
32	0.42	0.56	0.67	0.91	1.22	1.64	1.95	2.63	3.54	4.77	6.05	6.82	7.60	8.41	8.96	10.13	10.95	12.60	14.32	16.23	24.20	40.69
34	0.45	0.60	0.71	0.96	1.29	1.74	2.07	2.79	3.76	5.06	6.41	7.25	8.08	8.95	9.53	10.78	11.66	13.40	15.20	17.25	25.75	43.23
36	0.47	0.64	0.76	1.02	1.37	1.85	2.20	2.96	3.98	5.36	6.78	7.68	8.57	9.50	10.10	11.44	12.36	14.21	16.09	18.27	27.30	45.77
38	0.50	0.67	0.80	1.07	1.45	1.95	2.32	3.12	4.20	5.66	7.14	8.11	9.05	10.04	10.68	12.10	13.06	15.02	16.97	19.29	28.85	48.32
40	0.52	0.71	0.84	1.13	1.52	2.05	2.44	3.29	4.42	5.96	7.50	8.55	9.53	10.58	11.25	12.75	13.77	15.82	17.85	20.31	30.40	50.86
45	0.59	0.79	0.95	1.27	1.71	2.31	2.75	3.70	4.98	6.70	8.40	9.62	10.73	11.93	12.68	14.39	15.53	17.84	20.05	22.85	34.27	57.22

10-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.22	0.30	0.35	0.47	0.64	0.86	1.02	1.37	1.85	2.49	3.40	3.54	3.93	4.11	4.42	4.89	5.44	6.23	7.45	8.25	11.85	20.22
15	0.23	0.32	0.38	0.51	0.68	0.92	1.09	1.47	1.98	2.67	3.62	3.80	4.22	4.43	4.76	5.27	5.85	6.70	7.97	8.85	12.74	21.67
16	0.25	0.34	0.40	0.54	0.73	0.98	1.17	1.57	2.11	2.85	3.83	4.06	4.50	4.74	5.09	5.65	6.27	7.17	8.48	9.45	13.64	23.11
17	0.27	0.36	0.43	0.57	0.77	1.04	1.24	1.67	2.25	3.02	4.05	4.32	4.79	5.05	5.42	6.03	6.68	7.64	9.00	10.04	14.53	24.56
18	0.28	0.38	0.45	0.61	0.82	1.10	1.31	1.77	2.38	3.20	4.27	4.58	5.08	5.37	5.75	6.41	7.10	8.11	9.51	10.64	15.43	26.00
19	0.30	0.40	0.48	0.64	0.86	1.16	1.38	1.86	2.51	3.38	4.49	4.84	5.37	5.68	6.08	6.79	7.51	8.59	10.02	11.23	16.33	27.45
20	0.31	0.42	0.50	0.68	0.91	1.22	1.46	1.96	2.64	3.56	4.70	5.10	5.66	6.00	6.42	7.17	7.93	9.06	10.54	11.83	17.22	28.89
22	0.34	0.46	0.55	0.74	1.00	1.35	1.60	2.16	2.91	3.91	5.14	5.62	6.24	6.63	7.08	7.93	8.75	10.00	11.57	13.02	19.01	31.78
24	0.38	0.51	0.60	0.81	1.09	1.47	1.75	2.35	3.17	4.27	5.58	6.14	6.82	7.25	7.74	8.69	9.58	10.94	12.59	14.21	20.81	34.67
26	0.41	0.55	0.65	0.88	1.18	1.59	1.89	2.55	3.43	4.62	6.01	6.67	7.40	7.88	8.41	9.45	10.41	11.88	13.62	15.41	22.60	37.56
28	0.44	0.59	0.70	0.95	1.27	1.71	2.04	2.75	3.70	4.98	6.45	7.19	7.98	8.51	9.07	10.21	11.24	12.83	14.65	16.60	24.39	40.45
30	0.47	0.63	0.75	1.01	1.36	1.84	2.19	2.94	3.96	5.33	6.88	7.71	8.56	9.14	9.74	10.97	12.07	13.77	15.68	17.79	26.18	43.34
32	0.50	0.67	0.80	1.08	1.46	1.96	2.33	3.14	4.23	5.69	7.32	8.23	9.13	9.77	10.40	11.73	12.90	14.71	16.70	18.98	27.97	46.22
34	0.53	0.72	0.85	1.15	1.55	2.08	2.48	3.34	4.49	6.05	7.75	8.75	9.71	10.40	11.07	12.49	13.73	15.65	17.73	20.18	29.76	49.11
36	0.56	0.76	0.90	1.22	1.64	2.20	2.62	3.53	4.75	6.40	8.19	9.27	10.29	11.02	11.73	13.25	14.56	16.60	18.76	21.37	31.56	52.00
38	0.59	0.80	0.95	1.28	1.73	2.33	2.77	3.73	5.02	6.76	8.63	9.79	10.87	11.65	12.39	14.01	15.39	17.54	19.79	22.56	33.35	54.89
40	0.63	0.84	1.00	1.35	1.82	2.45	2.91	3.92	5.28	7.11	9.06	10.31	11.45	12.28	13.06	14.77	16.22	18.48	20.82	23.75	35.14	57.78
45	0.70	0.95	1.13	1.52	2.05	2.75	3.28	4.41	5.94	8.00	10.15	11.62	12.90	13.85	14.72	16.67	18.29	20.84	23.39	26.73	39.62	65.00

15-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.24	0.32	0.38	0.52	0.69	0.93	1.11	1.50	2.02	2.71	3.73	3.88	4.29	4.60	4.95	5.46	5.89	6.71	8.03	8.90	12.69	21.50
15	0.26	0.34	0.41	0.55	0.74	1.00	1.19	1.60	2.16	2.91	3.97	4.17	4.61	4.96	5.33	5.89	6.34	7.22	8.58	9.55	13.65	23.04
16	0.27	0.37	0.44	0.59	0.79	1.07	1.27	1.71	2.30	3.10	4.20	4.45	4.92	5.31	5.70	6.31	6.79	7.73	9.14	10.19	14.61	24.57
17	0.29	0.39	0.47	0.63	0.84	1.13	1.35	1.82	2.45	3.30	4.44	4.74	5.24	5.66	6.07	6.74	7.24	8.24	9.69	10.83	15.57	26.11
18	0.31	0.41	0.49	0.66	0.89	1.20	1.43	1.93	2.59	3.49	4.68	5.02	5.56	6.01	6.44	7.16	7.69	8.75	10.24	11.48	16.53	27.65
19	0.32	0.44	0.52	0.70	0.94	1.27	1.51	2.03	2.74	3.68	4.92	5.31	5.87	6.36	6.81	7.59	8.13	9.25	10.80	12.12	17.49	29.18
20	0.34	0.46	0.55	0.74	0.99	1.34	1.59	2.14	2.88	3.88	5.16	5.59	6.19	6.72	7.18	8.01	8.58	9.76	11.35	12.76	18.45	30.72
22	0.38	0.51	0.60	0.81	1.09	1.47	1.75	2.35	3.17	4.27	5.64	6.17	6.82	7.42	7.93	8.86	9.48	10.78	12.46	14.05	20.37	33.79
24	0.41	0.55	0.66	0.88	1.19	1.60	1.91	2.57	3.46	4.65	6.12	6.74	7.46	8.12	8.67	9.71	10.38	11.79	13.56	15.34	22.29	36.86
26	0.44	0.60	0.71	0.96	1.29	1.74	2.07	2.78	3.74	5.04	6.60	7.31	8.09	8.83	9.42	10.56	11.28	12.81	14.67	16.62	24.21	39.93
28	0.48	0.64	0.77	1.03	1.39	1.87	2.22	3.00	4.03	5.43	7.07	7.88	8.72	9.53	10.16	11.41	12.18	13.82	15.78	17.91	26.13	43.01
30	0.51	0.69	0.82	1.10	1.49	2.00	2.38	3.21	4.32	5.82	7.55	8.45	9.35	10.23	10.90	12.26	13.07	14.84	16.89	19.19	28.05	46.08
32	0.55	0.74	0.88	1.18	1.59	2.14	2.54	3.42	4.61	6.21	8.03	9.02	9.99	10.94	11.65	13.11	13.97	15.86	17.99	20.48	29.98	49.15
34	0.58	0.78	0.93	1.25	1.69	2.27	2.70	3.64	4.90	6.59	8.51	9.59	10.62	11.64	12.39	13.96	14.87	16.87	19.10	21.77	31.90	52.22
36	0.61	0.83	0.98	1.33	1.79	2.40	2.86	3.85	5.18	6.98	8.99	10.17	11.25	12.35	13.14	14.81	15.77	17.89	20.21	23.05	33.82	55.29
38	0.65	0.87	1.04	1.40	1.88	2.54	3.02	4.06	5.47	7.37	9.46	10.74	11.89	13.05	13.88	15.66	16.67	18.90	21.32	24.34	35.74	58.36
40	0.68	0.92	1.09	1.47	1.98	2.67	3.18	4.28	5.76	7.76	9.94	11.31	12.52	13.75	14.62	16.51	17.57	19.92	22.42	25.63	37.66	61.44
45	0.77	1.03	1.23	1.66	2.23	3.00	3.58	4.81	6.48	8.73	11.14	12.74	14.10	15.51	16.48	18.63	19.81	22.46	25.19	28.84	42.46	69.12

Table 3-4A. Solano County Design Rainfall for San Francisco Bay Drainage Region

25-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.26	0.35	0.42	0.57	0.77	1.03	1.23	1.65	2.22	2.99	4.13	4.30	4.74	5.07	5.45	6.00	6.43	7.33	8.76	9.68	13.69	22.98
15	0.28	0.38	0.45	0.61	0.82	1.10	1.31	1.77	2.38	3.21	4.40	4.61	5.09	5.45	5.86	6.47	6.92	7.88	9.36	10.38	14.72	24.63
16	0.30	0.41	0.48	0.65	0.87	1.18	1.40	1.89	2.54	3.42	4.66	4.93	5.44	5.84	6.27	6.93	7.41	8.44	9.96	11.08	15.76	26.27
17	0.32	0.43	0.51	0.69	0.93	1.25	1.49	2.00	2.70	3.63	4.93	5.25	5.79	6.23	6.68	7.40	7.90	8.99	10.57	11.78	16.79	27.91
18	0.34	0.46	0.54	0.73	0.98	1.32	1.58	2.12	2.86	3.85	5.19	5.56	6.14	6.61	7.09	7.87	8.39	9.55	11.17	12.48	17.83	29.55
19	0.36	0.48	0.57	0.77	1.04	1.40	1.66	2.24	3.02	4.06	5.46	5.88	6.49	7.00	7.50	8.33	8.88	10.10	11.78	13.18	18.86	31.19
20	0.38	0.51	0.60	0.81	1.09	1.47	1.75	2.36	3.17	4.27	5.72	6.20	6.84	7.39	7.90	8.80	9.37	10.65	12.38	13.87	19.90	32.84
22	0.41	0.56	0.66	0.89	1.20	1.62	1.93	2.59	3.49	4.70	6.25	6.83	7.54	8.16	8.72	9.74	10.35	11.76	13.59	15.27	21.97	36.12
24	0.45	0.61	0.72	0.97	1.31	1.77	2.10	2.83	3.81	5.13	6.78	7.46	8.24	8.94	9.54	10.67	11.33	12.87	14.79	16.67	24.04	39.40
26	0.49	0.66	0.78	1.06	1.42	1.91	2.28	3.06	4.13	5.56	7.31	8.10	8.94	9.71	10.36	11.60	12.31	13.98	16.00	18.07	26.11	42.69
28	0.53	0.71	0.84	1.14	1.53	2.06	2.45	3.30	4.44	5.98	7.84	8.73	9.64	10.48	11.18	12.54	13.29	15.09	17.21	19.47	28.18	45.97
30	0.56	0.76	0.90	1.22	1.64	2.21	2.63	3.54	4.76	6.41	8.37	9.36	10.34	11.26	12.00	13.47	14.27	16.20	18.42	20.86	30.25	49.25
32	0.60	0.81	0.96	1.30	1.75	2.35	2.80	3.77	5.08	6.84	8.90	10.00	11.03	12.03	12.81	14.40	15.26	17.30	19.63	22.26	32.32	52.54
34	0.64	0.86	1.02	1.38	1.86	2.50	2.98	4.01	5.40	7.27	9.43	10.63	11.73	12.81	13.63	15.34	16.24	18.41	20.83	23.66	34.39	55.82
36	0.68	0.91	1.09	1.46	1.97	2.65	3.15	4.24	5.71	7.69	9.96	11.26	12.43	13.58	14.45	16.27	17.22	19.52	22.04	25.06	36.46	59.10
38	0.71	0.96	1.15	1.54	2.08	2.80	3.33	4.48	6.03	8.12	10.49	11.90	13.13	14.36	15.27	17.20	18.20	20.63	23.25	26.46	38.53	62.39
40	0.75	1.01	1.21	1.62	2.19	2.94	3.50	4.72	6.35	8.55	11.02	12.53	13.83	15.13	16.09	18.14	19.18	21.74	24.46	27.86	40.60	65.67
45	0.85	1.14	1.36	1.83	2.46	3.31	3.94	5.30	7.14	9.62	12.35	14.11	15.58	17.07	18.13	20.47	21.63	24.51	27.47	31.35	45.77	73.88

50-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.30	0.40	0.47	0.64	0.86	1.16	1.38	1.85	2.49	3.36	4.67	4.85	5.34	5.67	6.10	6.71	7.13	8.03	9.59	10.69	14.95	24.87
15	0.32	0.43	0.51	0.68	0.92	1.24	1.47	1.98	2.67	3.60	4.97	5.21	5.73	6.10	6.56	7.23	7.68	8.64	10.25	11.46	16.09	26.65
16	0.34	0.45	0.54	0.73	0.98	1.32	1.57	2.12	2.85	3.84	5.27	5.57	6.12	6.54	7.02	7.75	8.22	9.24	10.91	12.23	17.22	28.42
17	0.36	0.48	0.57	0.77	1.04	1.40	1.67	2.25	3.03	4.08	5.57	5.93	6.52	6.97	7.47	8.27	8.77	9.85	11.57	13.00	18.35	30.20
18	0.38	0.51	0.61	0.82	1.10	1.49	1.77	2.38	3.21	4.32	5.87	6.28	6.91	7.40	7.93	8.80	9.31	10.46	12.23	13.78	19.48	31.98
19	0.40	0.54	0.64	0.87	1.16	1.57	1.87	2.51	3.38	4.56	6.17	6.64	7.30	7.84	8.39	9.32	9.85	11.07	12.89	14.55	20.61	33.75
20	0.42	0.57	0.68	0.91	1.23	1.65	1.96	2.65	3.56	4.79	6.47	7.00	7.70	8.27	8.85	9.84	10.40	11.67	13.56	15.32	21.74	35.53
22	0.46	0.63	0.74	1.00	1.35	1.82	2.16	2.91	3.92	5.27	7.06	7.71	8.48	9.14	9.76	10.88	11.49	12.89	14.88	16.86	24.00	39.08
24	0.51	0.68	0.81	1.09	1.47	1.98	2.36	3.17	4.27	5.75	7.66	8.43	9.27	10.00	10.68	11.93	12.57	14.10	16.20	18.41	26.26	42.64
26	0.55	0.74	0.88	1.18	1.59	2.15	2.55	3.44	4.63	6.23	8.26	9.14	10.06	10.87	11.60	12.97	13.66	15.32	17.52	19.95	28.53	46.19
28	0.59	0.80	0.95	1.27	1.72	2.31	2.75	3.70	4.99	6.71	8.86	9.86	10.84	11.74	12.51	14.01	14.75	16.53	18.84	21.49	30.79	49.74
30	0.63	0.85	1.01	1.37	1.84	2.48	2.95	3.97	5.34	7.19	9.46	10.57	11.63	12.60	13.43	15.06	15.84	17.74	20.17	23.04	33.05	53.29
32	0.68	0.91	1.08	1.46	1.96	2.64	3.14	4.23	5.70	7.67	10.06	11.29	12.42	13.47	14.35	16.10	16.93	18.96	21.49	24.58	35.31	56.85
34	0.72	0.97	1.15	1.55	2.08	2.81	3.34	4.50	6.05	8.15	10.66	12.00	13.20	14.34	15.26	17.14	18.01	20.17	22.81	26.13	37.57	60.40
36	0.76	1.02	1.22	1.64	2.21	2.97	3.54	4.76	6.41	8.63	11.26	12.72	13.99	15.20	16.18	18.19	19.10	21.39	24.13	27.67	39.83	63.95
38	0.80	1.08	1.29	1.73	2.33	3.14	3.73	5.03	6.77	9.11	11.86	13.43	14.78	16.07	17.09	19.23	20.19	22.60	25.46	29.21	42.10	67.51
40	0.84	1.14	1.35	1.82	2.45	3.30	3.93	5.29	7.12	9.59	12.45	14.15	15.56	16.94	18.01	20.28	21.28	23.82	26.78	30.76	44.36	71.06
45	0.95	1.28	1.52	2.05	2.76	3.71	4.42	5.95	8.01	10.79	13.95	15.93	17.53	19.10	20.30	22.89	24.00	26.85	30.08	34.62	50.01	79.94

100-Year Return Period

24Hr

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.33	0.44	0.52	0.70	0.95	1.28	1.52	2.05	2.76	3.71	5.19	5.40	5.91	6.26	6.73	7.40	7.81	8.73	10.43	11.65	16.15	26.63
15	0.35	0.47	0.56	0.76	1.02	1.37	1.63	2.19	2.95	3.98	5.53	5.79	6.35	6.74	7.24	7.97	8.41	9.39	11.14	12.49	17.37	28.54
16	0.37	0.50	0.60	0.81	1.08	1.46	1.74	2.34	3.15	4.24	5.86	6.19	6.79	7.22	7.74	8.55	9.00	10.06	11.86	13.34	18.59	30.44
17	0.40	0.53	0.64	0.86	1.15	1.55	1.85	2.49	3.35	4.51	6.19	6.59	7.22	7.69	8.25	9.12	9.60	10.72	12.58	14.18	19.81	32.34
18	0.42	0.57	0.67	0.91	1.22	1.64	1.96	2.63	3.54	4.77	6.53	6.99	7.66	8.17	8.76	9.70	10.20	11.38	13.30	15.02	21.03	34.24
19	0.44	0.60	0.71	0.96	1.29	1.73	2.06	2.78	3.74	5.04	6.86	7.38	8.09	8.65	9.26	10.27	10.79	12.04	14.02	15.86	22.26	36.15
20	0.47	0.63	0.75	1.01	1.36	1.83	2.17	2.92	3.94	5.30	7.19	7.78	8.53	9.13	9.77	10.85	11.39	12.70	14.74	16.70	23.48	38.05
22	0.51	0.69	0.82	1.11	1.49	2.01	2.39	3.22	4.33	5.83	7.86	8.58	9.40	10.09	10.78	12.00	12.58	14.02	16.18	18.38	25.92	41.85
24	0.56	0.75	0.90	1.21	1.63	2.19	2.61	3.51	4.73	6.36	8.52	9.37	10.27	11.04	11.79	13.15	13.77	15.34	17.61	20.07	28.36	45.66
26	0.61	0.82	0.97	1.31	1.76	2.37	2.82	3.80	5.12	6.89	9.19	10.17	11.14	12.00	12.80	14.30	14.96	16.66	19.05	21.75	30.80	49.46
28	0.65	0.88	1.05	1.41	1.90	2.56	3.04	4.09	5.51	7.42	9.86	10.96	12.02	12.96	13.81	15.45	16.15	17.98	20.49	23.43	33.25	53.27
30	0.70	0.94	1.12	1.51	2.03	2.74	3.26	4.39	5.91	7.95	10.52	11.75	12.89	13.91	14.82	16.60	17.35	19.30	21.93	25.12	35.69	57.07
32	0.75	1.01	1.20	1.61	2.17	2.92	3.48	4.68	6.30	8.48	11.19	12.55	13.76	14.87	15.83	17.75	18.54	20.63	23.36	26.80	38.13	60.88
34	0.79	1.07	1.27	1.71	2.31	3.10	3.69	4.97	6.69	9.01	11.86	13.34	14.63	15.82	16.85	18.90	19.73	21.95	24.80	28.48	40.57	64.68
36	0.84	1.13	1.35	1.81	2.44	3.29	3.91	5.26	7.09	9.54	12.52	14.14	15.50	16.78	17.86	20.05	20.92	23.27	26.24	30.16	43.02	68.49
38	0.89	1.19	1.42	1.91	2.58	3.47	4.13	5.56	7.48	10.07	13.19	14.93	16.37	17.74	18.87	21.20	22.11	24.59	27.68	31.85	45.46	72.29
40	0.93	1.26	1.50	2.01	2.71	3.65	4.34	5.85	7.88	10.60	13.85	15.73	17.25	18.69	19.88	22.35	23.30	25.91	29.12	33.53	47.90	76.10
45	1.05	1.41	1.68	2.27	3.05	4.11	4.89	6.58	8.86	11.93	15.52	17.72	19.43	21.09	22.41	25.23	26.28	29.21	32.71	37.74	54.01	85.61

200-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.36	0.48	0.57	0.77	1.04	1.40	1.66	2.24	3.02	4.06	5.71	5.93	6.48	6.83	7.35	8.07	8.47	9.41	11.23	12.58	17.01	28.30
15	0.38	0.52	0.61	0.83	1.11	1.50	1.78	2.40	3.23	4.35	6.08	6.37	6.96	7.36	7.90	8.70	9.12	10.12	12.00	13.49	18.30	30.33
16	0.41	0.55	0.65	0.88	1.19	1.60	1.90	2.56	3.45	4.64	6.44	6.80	7.44	7.88	8.46	9.32	9.76	10.84	12.78	14.40	19.59	32.35
17	0.43	0.58	0.70	0.94	1.26	1.70	2.02	2.72	3.66	4.93	6.81	7.24	7.91	8.40	9.01	9.95	10.41	11.55	13.55	15.31	20.87	34.37
18	0.46	0.62	0.74	0.99	1.33	1.80	2.14	2.88	3.88	5.22	7.18	7.68	8.39	8.92	9.56	10.58	11.05	12.26	14.33	16.22	22.16	36.39
19	0.49	0.65	0.78	1.05	1.41	1.90	2.26	3.04	4.09	5.51	7.54	8.12	8.87	9.45	10.11	11.21	11.70	12.97	15.10	17.13	23.45	38.41
20	0.51	0.69	0.82	1.10	1.48	2.00	2.38	3.20	4.31	5.80	7.91	8.55	9.35	9.97	10.67	11.84	12.35	13.68	15.88	18.04	24.73	40.44
22	0.56	0.76	0.90	1.21	1.63	2.20	2.61	3.52	4.74	6.38	8.64	9.43	10.30	11.01	11.77	13.09	13.64	15.11	17.42	19.86	27.30	44.48
24	0.61	0.83	0.98	1.32	1.78	2.40	2.85	3.84	5.17	6.96	9.37	10.30	11.26	12.06	12.87	14.35	14.93	16.53	18.97	21.67	29.88	48.52
26	0.66	0.89	1.06	1.43	1.93	2.60	3.09	4.16	5.60	7.54	10.11	11.17	12.21	13.10	13.98	15.60	16.22	17.96	20.52	23.49	32.45	52.57
28	0.71	0.96	1.15	1.54	2.08	2.80	3.33	4.48	6.03	8.12	10.84	12.05	13.17	14.15	15.08	16.86	17.51	19.38	22.07	25.31	35.02	56.61
30	0.77	1.03	1.23	1.65	2.22	2.99	3.56	4.80	6.46	8.70	11.57	12.92	14.12	15.19	16.19	18.11	18.81	20.80	23.62	27.13	37.60	60.65
32	0.82	1.10	1.31	1.76	2.37	3.19	3.80	5.12	6.89	9.28	12.30	13.79	15.08	16.24	17.29	19.37	20.10	22.23	25.17	28.94	40.17	64.70
34	0.87	1.17	1.39	1.87	2.52	3.39	4.04	5.44	7.32	9.86	13.04	14.67	16.03	17.28	18.40	20.62	21.39	23.65	26.72	30.76	42.74	68.74
36	0.92	1.24	1.47	1.98	2.67	3.59	4.28	5.76	7.75	10.44	13.77	15.54	16.99	18.33	19.50	21.88	22.68	25.07	28.26	32.58	45.32	72.78
38	0.97	1.31	1.55	2.09	2.82	3.79	4.52	6.08	8.18	11.02	14.50	16.41	17.94	19.37	20.60	23.13	23.97	26.50	29.81	34.40	47.89	76.83
40	1.02	1.38	1.64	2.20	2.97	3.99	4.75	6.40	8.62	11.60	15.23	17.29	18.90	20.42	21.71	24.39	25.26	27.92	31.36	36.21	50.46	80.87
45	1.15	1.55	1.84	2.48	3.34	4.49	5.35	7.20	9.69	13.05	17.07	19.47	21.29	23.03	24.47	27.53	28.49	31.48	35.23	40.76	56.89	90.98

Table 3-4A. Solano County Design Rainfall for San Francisco Bay Drainage Region

500-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.40	0.53	0.63	0.85	1.15	1.55	1.84	2.48	3.34	4.50	6.30	6.54	7.19	7.55	8.12	8.91	9.27	10.34	12.33	13.87	18.79	30.46
15	0.42	0.57	0.68	0.92	1.23	1.66	1.97	2.66	3.58	4.82	6.71	7.03	7.72	8.13	8.73	9.60	9.98	11.12	13.18	14.87	20.21	32.63
16	0.45	0.61	0.73	0.98	1.31	1.77	2.11	2.84	3.82	5.14	7.11	7.51	8.25	8.71	9.34	10.29	10.69	11.90	14.03	15.87	21.64	34.81
17	0.48	0.65	0.77	1.04	1.40	1.88	2.24	3.01	4.06	5.46	7.52	7.99	8.78	9.28	9.95	10.99	11.39	12.68	14.88	16.87	23.06	36.99
18	0.51	0.69	0.82	1.10	1.48	1.99	2.37	3.19	4.30	5.78	7.92	8.47	9.31	9.86	10.56	11.68	12.10	13.47	15.73	17.87	24.48	39.16
19	0.54	0.72	0.86	1.16	1.56	2.10	2.50	3.37	4.53	6.11	8.33	8.95	9.85	10.44	11.17	12.37	12.81	14.25	16.58	18.88	25.90	41.34
20	0.57	0.76	0.91	1.22	1.64	2.21	2.63	3.55	4.77	6.43	8.73	9.44	10.38	11.01	11.78	13.06	13.52	15.03	17.43	19.88	27.32	43.51
22	0.62	0.84	1.00	1.34	1.81	2.43	2.90	3.90	5.25	7.07	9.54	10.40	11.44	12.17	13.00	14.45	14.93	16.59	19.13	21.88	30.16	47.86
24	0.68	0.91	1.09	1.46	1.97	2.65	3.16	4.25	5.73	7.71	10.35	11.36	12.50	13.32	14.22	15.84	16.35	18.16	20.83	23.88	33.00	52.22
26	0.74	0.99	1.18	1.59	2.14	2.88	3.42	4.61	6.21	8.35	11.16	12.33	13.56	14.48	15.44	17.22	17.76	19.72	22.53	25.89	35.85	56.57
28	0.79	1.07	1.27	1.71	2.30	3.10	3.69	4.96	6.68	9.00	11.96	13.29	14.62	15.63	16.66	18.61	19.17	21.29	24.23	27.89	38.69	60.92
30	0.85	1.14	1.36	1.83	2.47	3.32	3.95	5.32	7.16	9.64	12.77	14.25	15.68	16.78	17.88	19.99	20.59	22.85	25.93	29.89	41.53	65.27
32	0.91	1.22	1.45	1.95	2.63	3.54	4.21	5.67	7.64	10.28	13.58	15.22	16.74	17.94	19.10	21.38	22.00	24.41	27.63	31.90	44.37	69.62
34	0.96	1.30	1.54	2.08	2.79	3.76	4.48	6.03	8.11	10.93	14.39	16.18	17.80	19.09	20.32	22.76	23.42	25.98	29.33	33.90	47.22	73.97
36	1.02	1.37	1.63	2.20	2.96	3.98	4.74	6.38	8.59	11.57	15.20	17.15	18.86	20.25	21.54	24.15	24.83	27.54	31.03	35.90	50.06	78.32
38	1.08	1.45	1.72	2.32	3.12	4.20	5.00	6.74	9.07	12.21	16.01	18.11	19.92	21.40	22.76	25.54	26.25	29.10	32.73	37.90	52.90	82.68
40	1.13	1.52	1.81	2.44	3.29	4.42	5.27	7.09	9.55	12.85	16.82	19.07	20.98	22.56	23.98	26.92	27.66	30.67	34.43	39.91	55.74	87.03
45	1.27	1.71	2.04	2.75	3.70	4.98	5.92	7.98	10.74	14.46	18.84	21.48	23.63	25.44	27.03	30.39	31.20	34.58	38.68	44.92	62.85	97.90

1,000-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.43	0.57	0.68	0.92	1.24	1.67	1.99	2.68	3.60	4.85	6.89	7.15	7.77	8.13	8.75	9.59	9.94	10.91	13.01	14.66	19.77	31.93
15	0.46	0.62	0.73	0.99	1.33	1.79	2.13	2.87	3.86	5.20	7.33	7.67	8.34	8.75	9.41	10.33	10.70	11.74	13.91	15.72	21.27	34.21
16	0.49	0.66	0.78	1.05	1.42	1.91	2.27	3.06	4.12	5.54	7.77	8.20	8.91	9.38	10.06	11.08	11.46	12.56	14.81	16.78	22.76	36.49
17	0.52	0.70	0.83	1.12	1.51	2.03	2.41	3.25	4.37	5.89	8.21	8.73	9.48	10.00	10.72	11.82	12.22	13.39	15.70	17.83	24.26	38.77
18	0.55	0.74	0.88	1.18	1.59	2.15	2.55	3.44	4.63	6.24	8.66	9.25	10.05	10.62	11.38	12.57	12.97	14.22	16.60	18.89	25.75	41.05
19	0.58	0.78	0.93	1.25	1.68	2.27	2.70	3.63	4.89	6.58	9.10	9.78	10.63	11.24	12.03	13.32	13.73	15.04	17.50	19.95	27.25	43.33
20	0.61	0.82	0.98	1.32	1.77	2.39	2.84	3.82	5.15	6.93	9.54	10.31	11.20	11.86	12.69	14.06	14.49	15.87	18.39	21.01	28.75	45.61
22	0.67	0.90	1.08	1.45	1.95	2.62	3.12	4.20	5.66	7.62	10.42	11.36	12.34	13.10	14.00	15.55	16.01	17.52	20.19	23.13	31.74	50.17
24	0.73	0.99	1.17	1.58	2.13	2.86	3.41	4.59	6.17	8.31	11.31	12.41	13.49	14.35	15.32	17.04	17.52	19.17	21.98	25.24	34.73	54.73
26	0.79	1.07	1.27	1.71	2.30	3.10	3.69	4.97	6.69	9.01	12.19	13.47	14.63	15.59	16.63	18.54	19.04	20.82	23.78	27.36	37.72	59.29
28	0.85	1.15	1.37	1.84	2.48	3.34	3.97	5.35	7.20	9.70	13.07	14.52	15.78	16.83	17.95	20.03	20.55	22.47	25.57	29.48	40.71	63.85
30	0.92	1.23	1.47	1.97	2.66	3.58	4.26	5.73	7.72	10.39	13.96	15.57	16.92	18.08	19.26	21.52	22.07	24.12	27.37	31.59	43.70	68.41
32	0.98	1.31	1.56	2.11	2.83	3.82	4.54	6.12	8.23	11.09	14.84	16.62	18.07	19.32	20.57	23.01	23.59	25.77	29.16	33.71	46.69	72.98
34	1.04	1.40	1.66	2.24	3.01	4.05	4.83	6.50	8.75	11.78	15.72	17.68	19.21	20.56	21.89	24.50	25.10	27.42	30.95	35.83	49.68	77.54
36	1.10	1.48	1.76	2.37	3.19	4.29	5.11	6.88	9.26	12.47	16.61	18.73	20.36	21.81	23.20	25.99	26.62	29.07	32.75	37.95	52.67	82.10
38	1.16	1.56	1.86	2.50	3.37	4.53	5.39	7.26	9.78	13.16	17.49	19.78	21.50	23.05	24.52	27.49	28.14	30.72	34.54	40.06	55.66	86.66
40	1.22	1.64	1.95	2.63	3.54	4.77	5.68	7.64	10.29	13.86	18.37	20.84	22.65	24.29	25.83	28.98	29.65	32.37	36.34	42.18	58.65	91.22
45	1.37	1.85	2.20	2.96	3.99	5.37	6.39	8.60	11.58	15.59	20.58	23.47	25.51	27.40	29.12	32.71	33.44	36.50	40.82	47.47	66.13	102.62

10,000-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.52	0.71	0.84	1.13	1.52	2.05	2.44	3.28	4.42	5.95	8.54	8.85	9.55	9.93	10.68	11.69	11.95	13.31	15.85	17.47	23.07	36.68
15	0.56	0.76	0.90	1.21	1.63	2.19	2.61	3.52	4.73	6.37	9.08	9.50	10.26	10.69	11.48	12.60	12.86	14.31	16.94	18.74	24.81	39.30
16	0.60	0.81	0.96	1.29	1.74	2.34	2.79	3.75	5.05	6.80	9.63	10.16	10.96	11.45	12.29	13.50	13.78	15.32	18.03	20.00	26.55	41.92
17	0.64	0.86	1.02	1.37	1.85	2.49	2.96	3.99	5.37	7.22	10.18	10.81	11.67	12.21	13.09	14.41	14.69	16.32	19.13	21.26	28.30	44.54
18	0.67	0.91	1.08	1.45	1.96	2.63	3.13	4.22	5.68	7.65	10.73	11.46	12.37	12.96	13.89	15.32	15.60	17.33	20.22	22.52	30.04	47.16
19	0.71	0.96	1.14	1.53	2.06	2.78	3.31	4.45	6.00	8.07	11.27	12.11	13.08	13.72	14.69	16.23	16.51	18.34	21.31	23.78	31.79	49.78
20	0.75	1.01	1.20	1.61	2.17	2.93	3.48	4.69	6.31	8.50	11.82	12.76	13.78	14.48	15.49	17.14	17.42	19.34	22.41	25.05	33.53	52.40
22	0.82	1.11	1.32	1.78	2.39	3.22	3.83	5.16	6.94	9.35	12.92	14.07	15.19	16.00	17.10	18.96	19.25	21.36	24.59	27.57	37.02	57.64
24	0.90	1.21	1.44	1.94	2.61	3.51	4.18	5.63	7.58	10.20	14.01	15.37	16.60	17.52	18.70	20.78	21.07	23.37	26.78	30.09	40.51	62.88
26	0.97	1.31	1.56	2.10	2.83	3.80	4.53	6.10	8.21	11.05	15.11	16.68	18.00	19.03	20.31	22.60	22.89	25.38	28.96	32.62	44.00	68.12
28	1.05	1.41	1.68	2.26	3.04	4.10	4.88	6.56	8.84	11.90	16.20	17.98	19.41	20.55	21.91	24.41	24.72	27.39	31.15	35.14	47.48	73.36
30	1.12	1.51	1.80	2.42	3.26	4.39	5.22	7.03	9.47	12.75	17.30	19.28	20.82	22.07	23.51	26.23	26.54	29.41	33.33	37.67	50.97	78.60
32	1.20	1.61	1.92	2.58	3.48	4.68	5.57	7.50	10.10	13.60	18.39	20.59	22.23	23.59	25.12	28.05	28.36	31.42	35.52	40.19	54.46	83.84
34	1.27	1.71	2.04	2.74	3.69	4.97	5.92	7.97	10.73	14.45	19.49	21.89	23.64	25.10	26.72	29.87	30.19	33.43	37.71	42.71	57.95	89.08
36	1.35	1.81	2.16	2.91	3.91	5.27	6.27	8.44	11.36	15.30	20.58	23.20	25.05	26.62	28.33	31.69	32.01	35.44	39.89	45.24	61.44	94.31
38	1.42	1.91	2.28	3.07	4.13	5.56	6.62	8.91	11.99	16.15	21.68	24.50	26.46	28.14	29.93	33.51	33.83	37.46	42.08	47.76	64.93	99.55
40	1.50	2.02	2.40	3.23	4.35	5.85	6.96	9.38	12.63	17.00	22.77	25.80	27.86	29.66	31.54	35.32	35.65	39.47	44.26	50.29	68.42	104.79
45	1.68	2.27	2.70	3.63	4.89	6.58	7.84	10.55	14.20	19.12	25.51	29.06	31.39	33.45	35.55	39.87	40.21	44.50	49.73	56.60	77.14	117.89

10/31/02

Wetlands North of Farragut Village

Previously a sediment pond for Napa River dredge spoils consisting of silty to silt clay material. This area had not been used for a long time and vegetation has grown and the top layers contain roots & organic material

∴ Group C

Steve T.

This rainfall pattern results in the County having somewhat different rainfall distributions in the southwest and northeast areas of the county. In this Hydrology Manual, Solano County has been divided into two drainage regions corresponding to the State of California, Department of Water Resources (DWR) Drainage Provinces. As shown on Figure 2-2, the San Francisco Bay Region includes the southwest area of the county (Fairfield, Suisun City, Vallejo and Benicia), and corresponds to the DWR San Francisco Bay Province. The Sacramento River Region includes the northeast area of the County (Vacaville, Dixon and Rio Vista), and corresponds to the DWR Sacramento River Province and a small amount of the DWR San Joaquin River Province.

An important parameter in the design of drainage facilities is the rainfall depth-duration-frequency (DDF) relationship. The frequency is expressed as a return period in years. The return period or recurrence interval is defined as the average number of years within which a given event is equaled or exceeded. A copy of a report describing the DDF relationships for Solano County is included in Appendix A.

2.3 SOILS

The United States Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service) has mapped all of the soils in Solano County in the report *Soil Survey of Solano County, California* (issued May 1977). The NRCS categorized all soils into one of 4 hydrologic soil groups, which range from Group A, characterized by high infiltration and low runoff, to Group D, which has slow infiltration and high runoff (see Table 2-1).

Table 2-1. Hydrologic Soil Groups

Hydrologic Soil Group	Characteristics
A	Low runoff potential, high infiltration rate. Well to excessively drained sands and gravels.
B	Moderate infiltration rates. Moderately deep to deep. Moderately well to well drained soils. Loams and similar soils. No clay pans.
C	Slow infiltration rates. Soils with layer that impedes water transmission. Moderately fine to fine texture.
D	High runoff potential, very slow infiltration rate. Heavy clay soils or clay pan at or near the surface. Shallow soils over nearly impervious material.

The hydrologic soil group designation is used in selecting appropriate runoff coefficients in drainage design for pervious areas such as agricultural or open space. The procedure is described in greater detail in Section 3.4.

Appendix A Hydrologic Soil Groups

Soils are classified into hydrologic soil groups (HSG's) to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting. The HSG's, which are A, B, C, and D, are one element used in determining runoff curve numbers (see chapter 2). For the convenience of TR-55 users, exhibit A-1 lists the HSG classification of United States soils.

The infiltration rate is the rate at which water enters the soil at the soil surface. It is controlled by surface conditions. HSG also indicates the transmission rate—the rate at which the water moves within the soil. This rate is controlled by the soil profile. Approximate numerical ranges for transmission rates shown in the HSG definitions were first published by Musgrave (USDA 1955). The four groups are defined by SCS soil scientists as follows:

Group A soils have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sand or gravel and have a high rate of water transmission (greater than 0.30 in/hr).

Group B soils have moderate infiltration rates when thoroughly wetted and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (0.15-0.30 in/hr).

Group C soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05-0.15 in/hr).

Group D soils have high runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (0-0.05 in/hr).

In exhibit A-1, some of the listed soils have an added modifier; for example, "Abrazo, gravelly." This refers to a gravelly phase of the Abrazo series that is found in SCS soil map legends.

Disturbed soil profiles

As a result of urbanization, the soil profile may be considerably altered and the listed group classification may no longer apply. In these circumstances, use the following to determine HSG according to the texture of the new surface soil, provided that significant compaction has not occurred (Brakensiek and Rawls 1983).

HSG	*Soil textures*
A	Sand, loamy sand, or sandy loam
B	Silt loam or loam
C	Sandy clay loam
D	Clay loam, silty clay loam, sandy clay, silty clay, or clay

Drainage and group D soils

Some soils in the list are in group D because of a high water table that creates a drainage problem. Once these soils are effectively drained, they are placed in a different group. For example, Ackerman soil is classified as A/D. This indicates that the drained Ackerman soil is in group A and the undrained soil is in group D.

Table 2-2a Runoff curve numbers for urban areas [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area [2]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

[1] Average runoff condition, and $I_a = 0.2S$.

[2] The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

[3] CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

[4] Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

[5] Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

CURVE NUMBER USED = 90

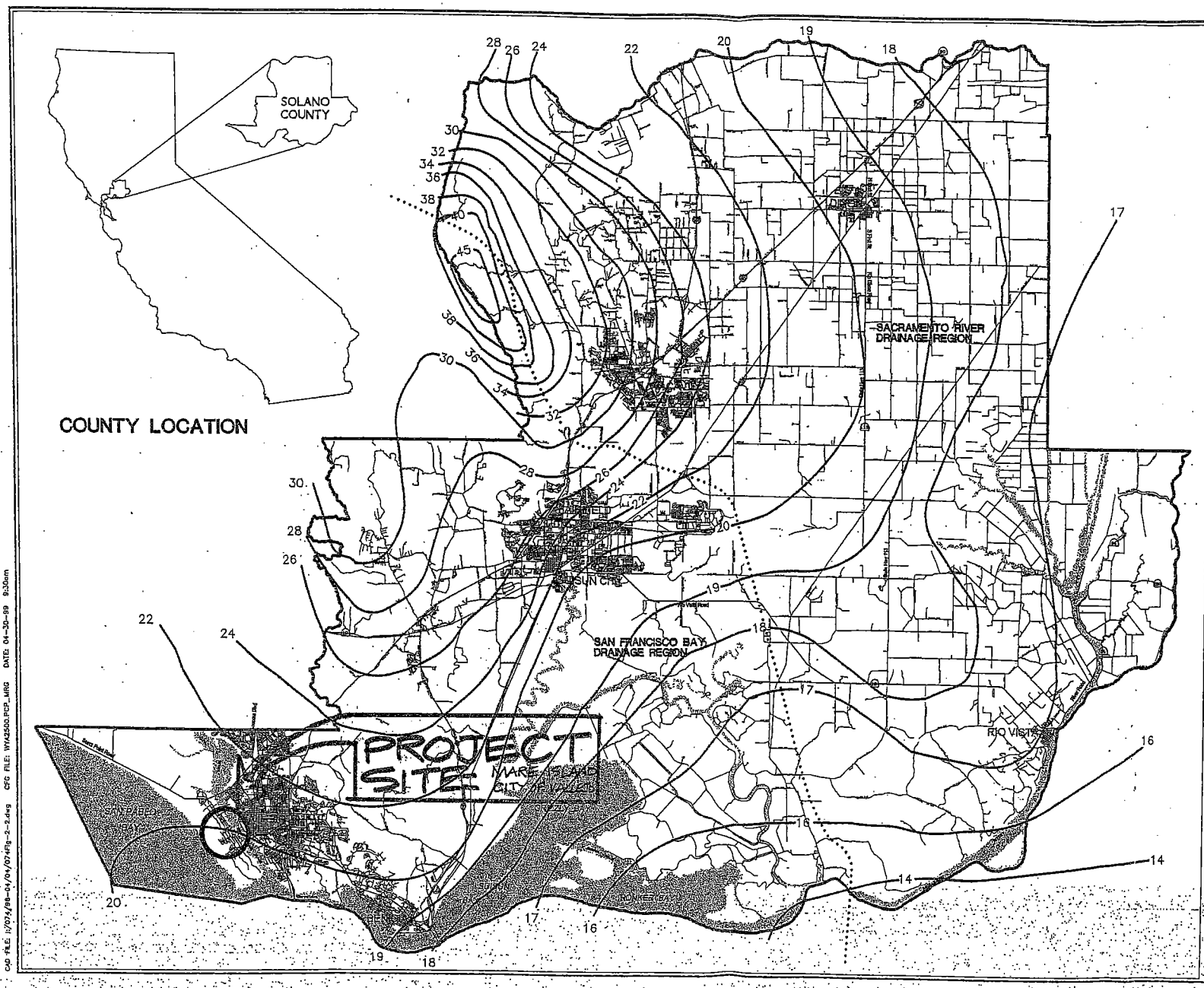


Figure 1

Solano County
Design Rainfall Study

ISOHYETAL MAP OF
SOLANO COUNTY
MEAN ANNUAL PRECIPITATION

NOTES:

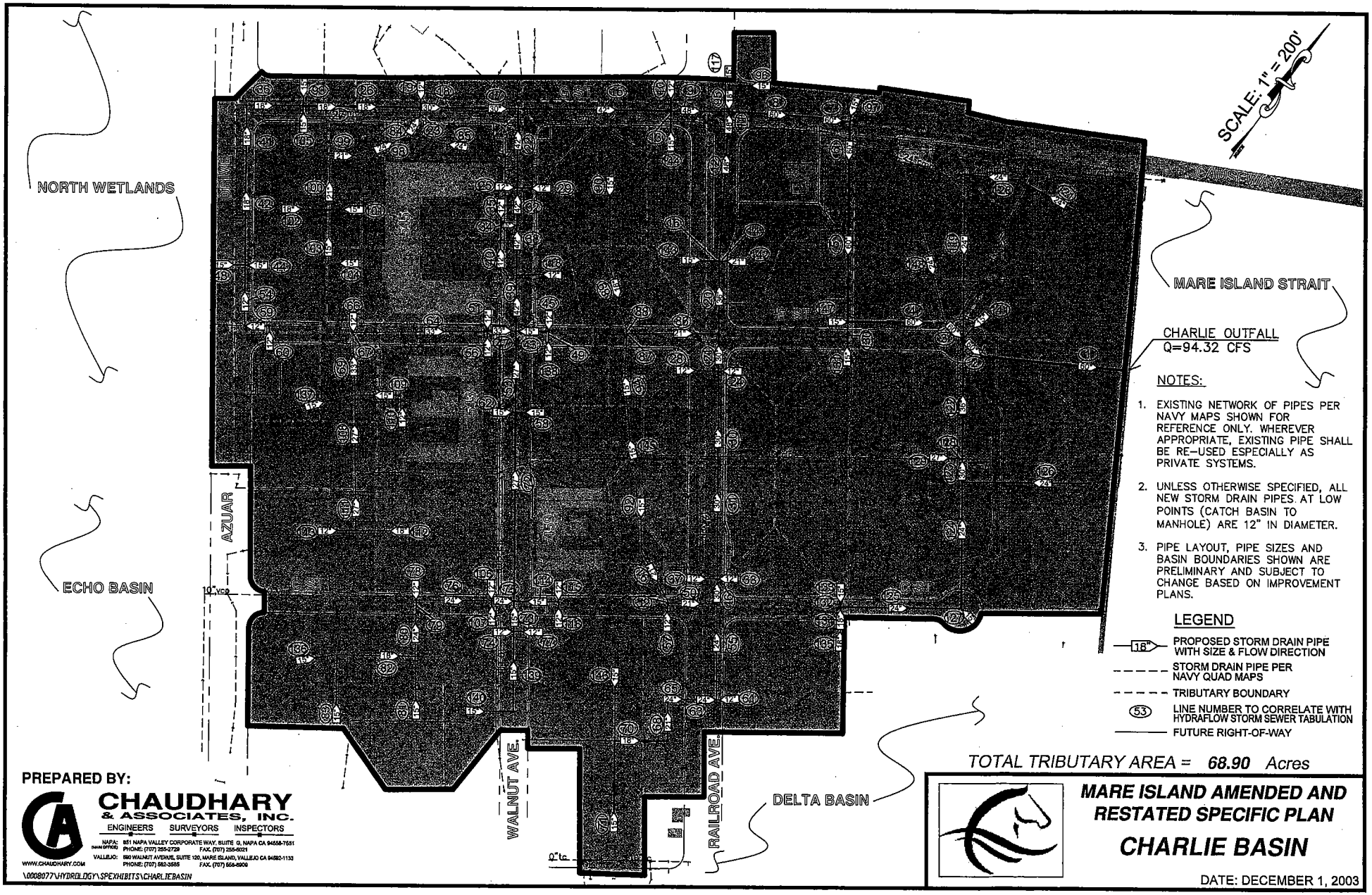
1. SOURCE OF UNDERLYING MAPPING SHOWN HEREON IS DIGITIZED USGS QUAD MAPS AS SUPPLIED BY AMERICAN DIGITAL CARTOGRAPHY.
2. BOUNDARIES ARE APPROXIMATE AND HAVE BEEN ADJUSTED TO FIT USGS QUAD MAPS.
3. BASED ON OR CORRECTED TO THE 1951 TO 1980 BASE PERIOD.
4. ISOHYETAL LINES ARE FROM DESIGN RAINFALL FOR SOLANO COUNTY. PREPARED BY JAMES D. GOODRIDGE, SEPTEMBER 5, 1998.

LEGEND:

- ROADS & MINOR HIGHWAYS
- MAJOR HIGHWAYS
- 22 ISOHYETAL LINES
- DRAINAGE REGION BOUNDARY

W E S T
Y O S T
& ASSOCIATES

CAD FILE: I:/074/98-04/04/074fig-2-2.dwg CFG FILE: WA2500.PCP_MRG DATE: 04-30-99 9:30am



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **68.90** Acres

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

CHARLIE BASIN

DATE: DECEMBER 1, 2003

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.

ENGINEERS SURVEYORS INSPECTORS

NAPA: 851 NAPA VALLEY CORPORATE WAY, SUITE G, NAPA CA 94558-7551
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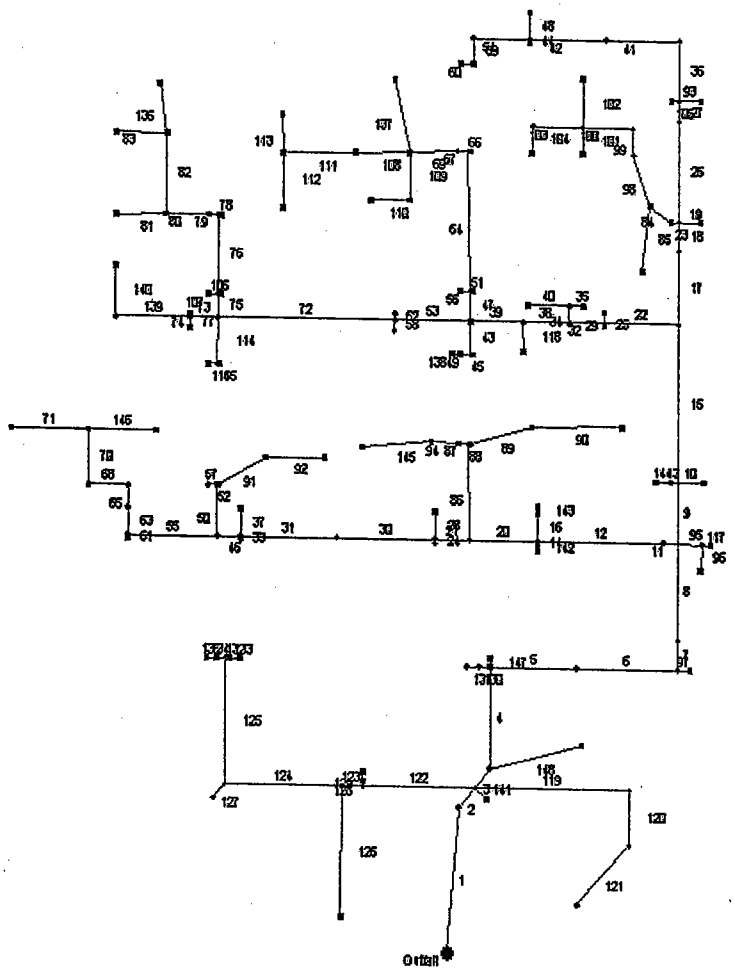
\0008077\HYDROLOGY\SPEXHIBITS\CHARLIEBASIN

Hydraflow Plan View



Project file: CHARLIE-OUTFALL-MASTER.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 148	12-03-2003

RZW 12/03/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(In/hr)	(cfs)	(cfs)	(ft/s)	Size (In)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	326.0	0.00	68.93	0.90	0.00	62.04	10.0	29.6	1.5	93.49	116.3	6.57	60	0.20	-3.22	-3.87	0.18	-0.47	8.00	8.00	
2	1	59.0	0.00	68.93	0.90	0.00	62.04	10.0	29.4	1.5	93.97	117.5	5.74	60	0.20	-3.10	-3.22	0.76	0.69	9.00	8.00	Vortex Box
3	2	56.0	0.00	52.71	0.90	0.00	47.44	10.0	29.1	1.5	72.32	115.4	3.99	60	0.20	-2.99	-3.10	1.31	1.28	11.20	9.00	
4	3	223.0	0.00	49.59	0.00	0.00	44.63	0.0	27.9	1.6	69.89	117.0	3.88	60	0.20	-2.54	-2.99	1.62	1.50	0.00	11.20	Inserted Line
5	4	210.0	0.00	47.88	0.90	0.00	43.09	10.0	26.7	1.6	69.28	100.1	3.76	60	0.15	-2.23	-2.54	2.11	2.00	14.00	0.00	
6	5	246.0	0.00	47.88	0.90	0.00	43.09	10.0	25.4	1.7	71.44	93.94	3.98	60	0.13	-1.91	-2.23	2.30	2.15	16.30	14.00	
7	6	65.0	0.00	46.85	0.90	0.00	42.16	10.0	25.1	1.7	70.49	91.38	3.82	60	0.12	-1.83	-1.91	2.59	2.56	15.40	16.30	
8	7	212.0	0.00	46.85	0.90	0.00	42.16	10.0	24.0	1.7	72.42	94.66	3.97	60	0.13	-1.55	-1.83	2.76	2.63	12.70	15.40	
9	8	135.0	0.00	27.45	0.90	0.00	24.71	10.0	23.3	1.8	43.25	64.24	3.73	48	0.20	-0.28	-0.55	3.11	3.01	11.90	12.70	
10	9	62.0	0.56	0.56	0.90	0.50	0.50	10.0	10.0	2.8	1.42	2.52	3.13	12	0.50	3.03	2.72	3.55	3.33	11.60	11.90	
11	8	35.0	0.00	17.33	0.90	0.00	15.60	10.0	21.7	1.8	28.52	48.56	2.59	48	0.11	-0.24	-0.28	3.02	3.01	11.20	12.70	
12	11	307.0	0.00	17.33	0.90	0.00	15.60	10.0	19.4	2.0	30.51	49.87	2.87	48	0.12	0.13	-0.24	3.17	3.04	12.40	11.20	
13	9	19.0	0.50	1.30	0.90	0.45	1.17	10.0	10.3	2.8	3.23	4.44	3.95	15	0.47	2.76	2.67	3.55	3.46	11.70	11.90	
14	12	9.0	0.70	2.56	0.90	0.63	2.30	10.0	10.1	2.8	6.43	10.56	3.79	21	0.44	2.17	2.13	3.32	3.31	12.20	12.40	
15	9	350.0	0.00	25.59	0.90	0.00	23.03	10.0	21.9	1.8	41.92	50.45	4.90	42	0.25	1.10	0.22	3.85	3.33	13.10	11.90	
16	12	61.0	0.42	0.52	0.90	0.38	0.47	10.0	11.1	2.7	1.24	4.53	3.14	15	0.49	3.18	2.88	3.63	3.33	12.20	12.40	
17	15	161.0	0.00	7.58	0.90	0.00	6.82	10.0	19.5	1.9	13.28	37.13	2.95	30	0.82	2.42	1.10	4.40	4.27	12.30	13.10	
18	17	63.0	0.00	7.58	0.00	0.00	6.82	0.0	19.2	2.0	13.44	22.52	2.74	30	0.30	1.61	1.42	4.49	4.42	0.00	12.30	Inserted Line
19	18	53.0	0.47	0.47	0.90	0.42	0.42	10.0	10.0	2.8	1.19	2.49	1.51	12	0.49	3.37	3.11	4.66	4.60	11.30	0.00	
20	12	166.0	0.00	14.25	0.90	0.00	12.83	10.0	18.6	2.0	25.74	29.74	4.69	36	0.20	1.46	1.13	3.63	3.31	12.90	12.40	
21	20	84.0	0.00	9.83	0.90	0.00	8.85	10.0	18.1	2.0	17.99	18.45	4.25	30	0.20	2.13	1.96	4.14	3.97	12.50	12.90	

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

12/03/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(In/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
22	15	180.0	0.00	18.01	0.90	0.00	16.21	10.0	20.8	1.9	30.36	34.36	3.35	42	0.12	1.31	1.10	4.40	4.27	11.70	13.10	
23	18	18.0	0.44	4.68	0.90	0.40	4.21	10.0	14.1	2.3	9.86	13.06	3.14	24	0.33	2.17	2.11	4.64	4.60	11.30	0.00	
24	21	9.0	0.84	0.84	0.90	0.76	0.76	10.0	10.0	2.8	2.12	2.91	3.27	12	0.67	3.69	3.63	4.44	4.42	12.20	12.50	
25	22	6.0	0.47	0.47	0.90	0.42	0.42	10.0	10.0	2.8	1.19	4.82	2.02	12	1.83	3.92	3.81	4.57	4.58	11.30	11.70	
26	18	222.0	0.00	2.43	0.90	0.00	2.19	10.0	17.8	2.1	4.50	6.65	2.55	18	0.40	3.50	2.61	5.00	4.60	13.10	0.00	
27	26	47.0	0.00	2.43	0.90	0.00	2.19	10.0	17.5	2.1	4.54	5.73	2.58	18	0.30	3.64	3.50	5.09	5.01	13.30	13.10	
28	21	60.0	0.24	0.24	0.90	0.22	0.22	10.0	10.0	2.8	0.61	3.08	1.56	12	0.75	4.08	3.63	4.46	4.42	12.20	12.50	
29	22	24.0	0.33	0.33	0.90	0.30	0.30	10.0	10.0	2.8	0.83	1.63	1.32	12	0.21	3.86	3.81	4.59	4.58	11.30	11.70	
30	21	240.0	0.00	8.75	0.90	0.00	7.88	10.0	16.9	2.1	16.68	18.34	3.63	30	0.20	2.61	2.13	4.76	4.42	12.60	12.50	
31	30	235.0	0.00	8.75	0.90	0.00	7.88	10.0	15.8	2.2	17.36	18.34	3.89	30	0.20	3.08	2.61	5.17	4.79	12.30	12.60	
32	22	86.0	0.00	17.21	0.90	0.00	15.49	10.0	20.3	1.9	29.44	34.31	3.16	42	0.12	1.41	1.31	4.64	4.58	11.40	11.70	
33	31	8.0	0.85	0.85	0.90	0.77	0.77	10.0	10.0	2.8	2.15	3.56	3.23	12	1.00	4.66	4.58	5.41	5.41	12.10	12.30	
34	32	37.0	0.00	1.43	0.90	0.00	1.29	10.0	10.7	2.7	3.49	4.11	3.04	15	0.41	3.81	3.66	4.88	4.80	11.30	11.40	
35	34	36.0	0.72	0.72	0.90	0.65	0.65	10.0	10.0	2.8	1.82	2.30	2.39	12	0.42	4.21	4.06	5.11	5.03	11.00	11.30	
36	27	130.0	0.00	1.84	0.90	0.00	1.66	10.0	16.5	2.2	3.56	6.18	2.15	18	0.35	4.09	3.64	5.33	5.20	12.10	13.30	
37	31	61.0	0.27	0.27	0.90	0.24	0.24	10.0	10.0	2.8	0.68	2.50	1.25	12	0.49	4.88	4.58	5.43	5.41	12.10	12.30	
38	32	113.0	0.00	15.78	0.90	0.00	14.20	10.0	19.6	1.9	27.56	35.41	2.91	42	0.12	1.55	1.41	4.87	4.80	11.60	11.40	
39	38	128.0	0.00	15.38	0.90	0.00	13.84	10.0	18.9	2.0	27.52	36.67	2.88	42	0.13	1.72	1.55	5.09	5.00	11.60	11.60	Inserted Line
40	34	101.0	0.71	0.71	0.90	0.64	0.64	10.0	10.0	2.8	1.79	2.27	2.51	12	0.41	4.47	4.06	5.25	5.03	11.00	11.30	
41	36	178.0	0.00	1.84	0.90	0.00	1.66	10.0	15.2	2.3	3.73	5.78	2.62	18	0.30	4.63	4.09	5.63	5.41	12.20	12.10	
42	41	187.0	0.00	1.84	0.00	0.00	1.66	10.0	13.9	2.4	3.92	5.75	3.30	18	0.30	5.19	4.63	6.09	5.65	0.00	12.20	Inserted Line

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

RLW 12/03/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
43	39	74.0	0.00	0.71	0.90	0.00	0.64	10.0	10.4	2.8	1.76	4.04	1.72	15	0.39	4.45	4.16	5.32	5.28	10.90	11.60	
44	42	7.0	0.49	0.49	0.90	0.44	0.44	10.0	10.0	2.8	1.24	3.45	2.57	15	0.29	6.14	6.12	6.66	6.64	12.20	0.00	CB 1
45	43	5.0	0.08	0.08	0.90	0.07	0.07	10.0	10.0	2.8	0.20	2.76	0.36	12	0.60	4.73	4.70	5.38	5.38	10.80	10.90	
46	31	57.0	0.00	7.63	0.90	0.00	6.87	10.0	15.4	2.2	15.31	18.02	3.23	30	0.19	3.19	3.08	5.48	5.41	13.10	12.30	
47	39	66.0	0.00	8.28	0.90	0.00	7.45	10.0	15.7	2.2	16.48	18.41	2.78	33	0.12	2.55	2.47	5.30	5.28	10.80	11.60	
48	42	59.0	0.88	0.88	0.90	0.79	0.79	10.0	10.0	2.8	2.22	4.53	3.67	15	0.49	6.41	6.12	7.03	6.74	13.20	0.00	CB 2
49	43	25.0	0.09	0.63	0.90	0.08	0.57	10.0	10.2	2.8	1.58	2.57	2.97	12	0.52	4.83	4.70	5.43	5.38	10.80	10.90	
50	46	114.0	0.00	2.78	0.90	0.00	2.50	10.0	12.0	2.6	6.40	8.65	2.79	21	0.30	4.28	3.94	5.79	5.64	12.00	13.10	
51	47	5.0	0.37	0.37	0.90	0.33	0.33	10.0	10.0	2.8	0.93	3.56	1.19	12	1.00	4.35	4.30	5.42	5.42	10.70	10.80	
52	50	6.0	0.12	2.65	0.90	0.11	2.39	10.0	12.0	2.6	6.11	11.20	2.57	21	0.50	4.31	4.28	5.99	5.99	11.80	12.00	
53	39	185.0	0.00	6.39	0.90	0.00	5.75	10.0	17.8	2.1	11.83	15.44	3.19	27	0.25	3.62	3.16	5.50	5.28	11.60	11.60	
54	42	137.0	0.00	0.47	0.90	0.00	0.42	10.0	11.4	2.6	1.11	3.82	1.82	15	0.35	5.92	5.44	6.43	6.29	12.20	0.00	
55	46	218.0	0.00	4.85	0.90	0.00	4.37	10.0	14.3	2.3	10.15	12.35	3.44	24	0.30	4.34	3.69	6.01	5.64	12.30	13.10	
56	47	25.0	0.13	0.13	0.90	0.12	0.12	10.0	10.0	2.8	0.33	2.47	0.42	12	0.48	4.42	4.30	5.42	5.42	10.70	10.80	
57	50	23.0	0.13	0.13	0.90	0.12	0.12	10.0	10.0	2.8	0.33	2.57	0.45	12	0.52	5.15	5.03	5.99	5.99	11.80	12.00	
58	53	24.0	0.43	0.43	0.90	0.39	0.39	10.0	10.0	2.8	1.09	4.57	1.04	15	0.50	4.74	4.62	5.68	5.67	11.40	11.60	
59	54	57.0	0.10	0.47	0.90	0.09	0.42	10.0	10.4	2.8	1.16	4.53	2.54	15	0.49	6.20	5.92	6.63	6.51	12.40	12.20	CB 3
60	59	30.0	0.37	0.37	0.90	0.33	0.33	10.0	10.0	2.8	0.93	2.52	2.96	12	0.50	6.60	6.45	7.02	6.87	12.40	12.40	CB 4
61	55	8.0	0.28	0.28	0.90	0.25	0.25	10.0	10.0	2.8	0.71	3.78	1.02	12	1.12	5.43	5.34	6.21	6.21	12.10	12.30	
62	53	14.0	0.50	0.50	0.90	0.45	0.45	10.0	10.0	2.8	1.26	4.57	1.18	15	0.50	4.69	4.62	5.68	5.67	11.30	11.60	
63	55	61.0	0.89	4.57	0.90	0.80	4.11	10.0	14.0	2.4	9.69	12.62	3.23	24	0.31	4.53	4.34	6.30	6.21	12.10	12.30	

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

RW 12/08/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
64	47	308.0	0.00	7.78	0.90	0.00	7.00	10.0	13.8	2.4	16.64	23.53	2.86	33	0.20	3.16	2.55	5.69	5.42	11.60	10.80	
65	63	50.0	0.48	3.68	0.90	0.43	3.31	10.0	13.7	2.4	7.90	12.39	2.73	24	0.30	4.68	4.53	6.37	6.32	13.20	12.10	
66	64	5.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	3.90	0.69	12	1.20	4.97	4.91	5.83	5.83	11.40	11.60	
67	64	25.0	0.13	7.58	0.90	0.12	6.82	10.0	13.6	2.4	16.32	21.15	2.78	33	0.16	3.20	3.16	5.85	5.83	10.40	11.60	
68	65	96.0	0.42	3.20	0.90	0.38	2.88	10.0	13.1	2.4	7.02	8.56	3.72	21	0.29	5.46	5.18	6.71	6.49	12.40	13.20	
69	67	117.0	0.53	7.45	0.90	0.48	6.71	10.0	12.9	2.5	16.52	18.29	2.82	33	0.12	3.34	3.20	5.96	5.86	10.80	10.40	
70	68	122.0	1.01	2.78	0.90	0.91	2.50	10.0	12.6	2.5	6.24	6.66	3.53	18	0.40	5.95	5.46	7.44	7.05	12.40	12.40	
71	70	188.0	0.59	0.59	0.90	0.53	0.53	10.0	10.0	2.8	1.49	5.01	1.88	15	0.60	7.33	6.20	7.93	7.74	12.30	12.40	
72	53	431.0	0.00	5.46	0.90	0.00	4.91	10.0	15.2	2.3	11.07	13.83	3.17	27	0.20	4.48	3.62	6.18	5.67	13.00	11.60	
73	72	68.0	0.00	0.95	0.90	0.00	0.86	10.0	14.5	2.3	1.97	4.14	2.49	15	0.41	5.76	5.48	6.45	6.37	12.90	13.00	
74	73	6.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	2.52	1.14	12	0.50	6.04	6.01	6.58	6.57	12.60	12.90	
75	72	51.0	0.00	4.30	0.90	0.00	3.87	10.0	14.8	2.3	8.84	10.02	2.89	24	0.20	4.58	4.48	6.43	6.37	12.80	13.00	
76	75	175.0	0.00	4.16	0.90	0.00	3.74	10.0	13.8	2.4	8.89	10.11	2.87	24	0.20	4.93	4.58	6.80	6.56	11.60	12.80	
77	73	24.0	0.21	0.21	0.90	0.19	0.19	10.0	10.0	2.8	0.53	2.52	1.36	12	0.50	6.13	6.01	6.58	6.57	12.60	12.90	
78	76	6.0	0.23	0.23	0.90	0.21	0.21	10.0	10.0	2.8	0.58	3.56	0.96	12	1.00	6.24	6.18	6.93	6.93	11.50	11.60	
79	76	23.0	0.23	3.93	0.90	0.21	3.54	10.0	13.6	2.4	8.45	9.43	2.69	24	0.17	4.97	4.93	6.96	6.93	11.50	11.60	
80	79	105.0	1.06	3.70	0.90	0.95	3.33	10.0	13.0	2.5	8.17	11.25	2.85	24	0.25	5.48	5.22	7.13	7.02	11.30	11.50	
81	80	122.0	0.87	0.87	0.90	0.78	0.78	10.0	10.0	2.8	2.20	5.76	2.88	15	0.80	7.20	6.23	7.79	7.33	12.00	11.30	
82	80	178.0	0.53	1.77	0.90	0.48	1.59	10.0	11.7	2.6	4.12	5.68	2.74	18	0.29	6.50	5.98	7.59	7.33	11.30	11.30	
83	82	124.0	0.72	0.72	0.90	0.65	0.65	10.0	10.0	2.8	1.82	3.12	1.85	15	0.23	7.04	6.75	7.90	7.80	11.30	11.30	
84	23	62.0	0.36	4.24	0.90	0.32	3.82	10.0	13.8	2.4	9.06	9.95	2.88	24	0.19	2.29	2.17	4.91	4.81	10.90	11.30	

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

RW 12/03/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
85	84	145.0	0.34	0.34	0.90	0.31	0.31	10.0	10.0	2.8	0.86	1.45	2.80	8	1.45	5.39	3.29	5.88	5.10	11.20	10.90	
86	20	212.0	0.00	4.42	0.90	0.00	3.98	10.0	11.9	2.6	10.22	11.31	4.07	24	0.25	3.24	2.71	4.73	4.20	11.40	12.90	
87	86	25.0	0.14	1.74	0.90	0.13	1.57	10.0	11.7	2.6	4.06	4.47	3.32	15	0.48	3.86	3.74	5.08	4.99	11.30	11.40	
88	86	5.0	0.13	2.68	0.90	0.12	2.41	10.0	11.9	2.6	6.21	6.64	3.51	18	0.40	3.51	3.49	5.01	4.99	11.30	11.40	
89	88	153.0	0.93	2.55	0.90	0.84	2.30	10.0	11.1	2.7	6.11	7.45	3.64	18	0.50	4.28	3.51	5.56	5.09	10.20	11.30	
90	89	221.0	1.62	1.62	0.90	1.46	1.46	10.0	10.0	2.8	4.09	4.56	3.81	15	0.50	5.63	4.53	6.55	5.71	10.20	10.20	
91	52	127.0	1.47	2.53	0.90	1.32	2.28	10.0	11.1	2.7	6.06	8.67	2.64	21	0.30	4.69	4.31	6.19	6.04	11.00	11.80	
92	91	145.0	1.06	1.06	0.90	0.95	0.95	10.0	10.0	2.8	2.68	4.58	3.13	15	0.50	5.92	5.19	6.61	6.27	10.00	11.00	
93	27	53.0	0.30	0.30	0.90	0.27	0.27	10.0	10.0	2.8	0.76	4.52	0.65	15	0.49	4.15	3.89	5.20	5.20	12.60	13.30	
94	87	67.0	0.56	1.60	0.90	0.50	1.44	10.0	11.3	2.6	3.80	4.60	3.14	15	0.51	4.20	3.86	5.37	5.16	6.50	11.30	
95	8	59.0	0.00	2.07	0.90	0.00	1.86	10.0	10.4	2.7	5.12	7.49	4.18	18	0.51	2.25	1.95	3.17	3.01	12.50	12.70	
96	95	56.0	1.01	1.01	0.90	0.91	0.91	10.0	10.0	2.8	2.55	4.40	2.77	15	0.46	2.76	2.50	3.56	3.48	13.50	12.50	
97	6	30.0	1.03	1.03	0.90	0.93	0.93	10.0	10.0	2.8	2.60	4.57	3.73	15	0.50	1.99	1.84	2.66	2.56	11.00	16.30	
98	84	119.0	0.00	3.54	0.90	0.00	3.19	10.0	13.2	2.4	7.75	10.06	3.22	21	0.40	3.27	2.79	5.39	5.10	11.80	10.90	
99	98	59.0	0.53	3.54	0.90	0.48	3.19	10.0	12.9	2.5	7.85	9.89	3.26	21	0.39	3.50	3.27	5.60	5.46	11.30	11.80	
100	99	122.0	0.00	3.01	0.90	0.00	2.71	10.0	12.2	2.5	6.87	10.04	2.86	21	0.40	3.99	3.50	6.00	5.77	11.10	11.30	
101	100	59.0	0.54	0.54	0.90	0.49	0.49	10.0	10.0	2.8	1.36	3.57	1.11	15	0.31	4.42	4.24	6.15	6.13	11.60	11.10	
102	100	108.0	1.79	1.79	0.90	1.61	1.61	10.0	10.0	2.8	4.52	5.72	2.56	18	0.30	4.56	4.24	6.33	6.13	11.10	11.10	
103	100	122.0	0.00	0.68	0.90	0.00	0.61	10.0	10.7	2.7	1.66	4.09	1.35	15	0.40	4.73	4.24	6.21	6.13	10.90	11.10	
104	103	59.0	0.68	0.68	0.90	0.61	0.61	10.0	10.0	2.8	1.72	3.47	1.40	15	0.29	4.90	4.73	6.28	6.23	11.70	10.90	
105	27	18.0	0.29	0.29	0.90	0.26	0.26	10.0	10.0	2.8	0.73	4.57	0.60	15	0.50	3.98	3.89	5.20	5.20	12.60	13.30	

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

12/03/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
106	75	6.0	0.07	0.07	0.90	0.06	0.06	10.0	10.0	2.8	0.18	4.82	0.32	12	1.83	5.94	5.83	6.56	6.56	12.70	12.80	
107	75	23.0	0.07	0.07	0.90	0.06	0.06	10.0	10.0	2.8	0.18	1.66	0.30	12	0.22	5.88	5.83	6.56	6.56	12.70	12.80	
108	69	134.0	1.02	4.61	0.90	0.92	4.15	10.0	12.0	2.6	10.60	13.90	2.68	27	0.20	4.11	3.84	6.29	6.15	10.40	10.80	
109	69	104.0	0.97	1.68	0.90	0.87	1.51	10.0	10.7	2.7	4.11	4.34	3.35	15	0.45	5.31	4.84	6.55	6.15	11.90	10.80	
110	109	94.0	0.71	0.71	0.90	0.64	0.64	10.0	10.0	2.8	1.79	3.18	2.52	12	0.80	6.26	5.51	7.03	6.82	12.00	11.90	
111	108	176.0	0.58	3.59	0.90	0.52	3.23	10.0	10.7	2.7	8.78	16.99	2.66	27	0.30	4.89	4.36	6.46	6.35	10.90	10.40	
112	111	120.0	2.05	2.05	0.90	1.85	1.85	10.0	10.0	2.8	5.18	7.43	4.40	18	0.50	6.24	5.64	7.12	6.67	10.90	10.90	
113	111	87.0	0.96	0.96	0.90	0.86	0.86	10.0	10.0	2.8	2.43	3.56	4.06	12	1.00	6.76	5.89	7.42	6.67	10.90	10.90	
114	72	102.0	0.00	0.21	0.90	0.00	0.19	10.0	11.2	2.7	0.50	3.56	0.71	15	0.30	5.79	5.48	6.38	6.37	12.50	13.00	
115	114	6.0	0.11	0.11	0.90	0.10	0.10	10.0	10.0	2.8	0.28	2.52	1.20	12	0.50	6.07	6.04	6.39	6.39	12.40	12.50	
116	114	23.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	2.46	1.32	12	0.48	6.15	6.04	6.40	6.39	12.50	12.50	
117	95	20.0	1.06	1.06	0.90	0.95	0.95	10.0	10.0	2.8	2.68	4.57	2.70	15	0.50	2.60	2.50	3.51	3.48	12.50	12.50	
118	38	66.0	0.40	0.40	0.90	0.36	0.36	10.0	10.0	2.8	1.01	2.52	1.57	12	0.50	4.38	4.05	5.05	5.00	11.70	11.60	
119	2	376.0	0.00	3.36	0.90	0.00	3.02	10.0	12.0	2.6	7.75	9.62	2.71	24	0.18	0.08	-0.60	1.67	1.28	0.00	9.00	
120	119	122.0	0.00	3.36	0.90	0.00	3.02	10.0	11.1	2.7	8.04	10.84	3.77	24	0.23	0.86	0.58	2.15	1.87	0.00	0.00	
121	120	186.0	3.36	3.36	0.90	3.02	3.02	10.0	10.0	2.8	8.49	10.87	3.60	24	0.23	1.29	0.86	2.65	2.31	0.00	0.00	
122	2	274.0	0.00	12.46	0.90	0.00	11.21	10.0	15.1	2.3	25.29	33.22	4.48	36	0.25	-0.42	-1.10	1.69	1.28	0.00	9.00	
123	122	52.0	0.00	7.09	0.90	0.00	6.38	10.0	14.8	2.3	14.55	20.51	3.60	30	0.25	0.22	0.09	2.10	2.04	0.00	0.00	
124	123	284.0	0.00	3.03	0.90	0.00	2.73	10.0	12.6	2.5	6.79	11.31	2.97	24	0.25	1.43	0.72	2.64	2.31	0.00	0.00	
125	124	276.0	0.00	2.62	0.90	0.00	2.36	10.0	10.4	2.8	6.49	11.31	3.21	24	0.25	2.12	1.43	3.23	2.82	0.00	0.00	
126	123	292.0	4.06	4.06	0.90	3.65	3.65	10.0	10.0	2.8	10.26	11.23	3.92	24	0.25	1.44	0.72	2.96	2.31	0.00	0.00	

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

12/03/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
127	124	42.0	0.41	0.41	0.90	0.37	0.37	10.0	10.0	2.8	1.04	3.15	2.30	15	0.24	2.97	2.87	3.46	3.36	0.00	0.00	
128	122	11.0	0.00	5.37	0.90	0.00	4.83	10.0	10.1	2.8	13.50	20.88	4.23	27	0.45	0.39	0.34	2.06	2.04	0.00	0.00	
129	128	20.0	5.37	5.37	0.90	4.83	4.83	10.0	10.0	2.8	13.57	15.48	3.97	27	0.25	0.44	0.39	2.24	2.20	0.00	0.00	
130	4	27.0	0.18	0.72	0.90	0.16	0.65	10.0	10.4	2.7	1.78	3.29	2.25	15	0.26	1.28	1.21	2.03	2.00	0.00	0.00	
131	130	30.0	0.54	0.54	0.90	0.49	0.49	10.0	10.0	2.8	1.36	3.12	1.80	15	0.23	1.35	1.28	2.07	2.04	0.00	0.00	
132	125	10.0	0.16	0.80	0.90	0.14	0.72	10.0	10.3	2.8	1.99	2.89	2.53	15	0.20	2.89	2.87	3.65	3.63	0.00	0.00	
133	132	25.0	0.64	0.64	0.90	0.58	0.58	10.0	10.0	2.8	1.62	3.16	1.97	15	0.24	2.95	2.89	3.73	3.70	0.00	0.00	
134	125	21.0	0.16	1.82	0.90	0.14	1.64	10.0	10.2	2.8	4.56	5.12	3.28	18	0.24	2.67	2.62	3.77	3.72	0.00	0.00	
135	134	25.0	1.66	1.66	0.90	1.49	1.49	10.0	10.0	2.8	4.19	5.94	2.86	18	0.32	2.75	2.67	3.89	3.85	0.00	0.00	
136	82	112.0	0.52	0.52	0.90	0.47	0.47	10.0	10.0	2.8	1.31	3.51	1.43	15	0.29	7.08	6.75	7.84	7.80	0.00	11.30	
137	69	167.0	0.63	0.63	0.90	0.57	0.57	10.0	10.0	2.8	1.59	4.06	1.66	15	0.40	5.50	4.84	6.27	6.15	0.00	10.80	
138	49	20.0	0.54	0.54	0.90	0.49	0.49	10.0	10.0	2.8	1.36	2.52	2.55	12	0.50	4.93	4.83	5.54	5.51	0.00	10.80	
139	73	182.0	0.00	0.54	0.90	0.00	0.49	10.0	11.7	2.6	1.26	4.09	2.31	15	0.40	6.49	5.76	6.95	6.57	0.00	12.90	
140	139	111.0	0.54	0.54	0.90	0.49	0.49	10.0	10.0	2.8	1.36	4.07	2.77	15	0.40	6.93	6.49	7.40	7.10	0.00	0.00	
141	2	37.0	0.40	0.40	0.90	0.36	0.36	10.0	10.0	2.8	1.01	4.63	2.04	15	0.51	0.84	0.65	1.30	1.28	0.00	9.00	
142	14	13.0	1.86	1.86	0.90	1.67	1.67	10.0	10.0	2.8	4.70	11.62	2.60	21	0.54	2.24	2.17	3.44	3.43	0.00	12.20	
143	16	14.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	4.57	0.27	15	0.50	2.85	2.78	3.71	3.71	0.00	12.20	
144	13	34.0	0.80	0.80	0.90	0.72	0.72	10.0	10.0	2.8	2.02	4.57	1.89	15	0.50	2.74	2.57	3.69	3.67	0.00	11.70	
145	94	169.0	1.04	1.04	0.90	0.94	0.94	10.0	10.0	2.8	2.63	4.55	2.78	15	0.50	5.04	4.20	5.79	5.45	0.00	6.50	
146	70	164.0	1.18	1.18	0.90	1.06	1.06	10.0	10.0	2.8	2.98	4.10	2.45	15	0.40	6.86	6.20	8.06	7.74	0.00	12.40	
147	4	20.0	0.99	0.99	0.90	0.89	0.89	10.0	10.0	2.8	2.50	4.57	3.25	15	0.50	1.31	1.21	2.03	2.00	0.00	0.00	

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

12/03/03

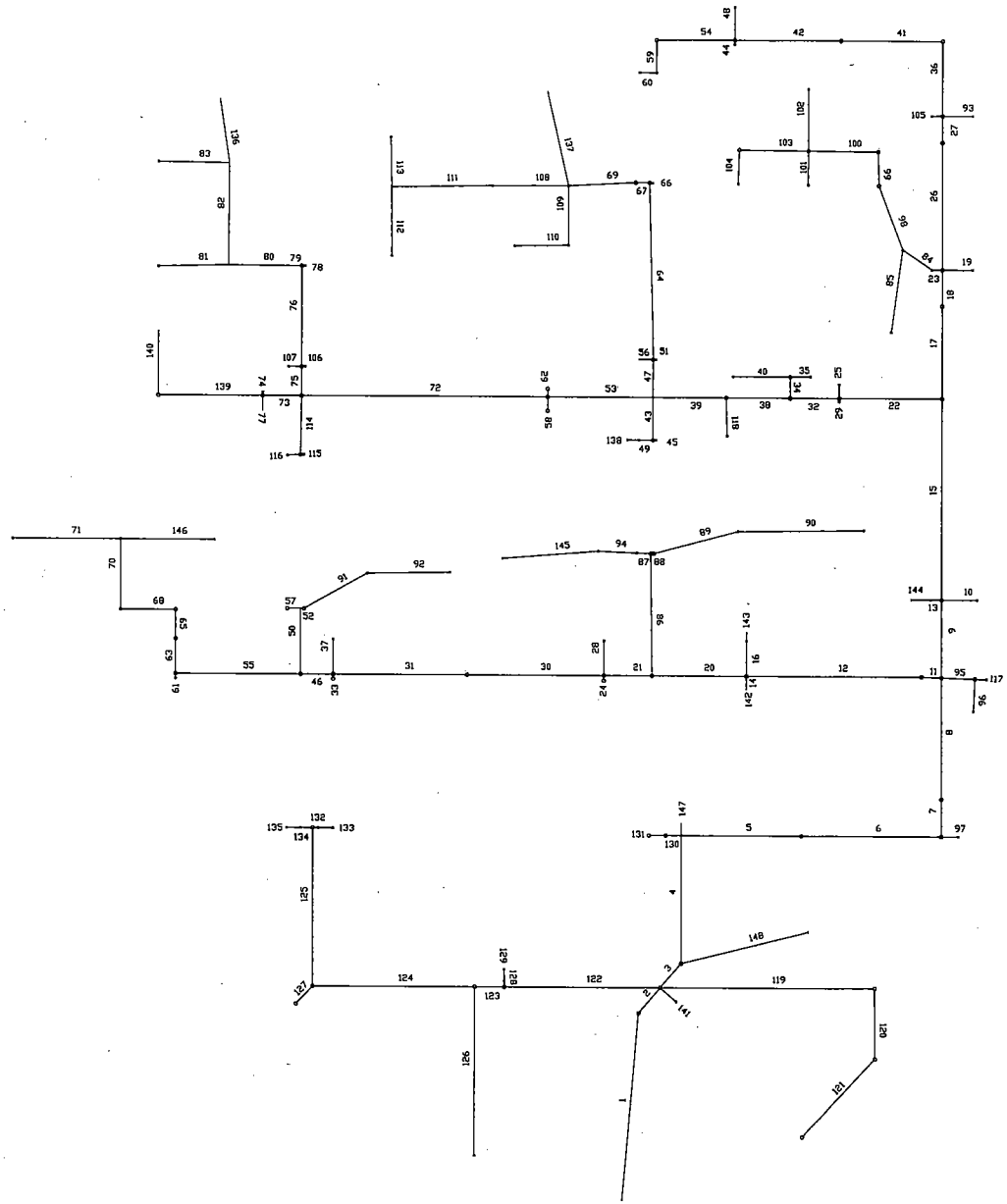
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
148	3	230.0	3.12	3.12	0.90	2.81	2.81	10.0	10.0	2.8	7.88	12.39	3.60	24	0.30	0.70	0.01	1.89	1.50	0.00	11.20	

Project File: CHARLIE-OUTFALL-MASTER.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 148 | Run Date: 12-03-2003

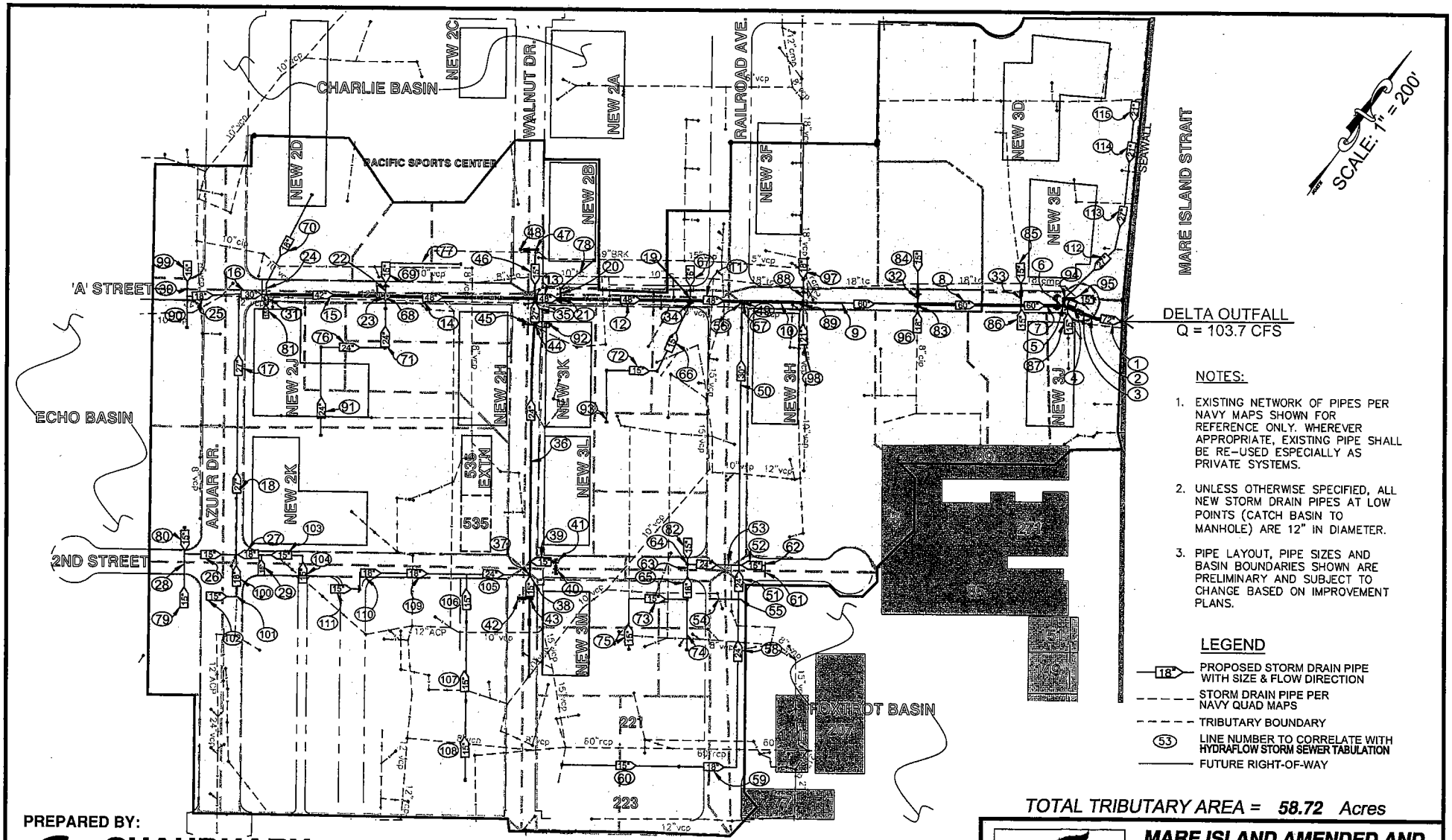
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.47 (ft)

RLW 12/03/03



LINE DIAGRAM

CHARLIE BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **58.72** Acres

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.
ENGINEERS SURVEYORS INSPECTORS
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PHONE: (707) 255-2729 FAX: (707) 255-0521
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WWW.CHAUDHARY.COM

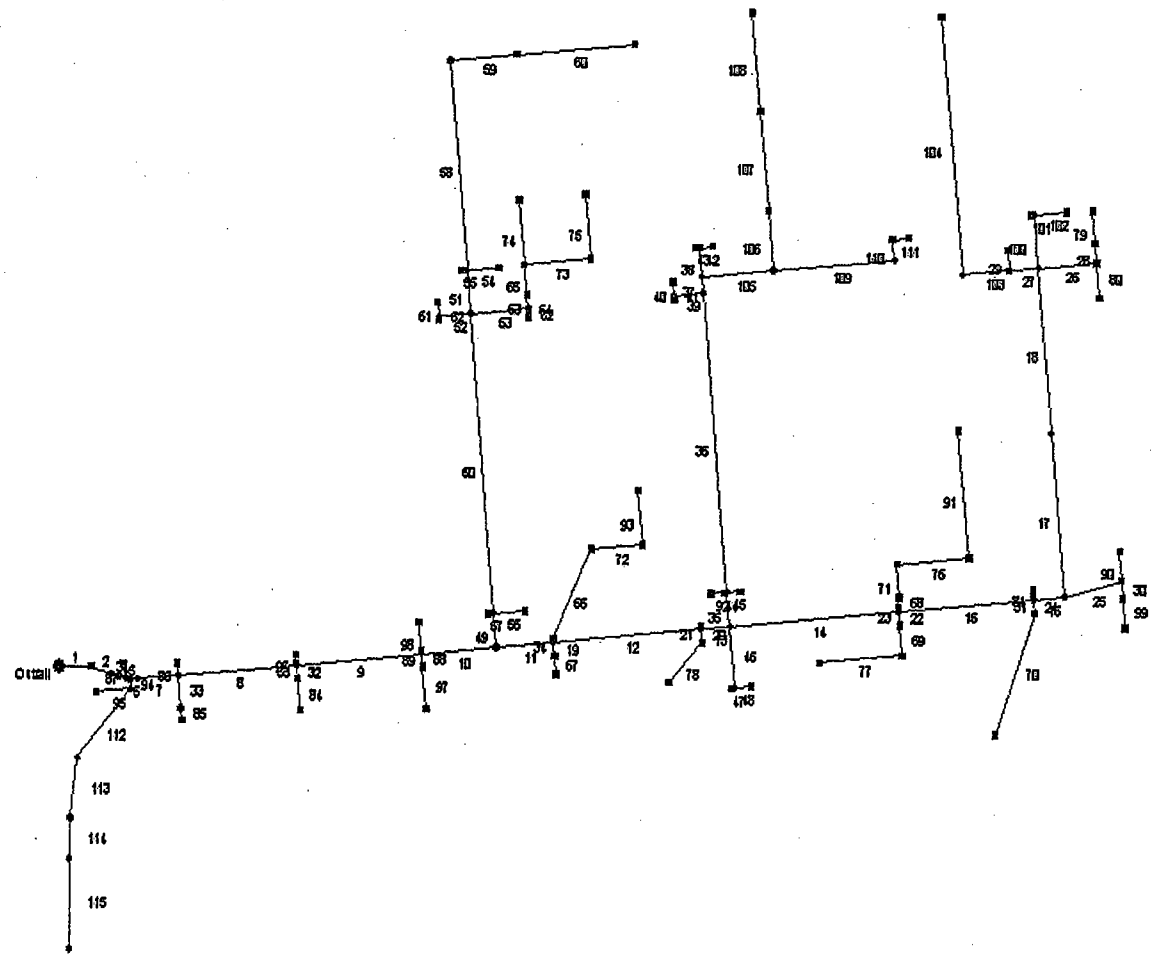
\0008077\HYDROLOGY\SPEXHIBITS\DELTABASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

DELTA BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: DELTA-Outfall.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 115	12-02-2003

RLW 12/2/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	59.0	0.00	58.94	0.90	0.00	53.05	10.0	25.1	1.7	88.78	145.9	5.39	72	0.12	-3.63	-3.70	-0.24	-0.31	0.00	9.70	Inserted Line
2	1	40.0	0.00	58.94	0.90	0.00	53.05	10.0	24.9	1.7	89.14	100.9	5.80	60	0.15	-2.57	-2.63	1.08	1.02	0.00	0.00	Inserted Line
3	2	15.0	0.00	58.94	0.90	0.00	53.05	10.0	24.8	1.7	89.28	95.11	5.51	60	0.13	-2.55	-2.57	1.30	1.28	9.80	0.00	Exist. 72 to remai
4	3	13.0	0.00	58.94	0.90	0.00	53.05	10.0	24.8	1.7	89.40	102.2	5.42	60	0.15	-2.53	-2.55	1.38	1.37	9.90	9.80	
5	4	9.0	0.00	57.81	0.90	0.00	52.03	10.0	24.7	1.7	87.77	122.8	4.83	60	0.22	-2.51	-2.53	1.84	1.84	10.00	9.90	
6	5	14.0	0.00	51.43	0.90	0.00	46.29	10.0	24.7	1.7	78.21	98.45	4.11	60	0.14	-2.49	-2.51	2.16	2.15	10.20	10.00	
7	6	78.0	0.00	51.43	0.90	0.00	46.29	10.0	24.3	1.7	78.92	97.81	4.14	60	0.14	-2.38	-2.49	2.26	2.20	10.50	10.20	
8	7	225.0	0.00	50.21	0.90	0.00	45.19	10.0	23.3	1.8	79.13	101.3	4.08	60	0.15	-2.04	-2.38	2.70	2.53	11.00	10.50	
9	8	238.0	0.00	46.83	0.90	0.00	42.15	10.0	22.4	1.8	75.62	77.54	4.76	54	0.16	-1.17	-1.54	3.31	2.97	11.44	11.00	
10	9	142.0	0.00	40.40	0.90	0.00	36.36	10.0	21.8	1.8	66.35	73.81	4.17	54	0.14	-0.97	-1.17	3.82	3.66	13.45	11.44	
11	10	110.0	0.00	32.11	0.90	0.00	28.90	10.0	21.3	1.8	53.43	61.25	4.25	48	0.18	-0.27	-0.47	4.24	4.09	14.44	13.45	
12	11	281.0	0.00	29.18	0.90	0.00	26.26	10.0	20.0	1.9	50.34	58.75	4.01	48	0.17	0.20	-0.27	4.87	4.53	13.51	14.44	
13	12	55.0	0.00	28.19	0.90	0.00	25.37	10.0	19.8	1.9	49.00	61.25	3.90	48	0.18	0.30	0.20	5.18	5.12	14.23	13.51	
14	13	322.0	0.00	19.64	0.90	0.00	17.68	10.0	18.3	2.0	35.77	43.79	3.72	42	0.19	0.91	0.30	5.83	5.42	12.29	14.23	
15	14	257.0	0.00	12.29	0.90	0.00	11.06	10.0	16.9	2.1	23.40	30.57	3.31	36	0.21	1.95	1.41	6.36	6.04	11.20	12.29	
16	15	59.0	0.00	8.07	0.90	0.00	7.26	10.0	16.6	2.1	15.53	19.98	3.16	30	0.24	2.59	2.45	6.61	6.53	11.58	11.20	
17	16	281.0	0.00	6.03	0.90	0.00	5.43	10.0	15.1	2.3	12.27	13.82	3.09	27	0.20	3.40	2.84	7.21	6.77	12.96	11.58	
18	17	282.0	0.00	6.03	0.90	0.00	5.43	10.0	13.6	2.4	12.98	13.92	3.26	27	0.20	3.97	3.40	7.73	7.23	12.75	12.96	
19	11	24.0	0.06	0.60	0.90	0.05	0.54	10.0	10.4	2.7	1.48	4.57	1.21	15	0.50	2.60	2.48	4.54	4.53	13.95	14.44	
20	12	24.0	0.09	0.86	0.90	0.08	0.77	10.0	10.6	2.7	2.11	2.52	2.69	12	0.50	3.32	3.20	5.20	5.12	13.39	13.51	
21	12	6.0	0.13	0.13	0.90	0.12	0.12	10.0	10.0	2.8	0.33	7.96	0.42	12	5.00	3.50	3.20	5.12	5.12	13.39	13.51	

Project File: DELTA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 115 | Run Date: 12-02-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.31 (ft)

RLW 12/2/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
22	14	24.0	0.17	1.58	0.90	0.15	1.42	10.0	11.3	2.6	3.76	7.22	3.06	15	1.25	3.46	3.16	6.12	6.04	12.11	12.29	
23	14	6.0	0.15	5.77	0.90	0.14	5.19	10.0	12.4	2.5	13.05	50.57	4.15	24	5.00	2.71	2.41	6.06	6.04	12.11	12.29	
24	15	24.0	0.44	2.31	0.90	0.40	2.08	10.0	11.4	2.6	5.47	11.74	3.10	18	1.25	3.75	3.45	6.59	6.53	10.72	11.20	CB 8
25	16	112.0	0.39	2.04	0.90	0.35	1.84	10.0	10.9	2.7	4.93	6.66	2.79	18	0.40	4.04	3.59	7.02	6.77	10.86	11.58	CB 11
26	18	111.0	0.39	1.73	0.90	0.35	1.56	10.0	11.1	2.7	4.15	4.55	3.38	15	0.50	6.02	5.47	8.35	7.89	12.47	12.75	CB 14
27	18	55.0	0.65	2.10	0.90	0.59	1.89	10.0	13.3	2.4	4.59	7.36	2.59	18	0.49	5.49	5.22	8.00	7.89	12.57	12.75	CB 12
28	26	34.0	0.00	0.66	0.90	0.00	0.59	10.0	10.7	2.7	1.62	3.84	1.32	15	0.35	6.14	6.02	8.64	8.62	12.67	12.47	CB 15
29	27	34.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	3.99	0.21	15	0.38	5.34	5.21	8.16	8.16	12.77	12.57	CB 13
30	25	30.0	0.35	0.96	0.90	0.32	0.86	10.0	10.7	2.7	2.35	4.08	1.91	15	0.40	4.41	4.29	7.24	7.20	10.91	10.86	CB 10
31	15	6.0	0.44	1.91	0.90	0.40	1.72	10.0	10.1	2.8	4.81	23.48	2.72	18	5.00	3.75	3.45	6.54	6.53	10.72	11.20	CB 9
32	8	24.0	0.13	1.55	0.90	0.12	1.40	10.0	10.3	2.8	3.86	4.17	3.15	15	0.42	1.81	1.71	3.05	2.97	13.50	11.00	
33	7	56.0	0.00	0.10	0.90	0.00	0.09	10.0	11.6	2.6	0.23	4.80	0.24	15	0.55	1.70	1.39	2.53	2.53	11.50	10.50	
34	11	6.0	0.06	2.33	0.90	0.05	2.10	10.0	11.9	2.6	5.38	23.48	3.05	18	5.00	2.53	2.23	4.54	4.53	13.92	14.44	
35	13	57.0	0.00	8.06	0.90	0.00	7.25	10.0	17.0	2.1	15.31	19.67	3.85	27	0.40	2.28	2.05	5.56	5.42	14.45	14.23	
36	35	513.0	0.00	5.72	0.90	0.00	5.15	10.0	14.8	2.3	11.76	15.98	3.74	24	0.50	5.09	2.53	7.18	5.79	17.61	14.45	
37	36	28.0	0.00	5.48	0.90	0.00	4.93	10.0	14.7	2.3	11.32	15.99	3.60	24	0.50	5.23	5.09	7.47	7.40	18.18	17.61	
38	37	50.0	0.00	1.28	0.90	0.00	1.15	10.0	10.1	2.8	3.21	4.57	2.62	15	0.50	6.23	5.98	7.79	7.67	0.00	18.18	Inserted Line
39	36	56.0	0.00	0.24	0.90	0.00	0.22	10.0	11.1	2.7	0.58	5.03	0.47	15	0.61	6.18	5.84	7.40	7.40	16.80	17.61	
40	39	23.0	0.11	0.11	0.90	0.10	0.10	10.0	10.0	2.8	0.28	4.07	0.43	12	1.30	6.73	6.43	7.40	7.40	17.28	16.80	
41	39	7.0	0.13	0.13	0.90	0.12	0.12	10.0	10.0	2.8	0.33	7.37	0.50	12	4.29	6.73	6.43	7.40	7.40	17.28	16.80	
42	38	25.0	0.88	0.88	0.90	0.79	0.79	10.0	10.0	2.8	2.22	2.25	2.83	12	0.40	6.58	6.48	8.05	7.95	17.68	0.00	

Project File: DELTA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 115 | Run Date: 12-02-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.31 (ft)

RZW 12/2/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	38	6.0	0.40	0.40	0.90	0.36	0.36	10.0	10.0	2.8	1.01	7.96	1.29	12	5.00	6.78	6.48	7.96	7.95	17.68	0.00	
44	35	6.0	0.40	1.88	0.90	0.36	1.69	10.0	10.1	2.8	4.72	14.44	3.85	15	5.00	3.35	3.05	5.82	5.79	14.35	14.45	
45	35	25.0	0.46	0.46	0.90	0.41	0.41	10.0	10.0	2.8	1.16	2.47	1.48	12	0.48	3.65	3.53	5.82	5.79	14.35	14.45	
46	13	105.0	0.00	0.49	0.90	0.00	0.44	10.0	10.6	2.7	1.20	3.09	0.98	15	0.23	3.29	3.05	5.46	5.42	14.09	14.23	
47	46	6.0	0.23	0.23	0.90	0.21	0.21	10.0	10.0	2.8	0.58	7.96	0.74	12	5.00	3.84	3.54	5.47	5.47	13.72	14.09	
48	46	32.0	0.26	0.26	0.90	0.23	0.23	10.0	10.0	2.8	0.66	2.52	0.84	12	0.50	3.70	3.54	5.48	5.47	13.50	14.09	
49	10	57.0	0.00	8.29	0.90	0.00	7.46	10.0	18.8	2.0	14.88	37.24	3.03	30	0.82	1.50	1.03	4.17	4.09	14.47	13.45	
50	49	513.0	0.00	7.17	0.90	0.00	6.45	10.0	15.9	2.2	14.17	37.15	4.31	30	0.82	5.71	1.50	6.97	4.31	17.58	14.47	
51	50	74.0	0.00	3.54	0.90	0.00	3.19	10.0	15.3	2.2	7.13	20.37	4.14	24	0.81	6.81	6.21	7.76	7.48	17.76	17.58	
52	50	60.0	0.00	0.48	0.90	0.00	0.43	10.0	10.5	2.7	1.18	4.57	3.09	15	0.50	7.51	7.21	7.95	7.65	16.60	17.58	
53	50	110.0	0.00	3.15	0.90	0.00	2.84	10.0	12.0	2.6	7.26	15.99	4.18	24	0.50	6.76	6.21	7.71	7.48	16.65	17.58	
54	51	60.0	0.48	0.48	0.90	0.43	0.43	10.0	10.0	2.8	1.21	5.26	4.39	12	2.18	9.12	7.81	9.59	8.14	16.56	17.76	
55	51	10.0	0.48	0.48	0.90	0.43	0.43	10.0	10.0	2.8	1.21	6.17	4.25	12	3.00	8.11	7.81	8.65	8.13	17.58	17.76	
56	49	60.0	0.54	0.54	0.90	0.49	0.49	10.0	10.0	2.8	1.36	2.76	1.74	12	0.60	3.36	3.00	4.36	4.31	13.79	14.47	
57	49	10.0	0.58	0.58	0.90	0.52	0.52	10.0	10.0	2.8	1.47	6.17	1.87	12	3.00	3.30	3.00	4.33	4.31	13.79	14.47	
58	51	361.0	0.00	2.58	0.90	0.00	2.32	10.0	12.1	2.5	5.91	20.48	3.63	24	0.82	9.77	6.81	10.63	8.13	19.51	17.76	
59	58	126.0	1.36	2.58	0.90	1.22	2.32	10.0	11.5	2.6	6.08	9.54	5.45	18	0.83	11.31	10.27	12.25	11.14	19.50	19.51	
60	59	225.0	1.22	1.22	0.90	1.10	1.10	10.0	10.0	2.8	3.08	6.09	3.80	15	0.89	13.56	11.56	14.26	12.46	20.00	19.50	
61	52	24.0	0.25	0.25	0.90	0.23	0.23	10.0	10.0	2.8	0.63	4.11	2.72	12	1.33	8.08	7.76	8.42	8.10	16.43	16.60	
62	52	6.0	0.23	0.23	0.90	0.21	0.21	10.0	10.0	2.8	0.58	7.96	2.58	12	5.00	8.06	7.76	8.38	8.10	16.45	16.60	
63	53	24.0	0.11	2.25	0.90	0.10	2.03	10.0	11.8	2.6	5.22	7.43	4.55	18	0.50	7.38	7.26	8.31	8.19	16.53	16.65	

Project File: DELTA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 115 | Run Date: 12-02-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.31 (ft)

RLW 12/2/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	53	6.0	0.12	0.90	0.90	0.11	0.81	10.0	10.1	2.8	2.26	14.44	3.97	15	5.00	7.81	7.51	8.41	8.09	16.53	16.65	
65	63	52.0	0.26	2.14	0.90	0.23	1.93	10.0	11.5	2.6	5.03	7.43	3.99	18	0.50	7.64	7.38	8.58	8.47	17.00	16.53	
66	34	169.0	0.65	2.27	0.90	0.59	2.04	10.0	11.0	2.7	5.47	7.40	3.09	18	0.50	3.37	2.53	5.10	4.64	12.20	13.92	
67	19	30.0	0.54	0.54	0.90	0.49	0.49	10.0	10.0	2.8	1.36	4.57	1.11	15	0.50	2.75	2.60	4.56	4.55	14.70	13.95	
68	23	18.0	0.69	5.62	0.90	0.62	5.06	10.0	12.3	2.5	12.75	29.20	4.06	24	1.67	3.01	2.71	6.31	6.25	12.90	12.11	
69	22	51.0	0.56	1.41	0.90	0.50	1.27	10.0	11.0	2.7	3.40	4.61	2.77	15	0.51	3.72	3.46	6.34	6.20	11.80	12.11	
70	24	218.0	1.87	1.87	0.90	1.68	1.68	10.0	10.0	2.8	4.73	7.43	2.67	18	0.50	4.84	3.75	7.14	6.70	11.00	10.72	
71	68	57.0	1.03	4.93	0.90	0.93	4.44	10.0	12.1	2.6	11.32	14.37	3.60	24	0.40	3.24	3.01	6.63	6.49	11.80	12.90	
72	66	98.0	0.66	1.62	0.90	0.59	1.46	10.0	10.5	2.7	4.00	4.57	3.26	15	0.50	4.11	3.62	5.66	5.29	13.30	12.20	
73	65	126.0	0.62	1.51	0.90	0.56	1.36	10.0	10.6	2.7	3.70	4.57	3.60	15	0.50	8.52	7.89	9.40	9.01	17.10	17.00	
74	65	110.0	0.37	0.37	0.90	0.33	0.33	10.0	10.0	2.8	0.93	2.52	1.93	12	0.50	8.69	8.14	9.16	9.01	17.20	17.00	
75	73	110.0	0.89	0.89	0.90	0.80	0.80	10.0	10.0	2.8	2.25	2.52	3.01	12	0.50	9.32	8.77	10.17	9.77	17.20	17.10	
76	71	138.0	0.38	3.90	0.90	0.34	3.51	10.0	11.3	2.6	9.27	12.33	2.95	24	0.30	3.65	3.24	7.16	6.93	11.40	11.80	
77	69	158.0	0.85	0.85	0.90	0.77	0.77	10.0	10.0	2.8	2.15	2.52	2.74	12	0.50	4.76	3.97	7.09	6.52	11.80	11.80	
78	20	92.0	0.77	0.77	0.90	0.69	0.69	10.0	10.0	2.8	1.95	2.52	2.48	12	0.50	3.78	3.32	5.60	5.33	13.00	13.39	
79	28	54.0	0.66	0.66	0.90	0.59	0.59	10.0	10.0	2.8	1.67	3.83	1.36	15	0.35	6.33	6.14	8.69	8.65	12.00	12.67	
80	26	61.0	0.68	0.68	0.90	0.61	0.61	10.0	10.0	2.8	1.72	4.53	1.40	15	0.49	5.88	5.58	8.66	8.62	12.00	12.47	
81	31	10.0	1.47	1.47	0.90	1.32	1.32	10.0	10.0	2.8	3.71	11.18	3.03	15	3.00	4.80	4.50	6.63	6.60	12.00	10.72	
82	64	10.0	0.78	0.78	0.90	0.70	0.70	10.0	10.0	2.8	1.97	11.18	3.19	15	3.00	8.11	7.81	8.67	8.53	17.00	16.53	
83	8	3.0	0.13	1.83	0.90	0.12	1.65	10.0	10.1	2.8	4.60	33.21	2.86	18	10.00	1.76	1.46	2.93	2.97	11.00	11.00	
84	32	52.0	1.42	1.42	0.90	1.28	1.28	10.0	10.0	2.8	3.59	4.00	2.92	15	0.38	2.01	1.81	3.26	3.12	12.00	13.50	

Project File: DELTA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 115 | Run Date: 12-02-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.31 (ft)

RLW 12/02/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
85	33	20.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	4.57	0.32	15	0.50	1.80	1.70	2.53	2.53	12.00	11.50	
86	7	20.0	1.12	1.12	0.90	1.01	1.01	10.0	10.0	2.8	2.83	4.57	2.45	15	0.50	1.47	1.37	2.55	2.53	12.00	10.50	
87	4	25.0	1.13	1.13	0.90	1.02	1.02	10.0	10.0	2.8	2.86	4.66	3.98	15	0.52	1.35	1.22	2.06	1.93	12.00	9.90	
88	9	22.0	0.16	2.48	0.90	0.14	2.23	10.0	10.4	2.8	6.16	6.72	3.49	18	0.41	1.92	1.83	3.74	3.66	13.50	11.44	
89	9	5.0	0.16	3.95	0.90	0.14	3.56	10.0	10.2	2.8	9.88	38.80	4.11	21	6.00	1.88	1.58	3.68	3.66	11.40	11.44	
90	25	50.0	0.69	0.69	0.90	0.62	0.62	10.0	10.0	2.8	1.74	2.52	2.22	12	0.50	4.79	4.54	7.32	7.20	10.86	10.86	
91	76	218.0	3.52	3.52	0.90	3.17	3.17	10.0	10.0	2.8	8.89	11.15	2.83	24	0.24	4.18	3.65	7.70	7.37	11.40	11.40	
92	44	25.0	1.48	1.48	0.90	1.33	1.33	10.0	10.0	2.8	3.74	4.47	3.05	15	0.48	3.47	3.35	6.02	5.94	14.35	14.35	
93	72	92.0	0.96	0.96	0.90	0.86	0.86	10.0	10.0	2.8	2.43	2.52	3.09	12	0.50	4.82	4.36	6.34	5.91	13.30	13.30	
94	5	16.0	0.00	6.38	0.90	0.00	5.74	10.0	12.4	2.5	14.41	18.96	4.07	27	0.38	0.32	0.26	2.18	2.15	10.20	10.00	
95	94	66.0	0.30	0.30	0.90	0.27	0.27	10.0	10.0	2.8	0.76	3.81	0.73	15	0.35	1.55	1.32	2.45	2.44	10.20	10.20	
96	83	15.0	1.70	1.70	0.90	1.53	1.53	10.0	10.0	2.8	4.30	14.85	4.01	18	2.00	2.31	2.01	3.10	3.00	11.00	11.00	
97	88	71.0	2.32	2.32	0.90	2.09	2.09	10.0	10.0	2.8	5.86	6.59	3.32	18	0.39	2.20	1.92	4.05	3.83	11.40	13.50	
98	89	49.0	3.79	3.79	0.90	3.41	3.41	10.0	10.0	2.8	9.58	10.61	5.00	21	0.45	2.85	2.63	4.15	3.93	11.40	11.40	
99	30	50.0	0.61	0.61	0.90	0.55	0.55	10.0	10.0	2.8	1.54	4.08	1.26	15	0.40	4.61	4.41	7.30	7.27	10.91	10.91	
100	18	90.0	0.00	2.20	0.90	0.00	1.98	10.0	10.8	2.7	5.36	6.64	3.03	18	0.40	5.24	4.88	8.13	7.89	13.40	12.75	
101	100	4.0	1.55	1.55	0.90	1.40	1.40	10.0	10.0	2.8	3.92	17.68	3.19	15	7.50	5.79	5.49	8.29	8.27	13.40	13.40	
102	100	62.0	0.65	0.65	0.90	0.59	0.59	10.0	10.0	2.8	1.64	4.10	1.34	15	0.40	5.74	5.49	8.31	8.27	13.40	13.40	
103	27	89.0	0.00	1.35	0.90	0.00	1.22	10.0	12.6	2.5	3.02	4.59	2.46	15	0.51	6.19	5.74	8.35	8.16	14.50	12.57	
104	103	441.0	1.35	1.35	0.90	1.22	1.22	10.0	10.0	2.8	3.41	4.56	2.79	15	0.50	8.39	6.19	9.60	8.45	17.20	14.50	
105	37	136.0	0.00	4.20	0.90	0.00	3.78	10.0	13.9	2.4	8.94	15.99	2.85	24	0.50	5.91	5.23	7.87	7.67	18.50	18.18	

Project File: DELTA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 115 | Run Date: 12-02-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.31 (ft)

RLW 12/2/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
106	105	102.0	0.67	1.92	0.90	0.60	1.73	10.0	13.4	2.4	4.16	4.57	3.40	15	0.50	7.17	6.66	8.40	7.99	18.50	18.50	
107	106	170.0	0.64	1.25	0.90	0.58	1.13	10.0	12.3	2.5	2.85	4.57	2.82	15	0.50	8.02	7.17	8.84	8.49	19.00	18.50	
108	107	170.0	0.61	0.61	0.90	0.55	0.55	10.0	10.0	2.8	1.54	4.57	2.50	15	0.50	8.87	8.02	9.37	8.93	19.20	19.00	
109	105	231.0	0.00	2.28	0.90	0.00	2.05	10.0	10.5	2.7	5.63	7.44	3.65	18	0.50	7.57	6.41	8.66	7.99	16.40	18.50	
110	109	35.0	1.40	2.28	0.90	1.26	2.05	10.0	10.3	2.8	5.68	7.32	3.50	18	0.49	7.74	7.57	8.99	8.92	16.40	16.40	
111	110	30.0	0.88	0.88	0.90	0.79	0.79	10.0	10.0	2.8	2.22	4.57	1.83	15	0.50	8.14	7.99	9.33	9.29	16.00	16.40	
112	94	155.0	0.33	6.08	0.90	0.30	5.47	10.0	11.7	2.6	14.18	18.28	3.87	27	0.35	0.86	0.32	2.69	2.44	9.20	10.20	
113	112	102.0	2.50	5.75	0.90	2.25	5.18	10.0	11.2	2.7	13.72	18.40	3.95	27	0.35	1.22	0.86	2.96	2.81	9.10	9.20	
114	113	70.0	0.32	3.25	0.90	0.29	2.93	10.0	10.8	2.7	7.88	9.28	4.22	21	0.34	1.96	1.72	3.22	3.00	9.20	9.10	
115	114	156.0	2.93	2.93	0.90	2.64	2.64	10.0	10.0	2.8	7.40	9.41	4.09	21	0.35	2.51	1.96	3.69	3.26	9.20	9.20	

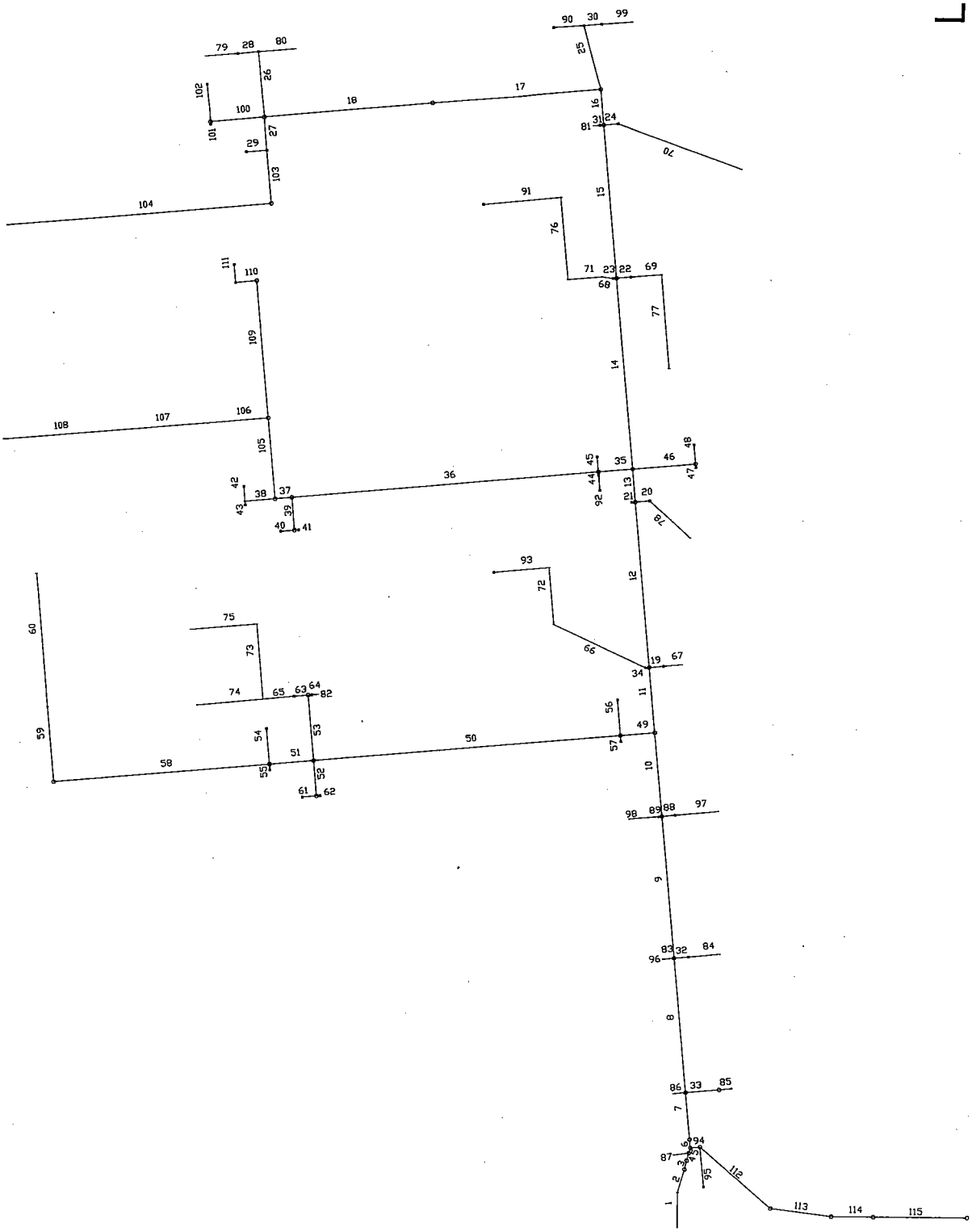
Project File: DELTA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 115 | Run Date: 12-02-2003

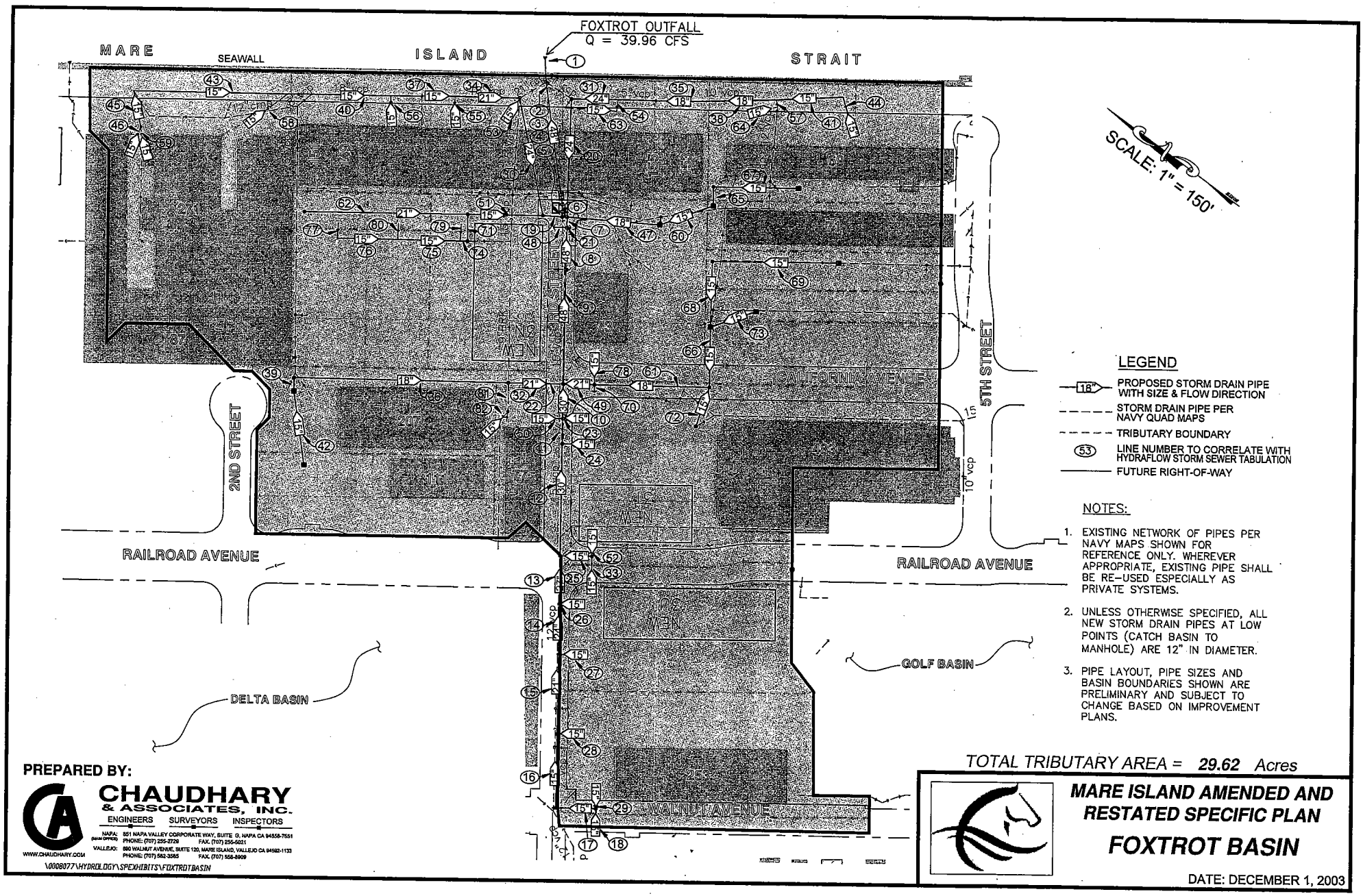
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.31 (ft)

RLW 12/2/03

LINE DIAGRAM

DELTA BASIN





TOTAL TRIBUTARY AREA = **29.62** Acres

PREPARED BY:

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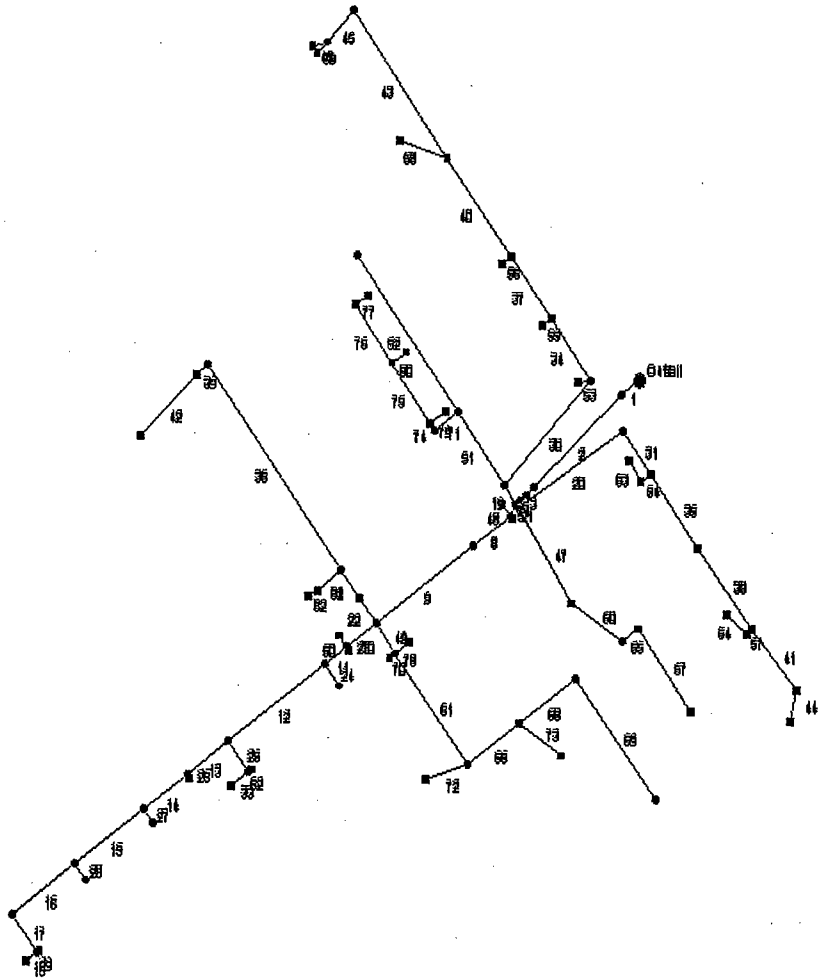
\0008077\HYDROLOGY\SPEXHIBITS\FOXTROTBASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

FOXTROT BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: Foxtrot-Outfall-Alt.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 82	10-24-2003

RKW 10/24/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	40.0	0.00	29.62	0.90	0.00	26.66	10.0	29.9	1.5	39.96	50.79	4.47	48	0.13	-2.35	-2.40	0.33	0.27	9.90	0.00	
2	1	201.0	0.00	29.62	0.90	0.00	26.66	10.0	29.1	1.5	40.63	49.64	4.40	48	0.12	-2.11	-2.35	0.65	0.41	11.60	9.90	
3	2	17.0	0.00	29.62	0.90	0.00	26.66	10.0	29.0	1.5	40.69	49.27	4.33	48	0.12	-2.09	-2.11	0.71	0.69	11.60	11.60	
4	3	13.0	0.00	29.62	0.90	0.00	26.66	10.0	29.0	1.5	40.73	56.34	4.26	48	0.15	-2.07	-2.09	0.77	0.76	12.60	11.60	
5	4	9.0	0.00	29.62	0.90	0.00	26.66	10.0	28.9	1.5	40.76	47.88	4.20	48	0.11	-2.06	-2.07	0.83	0.81	13.10	12.60	
6	5	8.0	0.00	5.69	0.90	0.00	5.12	10.0	17.2	2.1	10.75	23.58	2.69	36	0.12	-0.55	-0.56	1.10	1.10	13.90	13.10	
7	5	20.0	0.00	15.84	0.90	0.00	14.26	10.0	18.2	2.0	28.96	45.43	2.73	48	0.10	-2.03	-2.05	1.11	1.10	13.60	13.10	
8	7	75.0	0.66	15.37	0.90	0.59	13.83	10.0	17.6	2.1	28.60	57.46	2.65	48	0.16	-1.91	-2.03	1.25	1.22	14.90	13.60	
9	8	200.0	0.00	14.71	0.90	0.00	13.24	10.0	16.2	2.2	28.73	55.63	2.79	48	0.15	-1.61	-1.91	1.34	1.27	17.20	14.90	
10	9	60.0	0.00	7.69	0.90	0.00	6.92	10.0	15.9	2.2	15.19	18.34	4.18	30	0.20	0.01	-0.11	1.74	1.63	17.20	17.20	
11	10	45.0	0.00	7.41	0.90	0.00	6.67	10.0	15.6	2.2	14.76	18.34	3.53	30	0.20	0.10	0.01	2.07	2.02	18.80	17.20	
12	11	197.0	0.00	5.41	0.90	0.00	4.87	10.0	14.3	2.3	11.35	18.25	2.67	30	0.20	0.49	0.10	2.39	2.27	21.20	18.80	
13	12	85.0	0.00	4.59	0.90	0.00	4.13	10.0	13.7	2.4	9.84	13.85	2.99	27	0.20	0.91	0.74	2.60	2.52	20.90	21.20	
14	13	89.0	0.00	4.44	0.90	0.00	4.00	10.0	13.2	2.4	9.70	11.25	3.69	24	0.25	1.38	1.16	2.91	2.75	21.20	20.90	
15	14	140.0	0.00	2.76	0.90	0.00	2.48	10.0	12.4	2.5	6.25	7.92	2.99	21	0.25	1.98	1.63	3.33	3.13	20.90	21.20	
16	15	129.0	0.00	0.82	0.90	0.00	0.74	10.0	11.1	2.7	1.97	3.55	2.20	15	0.30	2.87	2.48	3.63	3.48	20.70	20.90	
17	16	71.0	0.00	0.82	0.90	0.00	0.74	10.0	10.4	2.8	2.04	3.51	2.46	15	0.30	3.08	2.87	3.83	3.73	21.40	20.70	
18	17	22.0	0.49	0.49	0.90	0.44	0.44	10.0	10.0	2.8	1.24	4.13	1.46	15	0.41	3.17	3.08	3.95	3.94	21.40	21.40	
19	5	34.0	0.00	8.09	0.90	0.00	7.28	10.0	28.8	1.5	11.18	18.61	3.29	30	0.21	-0.48	-0.55	1.14	1.10	13.90	13.10	
20	6	208.0	0.00	2.68	0.90	0.00	2.41	10.0	15.3	2.2	5.41	11.31	2.99	24	0.25	0.47	-0.05	1.48	1.22	10.10	13.90	
21	7	5.0	0.18	0.18	0.90	0.16	0.16	10.0	10.0	2.8	0.45	15.82	1.66	15	6.00	1.02	0.72	1.29	1.22	14.50	13.60	

Project File: Foxtrot-Outfall-Alt.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 82 | Run Date: 10-24-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.27 (ft)

RJW 10/24/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	9	47.0	0.86	3.38	0.90	0.77	3.04	10.0	13.6	2.4	7.28	8.33	3.90	21	0.28	8.97	8.84	10.24	10.11	17.10	17.20	
23	10	6.0	0.16	0.16	0.90	0.14	0.14	10.0	10.0	2.8	0.40	14.44	0.78	15	5.00	1.56	1.26	2.00	2.02	17.20	17.20	
24	11	39.0	2.00	2.00	0.90	1.80	1.80	10.0	10.0	2.8	5.05	5.57	5.14	15	0.74	2.77	2.48	3.70	3.42	18.80	18.80	
25	12	56.0	0.00	0.82	0.90	0.00	0.74	10.0	10.7	2.7	2.00	4.05	2.79	15	0.39	1.96	1.74	2.61	2.52	21.20	21.20	
26	13	7.0	0.15	0.15	0.90	0.14	0.14	10.0	10.0	2.8	0.38	13.37	0.60	15	4.29	2.21	1.91	2.74	2.75	20.90	20.90	
27	14	26.0	1.68	1.68	0.90	1.51	1.51	10.0	10.0	2.8	4.25	5.66	4.45	15	0.77	2.33	2.13	3.16	3.13	21.40	21.20	
28	15	30.0	1.94	1.94	0.90	1.75	1.75	10.0	10.0	2.8	4.90	5.65	4.95	15	0.77	2.71	2.48	3.60	3.48	21.30	20.90	
29	17	5.0	0.33	0.33	0.90	0.30	0.30	10.0	10.0	2.8	0.83	15.82	1.31	15	6.00	3.38	3.08	3.91	3.94	21.40	21.40	
30	19	211.0	0.00	3.23	0.90	0.00	2.91	10.0	27.1	1.6	4.64	11.23	2.62	24	0.25	0.54	0.02	1.51	1.31	10.10	13.90	
31	20	82.0	0.10	2.68	0.90	0.09	2.41	10.0	14.6	2.3	5.56	11.17	3.01	24	0.24	0.67	0.47	1.76	1.66	9.90	10.10	
32	22	50.0	0.00	2.52	0.90	0.00	2.27	10.0	13.2	2.4	5.51	8.08	2.77	21	0.26	9.10	8.97	10.41	10.36	17.20	17.10	
33	25	36.0	0.41	0.41	0.90	0.37	0.37	10.0	10.0	2.8	1.04	4.17	1.41	15	0.42	2.11	1.96	2.77	2.76	21.20	21.20	
34	30	114.0	0.10	2.60	0.90	0.09	2.34	10.0	26.2	1.6	3.81	7.99	3.24	21	0.25	1.08	0.79	1.93	1.66	9.90	10.10	
35	31	132.0	0.47	1.88	0.90	0.42	1.69	10.0	13.7	2.4	4.04	5.78	3.54	18	0.30	1.57	1.17	2.49	2.09	9.90	9.90	
36	32	377.0	0.00	2.00	0.90	0.00	1.80	10.0	10.9	2.7	4.84	5.75	3.48	18	0.30	10.48	9.35	11.51	10.54	17.30	17.20	
37	34	113.0	0.10	0.96	0.90	0.09	0.86	10.0	25.1	1.7	1.44	3.33	2.56	15	0.27	1.88	1.58	2.45	2.18	9.70	9.90	
38	35	149.0	0.10	1.41	0.90	0.09	1.27	10.0	12.4	2.5	3.20	5.71	2.85	18	0.30	2.01	1.57	2.83	2.59	9.20	9.90	
39	36	24.0	0.62	2.00	0.90	0.56	1.80	10.0	10.8	2.7	4.87	5.67	3.13	18	0.29	10.55	10.48	11.77	11.73	17.30	17.30	
40	37	182.0	0.10	0.49	0.90	0.09	0.44	10.0	21.8	1.8	0.80	3.35	0.77	15	0.27	1.77	1.28	2.64	2.61	9.90	9.70	
41	38	118.0	0.10	0.61	0.90	0.09	0.55	10.0	10.8	2.7	1.49	4.12	2.40	15	0.41	2.74	2.26	3.26	3.08	9.80	9.20	
42	39	131.0	1.38	1.38	0.90	1.24	1.24	10.0	10.0	2.8	3.49	4.11	3.42	15	0.40	11.33	10.80	12.23	11.85	18.20	17.30	

Project File: Foxtrot-Outfall-Alt.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 82 | Run Date: 10-24-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.27 (ft)

RLW 10/24/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	40	269.0	0.00	0.28	0.90	0.00	0.25	10.0	13.8	2.4	0.60	3.54	2.15	15	0.30	3.18	2.37	3.53	2.72	9.70	9.90	
44	41	48.0	0.51	0.51	0.90	0.46	0.46	10.0	10.0	2.8	1.29	4.06	2.21	15	0.40	2.93	2.74	3.47	3.42	9.20	9.80	
45	43	65.0	0.00	0.28	0.90	0.00	0.25	10.0	11.9	2.6	0.65	3.58	2.04	15	0.31	3.38	3.18	3.73	3.60	9.80	9.70	
46	45	25.0	0.18	0.18	0.90	0.16	0.16	10.0	10.0	2.8	0.45	4.08	1.66	15	0.40	3.48	3.38	3.79	3.77	9.90	9.80	
47	6	165.0	1.55	3.01	0.90	1.40	2.71	10.0	13.0	2.5	6.65	7.08	4.55	18	0.45	4.55	3.80	5.70	4.96	12.50	13.90	
48	7	22.0	0.29	0.29	0.90	0.26	0.26	10.0	10.0	2.8	0.73	7.54	2.13	15	1.36	1.02	0.72	1.36	1.22	14.50	13.60	
49	9	55.0	0.00	3.64	0.90	0.00	3.28	10.0	15.7	2.2	7.23	8.27	3.88	21	0.27	5.88	5.73	7.14	7.00	17.30	17.20	
50	10	21.0	0.12	0.12	0.90	0.11	0.11	10.0	10.0	2.8	0.30	7.72	0.57	15	1.43	1.56	1.26	2.01	2.02	17.20	17.20	
51	19	133.0	0.00	4.86	0.90	0.00	4.37	10.0	12.9	2.5	10.77	11.27	4.08	24	0.25	6.25	5.92	7.82	7.49	14.60	13.90	
52	25	6.0	0.41	0.41	0.90	0.37	0.37	10.0	10.0	2.8	1.04	14.44	2.10	15	5.00	2.26	1.96	2.67	2.76	21.20	21.20	
53	30	21.0	0.63	0.63	0.90	0.57	0.57	10.0	10.0	2.8	1.59	4.23	3.19	15	0.43	1.38	1.29	1.91	1.82	9.90	10.10	
54	31	20.0	0.35	0.70	0.90	0.32	0.63	10.0	10.8	2.7	1.70	4.08	3.12	15	0.40	1.50	1.42	2.07	1.99	10.00	9.90	
55	34	18.0	1.54	1.54	0.90	1.39	1.39	10.0	10.0	2.8	3.89	4.03	3.73	15	0.39	1.65	1.58	2.64	2.57	9.90	9.90	
56	37	18.0	0.37	0.37	0.90	0.33	0.33	10.0	10.0	2.8	0.93	4.30	1.34	15	0.44	1.96	1.88	2.62	2.61	9.60	9.70	
57	38	12.0	0.35	0.70	0.90	0.32	0.63	10.0	11.0	2.7	1.68	4.17	2.05	15	0.42	2.31	2.26	3.08	3.08	9.20	9.20	
58	40	82.0	0.11	0.11	0.90	0.10	0.10	10.0	10.0	2.8	0.28	4.10	1.66	15	0.40	2.70	2.37	2.91	2.65	10.10	9.90	
59	45	23.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	7.37	1.38	15	1.30	3.68	3.38	3.88	3.77	10.00	9.80	
60	47	101.0	0.83	1.46	0.90	0.75	1.31	10.0	12.4	2.5	3.31	4.06	3.06	15	0.40	5.20	4.80	6.15	5.93	13.20	12.50	
61	49	204.0	0.00	2.91	0.90	0.00	2.62	10.0	14.8	2.3	5.98	6.62	4.03	18	0.40	6.94	6.13	8.05	7.38	17.30	17.30	
62	51	288.0	2.34	2.34	0.90	2.11	2.11	10.0	10.0	2.8	5.91	7.92	2.91	21	0.25	7.22	6.50	8.47	8.08	14.70	14.60	
63	54	36.0	0.35	0.35	0.90	0.32	0.32	10.0	10.0	2.8	0.88	4.03	1.20	15	0.39	1.64	1.50	2.30	2.30	10.00	10.00	

Project File: Foxtrot-Outfall-Alt.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 82 | Run Date: 10-24-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.27 (ft)

RLW 10/24/02

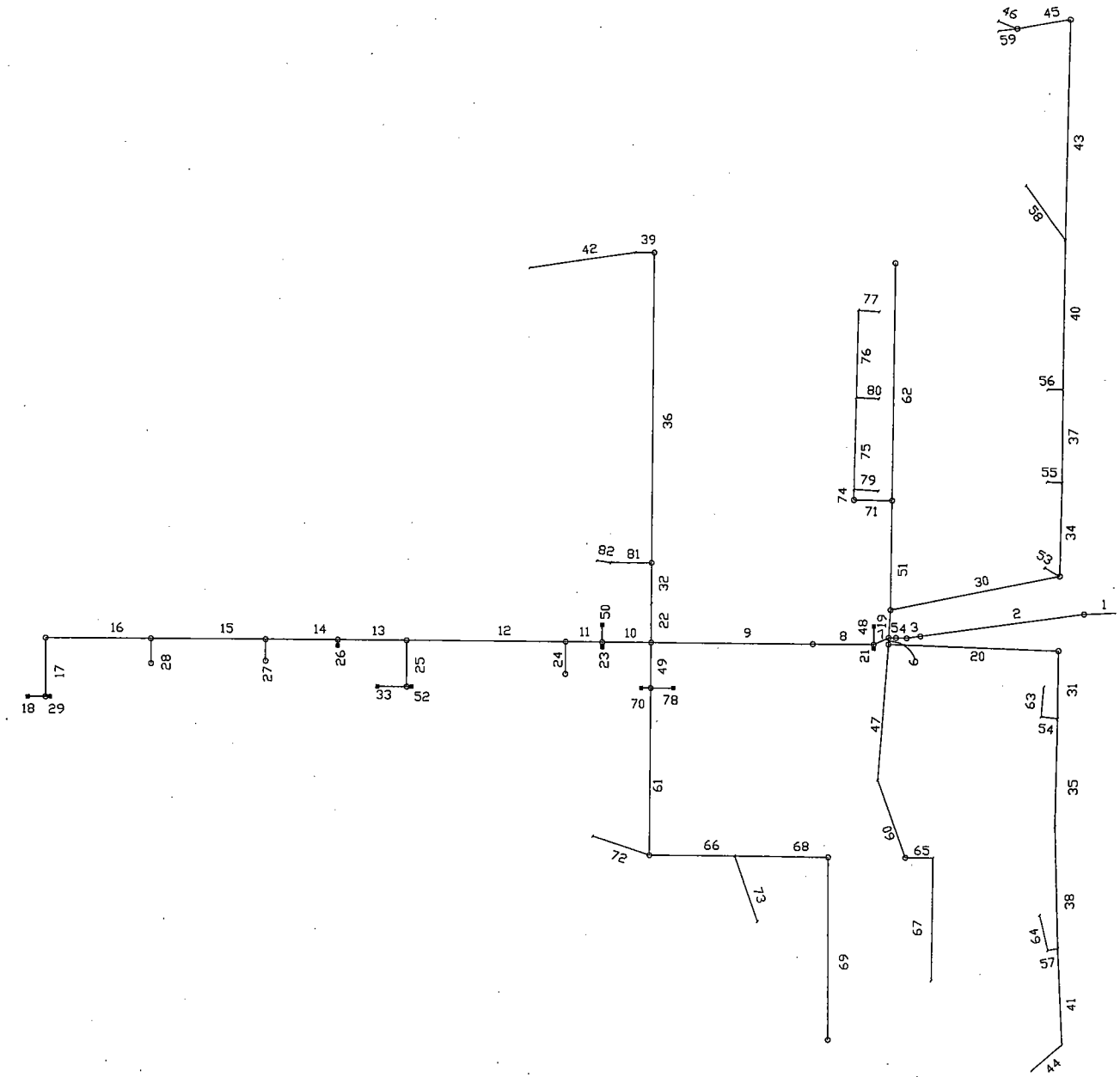
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	57	44.0	0.35	0.35	0.90	0.32	0.32	10.0	10.0	2.8	0.88	4.13	1.10	15	0.41	2.49	2.31	3.20	3.19	9.90	9.20	
65	60	34.0	0.00	0.63	0.90	0.00	0.57	10.0	11.9	2.6	1.46	3.99	1.34	15	0.38	5.33	5.20	6.31	6.30	12.30	13.20	
66	61	106.0	0.76	1.93	0.90	0.68	1.74	10.0	14.3	2.3	4.04	4.57	3.70	15	0.50	7.72	7.19	8.69	8.33	15.50	17.30	
67	65	150.0	0.63	0.63	0.90	0.57	0.57	10.0	10.0	2.8	1.59	4.08	2.11	15	0.40	5.93	5.33	6.53	6.35	12.20	12.30	
68	66	115.0	0.00	0.65	0.90	0.00	0.59	10.0	12.8	2.5	1.45	4.08	1.39	15	0.40	8.18	7.72	9.04	8.99	15.60	15.50	
69	68	223.0	0.65	0.65	0.90	0.59	0.59	10.0	10.0	2.8	1.64	4.10	2.57	15	0.40	9.08	8.18	9.60	9.08	15.30	15.60	
70	49	12.0	0.34	0.34	0.90	0.31	0.31	10.0	10.0	2.8	0.86	4.17	0.84	15	0.42	6.43	6.38	7.38	7.38	17.30	17.30	
71	51	47.0	0.00	2.52	0.90	0.00	2.27	10.0	12.6	2.5	5.66	8.33	2.54	21	0.28	6.63	6.50	8.12	8.08	14.40	14.60	
72	61	73.0	0.98	0.98	0.90	0.88	0.88	10.0	10.0	2.8	2.48	4.14	2.32	15	0.41	7.49	7.19	8.42	8.33	17.40	17.30	
73	66	85.0	0.52	0.52	0.90	0.47	0.47	10.0	10.0	2.8	1.31	4.08	1.18	15	0.40	8.06	7.72	9.02	8.99	14.70	15.50	
74	71	13.0	0.54	2.52	0.90	0.49	2.27	10.0	12.5	2.5	5.67	19.32	3.33	18	3.38	6.92	6.48	8.24	8.23	14.40	14.40	
75	74	111.0	0.62	1.73	0.90	0.56	1.56	10.0	12.0	2.6	3.99	4.55	3.28	15	0.50	7.72	7.17	8.90	8.52	14.60	14.40	
76	75	106.0	0.74	0.94	0.90	0.67	0.85	10.0	11.1	2.7	2.26	4.57	1.97	15	0.50	8.25	7.72	9.27	9.16	15.00	14.60	
77	76	26.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	4.20	0.45	15	0.42	8.36	8.25	9.38	9.38	14.60	15.00	
78	49	28.0	0.39	0.39	0.90	0.35	0.35	10.0	10.0	2.8	0.99	4.05	0.99	15	0.39	6.49	6.38	7.38	7.38	17.30	17.30	
79	74	30.0	0.25	0.25	0.90	0.23	0.23	10.0	10.0	2.8	0.63	4.08	0.52	15	0.40	7.29	7.17	8.52	8.52	14.60	14.40	
80	75	28.0	0.17	0.17	0.90	0.15	0.15	10.0	10.0	2.8	0.43	4.23	0.35	15	0.43	7.84	7.72	9.16	9.16	14.70	14.60	
81	32	50.0	0.00	0.52	0.90	0.00	0.47	10.0	10.3	2.8	1.30	4.08	1.49	15	0.40	9.80	9.60	10.56	10.54	16.10	17.20	
82	81	17.0	0.52	0.52	0.90	0.47	0.47	10.0	10.0	2.8	1.31	4.14	1.73	15	0.41	9.87	9.80	10.58	10.58	16.10	16.10	

Project File: Foxtrot-Outfall-Alt.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 82 | Run Date: 10-24-2003

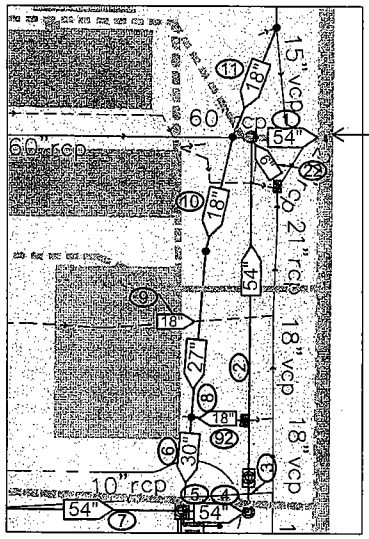
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.27 (ft)

RLW 10/24/03



LINE DIAGRAM

FOXTROT BASIN



DETAIL
SCALE: 1" = 100'

GOLF OUTFALL
Q = 113.1 CFS

ECHO 2 BASIN

ECHO 3 BASIN

HOTEL BASIN 1

FOXTROT BASIN

INDIA BASIN

AZUAR DR.

WALNUT AVE.

RAILROAD AVE.

CALIFORNIA AVE.

STRAIT

ISLAND

MARE

5TH ST.

7TH ST.

8TH ST.

9TH ST.

ALDEN PARK

SCALE: 1" = 300'

SEE DETAIL LEFT

GOLF OUTFALL
Q = 113.1 CFS

NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

*TOTAL TRIBUTARY AREA = **75.23** Acres*

PREPARED BY:

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\0008077\HYDROLOGY\SPEXHIBITS\GOLFBASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

GOLF BASIN

DATE: DECEMBER 1, 2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	58.0	0.00	75.23	0.90	0.00	67.71	10.0	25.1	1.7	113.1	115.5	8.27	54	0.34	-2.88	-3.08	0.73	0.53	9.85	9.65	
2	1	273.0	0.00	74.86	0.90	0.00	67.37	10.0	24.4	1.7	114.7	116.6	7.21	54	0.35	-1.92	-2.88	2.72	1.79	10.20	9.85	from Tidegate
3	2	27.0	0.00	74.86	0.90	0.00	67.37	10.0	24.3	1.7	114.9	119.7	7.23	54	0.37	-1.82	-1.92	2.94	2.84	10.20	10.20	Turns to Tidegate
4	3	23.0	0.00	74.86	0.90	0.00	67.37	10.0	24.2	1.7	115.1	123.0	7.24	54	0.39	-1.73	-1.82	3.83	3.75	10.50	10.20	Picks up Vortech
5	4	31.0	0.00	74.86	0.90	0.00	67.37	10.0	24.2	1.7	115.3	122.4	7.25	54	0.39	-1.61	-1.73	4.06	3.95	11.00	10.50	Str@ Vortech
6	5	75.0	0.00	6.61	0.90	0.00	5.95	10.0	11.8	2.6	15.33	25.94	3.12	30	0.40	0.68	0.38	4.98	4.87	11.33	11.00	
7	5	425.0	0.00	64.78	0.90	0.00	58.30	10.0	22.9	1.8	103.1	138.9	6.48	54	0.50	0.51	-1.61	6.04	4.87	16.30	11.00	
8	6	133.0	0.00	4.39	0.90	0.00	3.95	10.0	11.0	2.7	10.58	19.55	2.66	27	0.40	1.20	0.67	5.29	5.13	10.90	11.33	
9	8	38.0	2.10	2.10	0.90	1.89	1.89	10.0	10.0	2.8	5.31	7.43	3.00	18	0.50	2.30	2.11	5.49	5.40	11.70	10.90	
10	8	94.0	0.00	2.29	0.90	0.00	2.06	10.0	10.5	2.7	5.65	6.59	3.20	18	0.39	1.98	1.61	5.67	5.40	10.00	10.90	
11	10	96.0	2.29	2.29	0.90	2.06	2.06	10.0	10.0	2.8	5.79	6.69	3.27	18	0.41	2.37	1.98	5.98	5.69	10.50	10.00	
12	5	37.0	0.00	3.47	0.90	0.00	3.12	10.0	11.6	2.6	8.11	10.52	2.58	24	0.22	0.85	0.77	4.92	4.87	14.02	11.00	P-8
13	7	374.0	0.00	52.85	0.90	0.00	47.56	10.0	21.9	1.8	86.47	96.28	6.88	48	0.45	2.19	0.51	8.05	6.70	19.00	16.30	P-25
14	7	12.0	1.93	1.93	0.90	1.74	1.74	10.0	10.0	2.8	4.88	16.60	2.76	18	2.50	2.70	2.40	6.72	6.70	15.50	16.30	
15	7	299.0	0.00	10.00	0.90	0.00	9.00	10.0	14.1	2.3	21.08	28.95	4.29	30	0.50	3.89	2.40	7.49	6.70	17.29	16.30	
16	13	35.0	2.75	2.75	0.90	2.48	2.48	10.0	10.0	2.8	6.95	31.95	4.72	18	9.26	8.32	5.08	9.33	8.79	17.29	19.00	
17	13	270.0	0.90	0.90	0.90	0.81	0.81	10.0	10.0	2.8	2.27	2.89	1.85	15	0.20	5.12	4.58	9.12	8.79	15.50	19.00	
18	13	110.0	0.00	49.20	0.90	0.00	44.28	10.0	21.6	1.8	81.21	136.3	6.46	48	0.90	3.18	2.19	9.14	8.79	15.50	19.00	P-6
19	12	75.0	0.00	3.47	0.90	0.00	3.12	10.0	11.2	2.7	8.29	9.42	2.64	24	0.17	0.98	0.85	5.13	5.03	9.80	14.02	
20	19	170.0	0.00	3.47	0.90	0.00	3.12	10.0	10.1	2.8	8.70	11.24	2.77	24	0.25	1.40	0.98	5.49	5.23	9.60	9.80	
21	20	25.0	3.47	3.47	0.90	3.12	3.12	10.0	10.0	2.8	8.77	16.31	2.79	24	0.52	1.53	1.40	5.63	5.59	9.30	9.60	

Project File: GOLF-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 110 | Run Date: 12-12-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.53 (ft)

RW 12/12/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	1	46.0	0.37	0.37	0.90	0.33	0.33	10.0	10.0	2.8	0.93	1.77	7.02	6	10.00	6.31	1.71	6.78	1.97	9.90	9.85	Filter Trench
23	15	232.0	0.00	4.59	0.90	0.00	4.13	10.0	12.9	2.5	10.16	18.49	3.23	24	0.67	5.55	4.00	8.24	7.77	17.50	17.29	
24	15	10.0	5.41	5.41	0.90	4.87	4.87	10.0	10.0	2.8	13.67	71.03	2.79	30	3.00	4.19	3.89	7.79	7.77	17.29	17.29	
25	23	33.0	1.03	1.03	0.90	0.93	0.93	10.0	10.0	2.8	2.60	6.16	2.12	15	0.91	6.60	6.30	8.46	8.40	17.29	17.50	
26	23	290.0	0.00	3.56	0.90	0.00	3.20	10.0	11.1	2.7	8.53	15.99	2.80	24	0.50	7.00	5.55	8.78	8.40	20.96	17.50	
27	18	34.0	1.30	1.30	0.90	1.17	1.17	10.0	10.0	2.8	3.29	4.57	2.68	15	0.50	6.49	6.32	9.88	9.79	15.50	15.50	
28	18	132.0	0.00	47.90	0.90	0.00	43.11	10.0	21.2	1.9	79.91	96.04	6.36	48	0.45	3.77	3.18	10.20	9.79	17.29	15.50	P-6
29	28	68.0	1.55	1.55	0.90	1.40	1.40	10.0	10.0	2.8	3.92	4.57	3.19	15	0.50	7.01	6.67	11.08	10.83	17.35	17.29	
30	28	43.0	0.00	46.35	0.90	0.00	41.72	10.0	21.1	1.9	77.60	102.7	6.18	48	0.51	3.99	3.77	10.95	10.83	17.35	17.29	P-21
31	30	38.0	2.21	2.21	0.90	1.99	1.99	10.0	10.0	2.8	5.58	7.43	3.16	18	0.50	6.57	6.38	11.65	11.55	17.35	17.35	
32	30	52.0	1.41	1.41	0.90	1.27	1.27	10.0	10.0	2.8	3.56	4.57	2.90	15	0.50	7.39	7.13	11.70	11.55	17.35	17.35	
33	30	424.0	0.00	42.73	0.90	0.00	38.46	10.0	19.8	1.9	74.21	101.6	5.91	48	0.50	6.11	3.99	12.68	11.55	28.33	17.35	
34	33	166.0	0.00	24.06	0.90	0.00	21.65	10.0	18.6	2.0	43.36	64.05	5.47	48	0.20	13.53	13.20	15.94	15.62	24.65	28.33	P-10
35	33	79.0	0.00	16.65	0.90	0.00	14.99	10.0	19.5	1.9	29.19	59.56	4.13	36	0.80	8.13	7.50	13.37	13.22	28.33	28.33	
36	33	10.0	2.02	2.02	0.90	1.82	1.82	10.0	10.0	2.8	5.10	18.19	2.89	18	3.00	9.30	9.00	13.24	13.22	29.00	28.33	
37	34	33.0	0.16	0.16	0.90	0.14	0.14	10.0	10.0	2.8	0.40	6.16	2.54	15	0.91	16.58	16.28	16.83	16.50	28.93	24.65	
38	34	168.0	0.00	23.90	0.90	0.00	21.51	10.0	17.8	2.1	44.24	64.62	4.70	48	0.20	13.87	13.53	16.60	16.41	28.93	24.65	P-9
39	35	38.0	2.36	2.36	0.90	2.12	2.12	10.0	10.0	2.8	5.96	7.43	3.38	18	0.50	12.19	12.00	13.69	13.57	28.33	28.33	
40	35	296.0	0.00	14.29	0.90	0.00	12.86	10.0	18.2	2.0	26.10	59.68	3.69	36	0.80	10.50	8.13	14.02	13.57	24.21	28.33	
41	38	35.0	2.85	2.85	0.90	2.57	2.57	10.0	10.0	2.8	7.20	15.76	4.71	24	0.49	16.04	15.87	17.00	16.87	28.93	28.93	
42	38	219.0	0.00	21.05	0.90	0.00	18.95	10.0	16.6	2.1	40.53	90.54	4.80	48	0.40	14.74	13.87	16.98	16.87	32.75	28.93	

Project File: GOLF-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 110 | Run Date: 12-12-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.53 (ft)

RW 12/12/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	40	74.0	0.60	0.60	0.90	0.54	0.54	10.0	10.0	2.8	1.52	4.11	1.24	15	0.41	12.55	12.25	14.25	14.20	24.23	24.21	
44	40	20.0	1.93	1.93	0.90	1.74	1.74	10.0	10.0	2.8	4.88	23.48	2.98	18	5.00	13.00	12.00	14.21	14.20	24.21	24.21	
45	40	40.0	0.00	11.76	0.90	0.00	10.58	10.0	18.1	2.0	21.58	36.68	4.40	30	0.80	11.32	11.00	14.32	14.20	24.23	24.21	
46	42	31.0	1.00	1.00	0.90	0.90	0.90	10.0	10.0	2.8	2.53	4.64	3.86	15	0.52	17.65	17.49	18.31	18.15	32.75	32.75	
47	42	41.0	1.52	1.52	0.90	1.37	1.37	10.0	10.0	2.8	3.84	5.62	4.81	15	0.76	17.80	17.49	18.59	18.25	32.75	32.75	
48	42	65.0	0.00	18.53	0.90	0.00	16.68	10.0	16.3	2.2	36.05	63.63	5.90	42	0.40	15.50	15.24	17.53	17.47	38.06	32.75	
49	45	40.0	0.78	0.78	0.90	0.70	0.70	10.0	10.0	2.8	1.97	5.59	1.61	15	0.75	12.87	12.57	14.65	14.62	24.25	24.23	
50	45	318.0	0.00	4.78	0.90	0.00	4.30	10.0	11.7	2.6	11.17	18.94	6.01	24	0.70	18.05	15.82	19.23	16.93	25.32	24.23	P-38
51	45	168.0	0.00	6.20	0.90	0.00	5.58	10.0	16.9	2.1	11.81	34.37	2.48	30	0.70	12.50	11.32	14.74	14.62	26.91	24.23	P-15
52	48	12.0	1.57	1.57	0.90	1.41	1.41	10.0	10.0	2.8	3.97	10.21	5.53	15	2.50	18.05	17.75	19.22	18.29	38.06	38.06	
53	48	21.0	0.13	0.13	0.90	0.12	0.12	10.0	10.0	2.8	0.33	7.72	1.58	15	1.43	18.05	17.75	18.28	18.13	38.06	38.06	
54	48	114.0	0.00	16.83	0.90	0.00	15.15	10.0	15.8	2.2	33.40	63.91	4.71	42	0.40	15.96	15.50	18.20	18.13	34.00	38.06	P-6
55	50	28.0	0.86	0.86	0.90	0.77	0.77	10.0	10.0	2.8	2.17	6.68	2.95	15	1.07	19.10	18.80	19.70	19.75	25.32	25.32	
56	50	184.0	0.00	1.48	0.90	0.00	1.33	10.0	10.2	2.8	3.70	8.76	3.37	18	0.70	19.83	18.55	20.56	19.75	27.30	25.32	P-37
57	50	12.0	2.44	2.44	0.90	2.20	2.20	10.0	10.0	2.8	6.17	16.60	4.65	18	2.50	18.85	18.55	19.80	19.75	25.32	25.32	
58	51	28.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	6.68	0.53	15	1.07	14.05	13.75	14.84	14.84	26.92	26.91	
59	51	210.0	0.00	6.00	0.90	0.00	5.40	10.0	15.5	2.2	12.00	34.31	3.96	30	0.70	13.97	12.50	15.13	14.84	30.94	26.91	
60	54	44.0	0.00	10.10	0.90	0.00	9.09	10.0	15.3	2.2	20.38	42.66	5.96	36	0.41	18.29	18.11	19.75	19.57	31.00	34.00	
61	54	52.0	0.00	4.64	0.90	0.00	4.18	10.0	15.5	2.2	9.31	14.37	4.87	24	0.40	18.32	18.11	19.49	19.28	31.00	34.00	
62	60	64.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	2.52	0.38	12	0.50	19.61	19.29	20.31	20.30	30.80	31.00	P-5
63	56	37.0	1.48	1.48	0.90	1.33	1.33	10.0	10.0	2.8	3.74	4.63	4.20	15	0.51	20.27	20.08	21.12	20.93	27.30	27.30	

Project File: GOLF-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 110 | Run Date: 12-12-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.53 (ft)

RLW 12/12/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	59	118.0	0.83	0.83	0.90	0.75	0.75	10.0	10.0	2.8	2.10	3.09	2.70	15	0.23	15.49	15.22	16.25	15.98	31.00	30.94	
65	59	180.0	0.00	5.17	0.90	0.00	4.65	10.0	14.7	2.3	10.67	39.28	5.81	24	3.02	19.90	14.47	21.06	15.58	29.30	30.94	P-13 to remain
66	65	37.0	0.00	2.29	0.90	0.00	2.06	10.0	14.5	2.3	4.77	7.72	2.70	18	0.54	20.10	19.90	21.60	21.56	29.30	29.30	
67	60	6.0	0.22	0.68	0.90	0.20	0.61	10.0	10.2	2.8	1.70	14.44	1.38	15	5.00	18.71	18.41	20.31	20.30	31.00	31.00	
68	61	6.0	0.39	0.39	0.90	0.35	0.35	10.0	10.0	2.8	0.99	21.90	0.80	15	11.50	18.35	17.66	19.86	19.86	31.00	31.00	
69	66	313.0	0.00	2.29	0.90	0.00	2.06	10.0	12.8	2.5	5.10	5.47	2.89	18	0.27	20.95	20.10	22.44	21.77	30.00	29.30	(E) to remain
70	60	216.0	0.00	9.32	0.90	0.00	8.39	10.0	14.0	2.4	19.78	46.28	4.79	36	0.48	19.15	18.11	20.57	20.30	32.00	31.00	P-3
71	70	60.0	0.00	9.26	0.90	0.00	8.33	10.0	13.6	2.4	19.94	42.18	4.30	36	0.40	19.39	19.15	21.16	21.13	32.90	32.00	
72	70	6.0	0.06	0.06	0.90	0.05	0.05	10.0	10.0	2.8	0.15	14.44	0.12	15	5.00	19.41	19.11	21.13	21.13	31.80	32.00	
73	71	54.0	0.24	1.69	0.90	0.22	1.52	10.0	10.1	2.8	4.25	12.92	5.64	12	13.17	27.50	20.39	28.37	21.49	32.90	32.90	
74	71	302.0	0.00	7.57	0.90	0.00	6.81	10.0	12.4	2.5	17.10	22.40	5.51	27	0.52	21.07	19.49	22.50	21.49	32.04	32.90	
75	26	169.0	0.00	2.27	0.90	0.00	2.04	10.0	10.2	2.8	5.67	7.45	3.21	18	0.50	7.85	7.00	9.34	8.91	21.29	20.96	
76	26	32.0	1.29	1.29	0.90	1.16	1.16	10.0	10.0	2.8	3.26	4.57	2.66	15	0.50	7.66	7.50	8.99	8.91	21.90	20.96	
77	75	32.0	1.05	1.05	0.90	0.94	0.94	10.0	10.0	2.8	2.65	4.57	2.35	15	0.50	8.51	8.35	9.54	9.50	22.00	21.29	
78	75	22.0	1.22	1.22	0.90	1.10	1.10	10.0	10.0	2.8	3.08	7.54	3.11	15	1.36	8.65	8.35	9.47	9.50	21.90	21.29	
79	69	120.0	0.00	0.80	0.90	0.00	0.72	10.0	11.5	2.6	1.88	3.33	1.53	15	0.27	21.27	20.95	22.67	22.57	30.00	30.00	(E) to remain
80	69	49.0	1.49	1.49	0.90	1.34	1.34	10.0	10.0	2.8	3.77	4.61	3.07	15	0.51	18.72	18.47	22.73	22.57	28.28	30.00	(E) to remain
81	79	35.0	0.32	0.47	0.90	0.29	0.42	10.0	10.9	2.7	1.14	9.33	1.27	15	2.09	22.00	21.27	22.70	22.71	30.00	30.00	(E) to remain
82	79	8.0	0.33	0.33	0.90	0.30	0.30	10.0	10.0	2.8	0.83	19.51	0.93	15	9.12	22.00	21.27	22.69	22.71	30.00	30.00	(E) to remain
83	74	186.0	0.00	5.34	0.90	0.00	4.81	10.0	11.7	2.6	12.47	15.99	4.26	24	0.50	22.00	21.07	23.63	23.14	29.09	32.04	
84	83	67.0	0.00	1.31	0.90	0.00	1.18	10.0	11.2	2.6	3.12	4.46	2.54	15	0.48	22.32	22.00	24.11	23.95	28.76	29.09	

Project File: GOLF-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 110 | Run Date: 12-12-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.53 (ft)

RLW 12/12/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
85	74	57.0	0.00	2.23	0.90	0.00	2.01	10.0	10.6	2.7	5.47	7.99	4.86	18	0.58	24.15	23.82	25.06	24.73	28.83	32.04	
86	83	18.0	4.03	4.03	0.90	3.63	3.63	10.0	10.0	2.8	10.18	13.56	5.76	18	1.67	22.30	22.00	24.12	23.95	30.60	29.09	
87	84	66.0	0.00	1.31	0.90	0.00	1.18	10.0	10.8	2.7	3.18	4.57	2.59	15	0.50	22.75	22.42	24.37	24.21	28.12	28.76	
88	85	33.0	0.44	0.44	0.90	0.40	0.40	10.0	10.0	2.8	1.11	6.16	0.99	15	0.91	24.45	24.15	25.44	25.43	28.77	28.83	
89	85	6.0	1.79	1.79	0.90	1.61	1.61	10.0	10.0	2.8	4.52	23.48	3.71	18	5.00	24.45	24.15	25.27	25.43	28.77	28.83	
90	87	33.0	0.32	0.32	0.90	0.29	0.29	10.0	10.0	2.8	0.81	6.16	0.78	15	0.91	23.60	23.30	24.48	24.47	28.70	28.12	
91	87	6.0	0.99	0.99	0.90	0.89	0.89	10.0	10.0	2.8	2.50	14.44	2.51	15	5.00	23.60	23.30	24.42	24.47	28.70	28.12	
92	6	39.0	2.22	2.22	0.90	2.00	2.00	10.0	10.0	2.8	5.61	7.52	3.17	18	0.51	1.77	1.57	5.24	5.13	10.30	11.33	
93	61	57.0	0.00	4.25	0.90	0.00	3.83	10.0	15.1	2.3	8.63	14.37	3.54	24	0.40	18.55	18.32	19.92	19.86	29.80	31.00	
94	93	276.0	0.00	4.25	0.90	0.00	3.83	10.0	13.5	2.4	9.18	14.34	4.24	24	0.40	19.66	18.55	20.78	20.14	28.40	29.80	
95	94	57.0	0.00	3.99	0.90	0.00	3.59	10.0	13.2	2.4	8.73	14.37	3.63	24	0.40	19.89	19.66	21.24	21.18	28.40	28.40	
96	94	48.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	8.03	1.28	12	5.08	23.00	20.56	23.21	21.18	28.00	28.40	
97	94	25.0	0.16	0.16	0.90	0.14	0.14	10.0	10.0	2.8	0.40	13.21	1.58	12	13.76	24.00	20.56	24.27	21.18	28.40	28.40	
98	95	237.0	0.00	3.99	0.90	0.00	3.59	10.0	11.9	2.6	9.24	14.24	4.19	24	0.40	20.83	19.89	21.99	21.48	29.40	28.40	
99	98	210.0	0.00	2.67	0.90	0.00	2.40	10.0	10.2	2.8	6.68	14.30	3.45	24	0.40	21.67	20.83	22.66	22.36	25.10	29.40	
100	98	18.0	1.32	1.32	0.90	1.19	1.19	10.0	10.0	2.8	3.34	6.87	4.25	12	3.72	21.50	20.83	22.50	22.36	25.50	29.40	
101	99	6.0	1.90	1.90	0.90	1.71	1.71	10.0	10.0	2.8	4.80	7.96	6.11	12	5.00	21.97	21.67	23.06	22.95	25.06	25.10	
102	99	32.0	0.77	0.77	0.90	0.69	0.69	10.0	10.0	2.8	1.95	3.45	2.48	12	0.94	21.97	21.67	23.04	22.95	24.76	25.10	
103	65	37.0	1.34	1.34	0.90	1.21	1.21	10.0	10.0	2.8	3.39	18.84	3.63	15	8.51	23.00	19.85	23.74	21.56	29.20	29.30	
104	65	106.0	0.37	1.54	0.90	0.33	1.39	10.0	10.7	2.7	3.76	10.21	3.88	15	2.50	22.50	19.85	23.28	21.56	29.00	29.30	
105	104	43.0	0.32	0.32	0.90	0.29	0.29	10.0	10.0	2.8	0.81	2.49	1.03	12	0.49	22.81	22.60	23.81	23.79	28.60	29.00	

Project File: GOLF-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 110 | Run Date: 12-12-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.53 (ft)

RLW 12/12/03

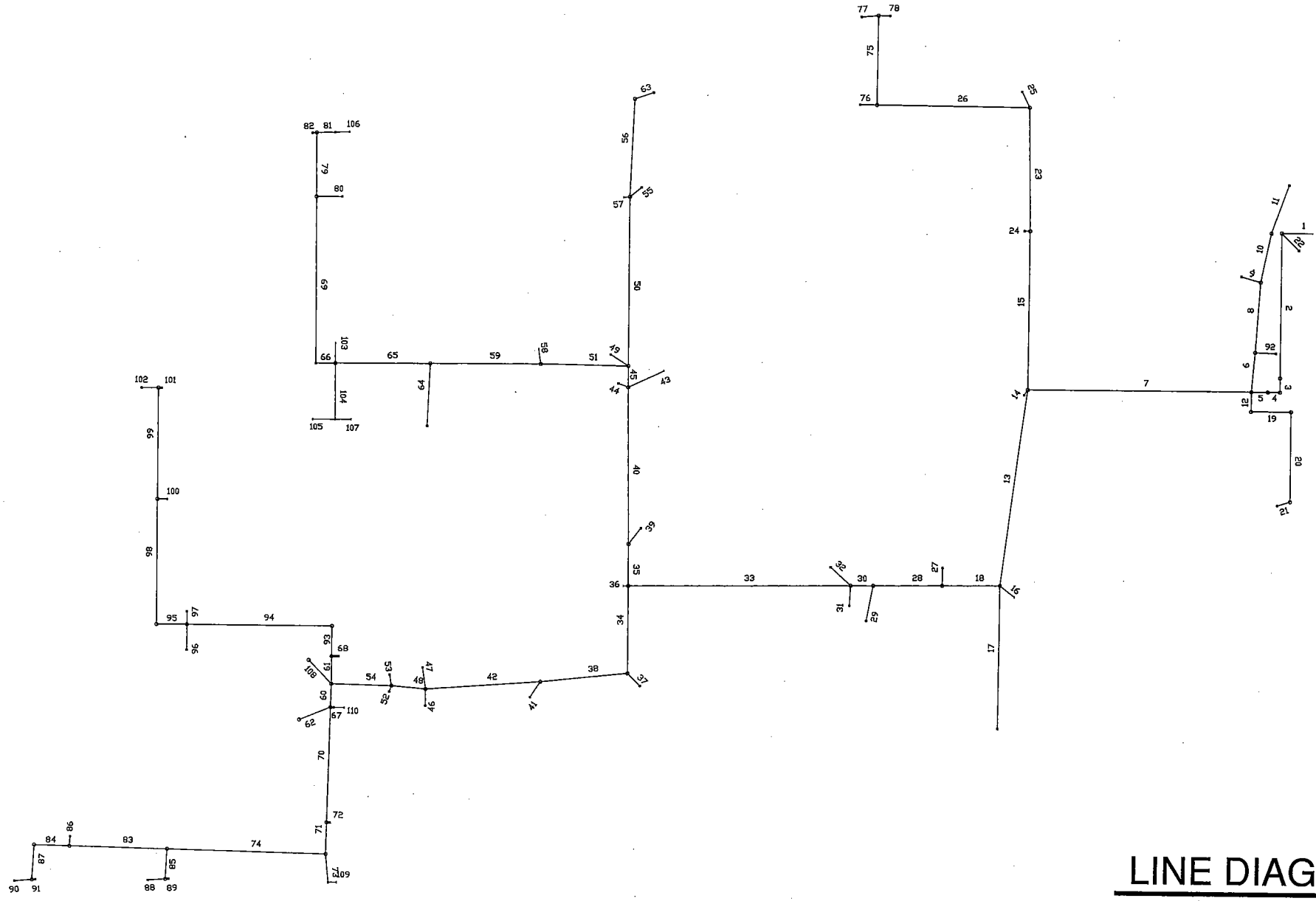
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
106	81	27.0	0.15	0.15	0.90	0.14	0.14	10.0	10.0	2.8	0.38	3.75	0.93	12	1.11	22.30	22.00	22.71	22.72	26.30	30.00	
107	104	30.0	0.85	0.85	0.90	0.77	0.77	10.0	10.0	2.8	2.15	4.57	1.86	15	0.50	22.75	22.60	23.81	23.79	29.00	29.00	
108	54	62.0	2.09	2.09	0.90	1.88	1.88	10.0	10.0	2.8	5.28	7.43	4.56	18	0.50	19.17	18.86	20.11	19.79	29.70	34.00	
109	73	16.0	1.45	1.45	0.90	1.31	1.31	10.0	10.0	2.8	3.66	4.57	2.99	15	0.50	27.58	27.50	29.22	29.17	32.40	32.90	
110	67	20.0	0.46	0.46	0.90	0.41	0.41	10.0	10.0	2.8	1.16	2.52	1.48	12	0.50	18.69	18.59	20.34	20.32	31.00	31.00	

Project File: GOLF-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 110 | Run Date: 12-12-2003

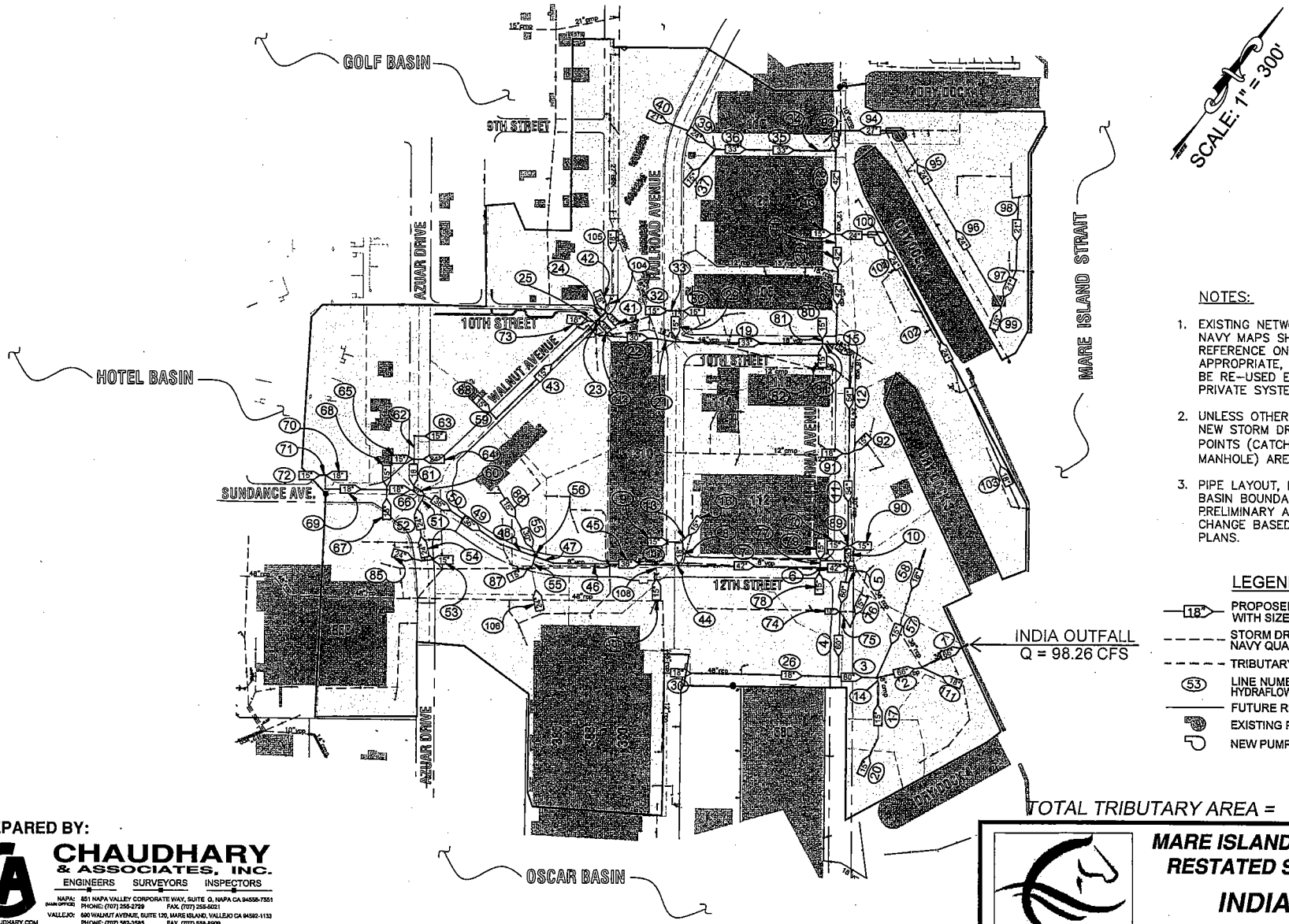
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 0.53 (ft)

RJW 12/12/03



LINE DIAGRAM

GOLF BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- 53 — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY
- EXISTING PUMP STATION
- NEW PUMP STATION

TOTAL TRIBUTARY AREA = **62.40** Acres

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.
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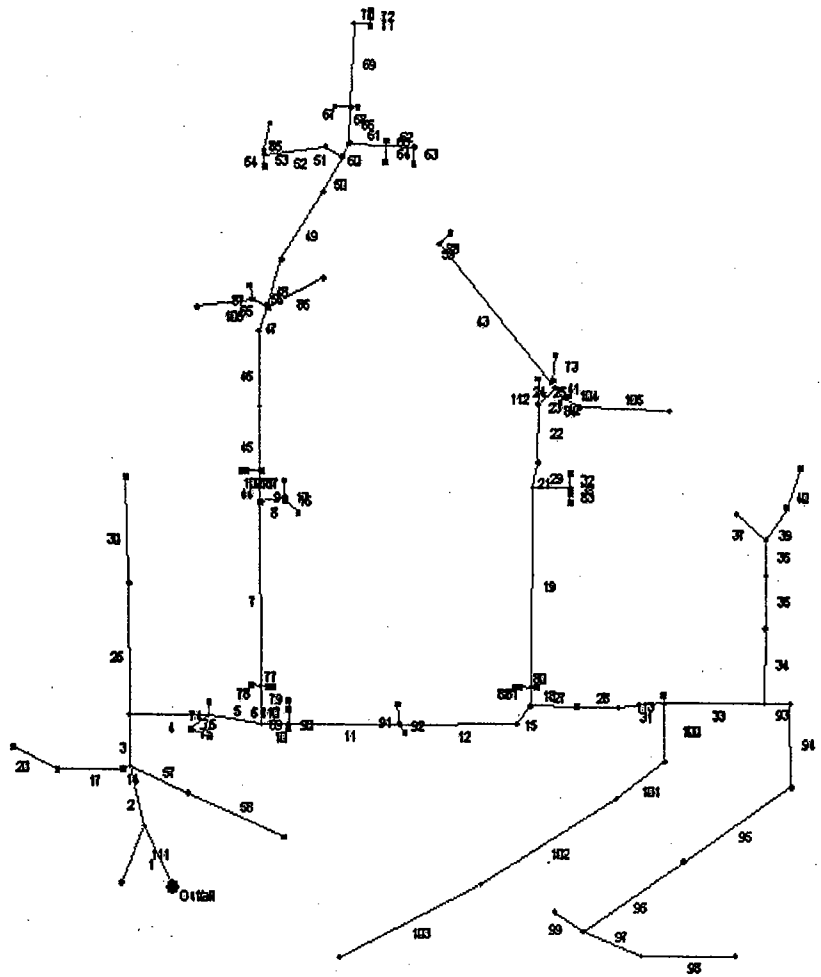
\\0008077\HYDROLOGY\SPEXHIBITS\INDIABASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

INDIA BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: INDIA-Outfall.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 113	12-03-2003

11/26/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(In/hr)	(cfs)	(cfs)	(ft/s)	Size (In)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	156.0	0.00	82.89	0.90	0.00	72.49	10.0	24.5	1.7	123.1	142.3	6.73	66	0.18	-5.12	-5.40	-1.16	-1.44	7.60	30.50	
2	1	141.0	0.00	81.58	0.90	0.00	71.31	10.0	23.9	1.7	122.7	141.4	5.76	66	0.18	-4.87	-5.12	-0.29	-0.46	7.50	7.60	
3	2	117.0	0.00	78.55	0.90	0.00	68.58	10.0	23.6	1.7	119.2	138.3	6.07	60	0.28	-4.54	-4.87	0.46	0.23	7.70	7.50	
4	3	199.0	0.00	74.52	0.90	0.00	64.95	10.0	22.9	1.8	114.8	138.2	5.85	60	0.28	-3.98	-4.54	1.42	1.03	7.50	7.70	
5	4	134.0	0.00	68.45	0.90	0.00	59.49	10.0	22.5	1.8	106.4	136.9	5.42	60	0.28	-3.61	-3.98	2.17	1.95	7.90	7.50	
6	5	86.0	0.00	25.10	0.90	0.00	20.48	10.0	19.0	2.0	40.51	44.73	4.21	42	0.20	-2.41	-2.58	2.77	2.63	6.30	7.90	
7	6	419.0	0.00	23.53	0.90	0.00	19.06	10.0	17.3	2.1	39.87	45.05	4.14	42	0.20	-1.57	-2.41	3.70	3.05	10.00	6.30	Inserted Line
8	7	64.0	0.00	2.68	0.90	0.00	2.41	10.0	10.6	2.7	6.58	7.43	3.72	18	0.50	0.75	0.43	4.36	4.11	9.70	10.00	
9	8	38.0	1.64	1.64	0.90	1.48	1.48	10.0	10.0	2.8	4.14	4.57	3.38	15	0.50	1.19	1.00	4.73	4.57	9.60	9.70	
10	5	69.0	0.00	43.35	0.90	0.00	39.02	10.0	22.2	1.8	70.36	78.52	4.42	54	0.16	-3.00	-3.11	2.72	2.63	7.40	7.90	
11	10	281.0	0.00	42.20	0.90	0.00	37.98	10.0	21.0	1.9	70.76	78.70	4.45	54	0.16	-2.55	-3.00	3.39	3.02	7.00	7.40	Inserted Line
12	11	294.0	0.50	36.93	0.90	0.45	33.24	10.0	19.7	1.9	64.37	82.71	4.05	54	0.18	-2.03	-2.55	4.01	3.70	7.00	7.00	Inserted Line
13	8	6.0	0.40	1.04	0.90	0.36	0.94	10.0	10.5	2.7	2.56	4.57	2.09	15	0.50	1.22	1.19	4.58	4.57	9.60	9.70	
14	2	19.0	0.00	1.28	0.90	0.00	1.15	10.0	12.7	2.5	2.86	3.63	2.33	15	0.32	-1.06	-1.12	0.27	0.23	7.00	7.50	
15	12	56.0	0.00	36.43	0.90	0.00	32.79	10.0	19.5	2.0	63.99	69.53	4.02	54	0.12	-1.96	-2.03	4.26	4.20	7.00	7.00	
16	13	43.0	0.64	0.64	0.90	0.58	0.58	10.0	10.0	2.8	1.62	4.51	1.32	15	0.49	1.18	0.97	4.68	4.66	7.80	9.60	
17	14	165.0	0.67	1.28	0.90	0.60	1.15	10.0	11.6	2.6	3.00	3.55	2.45	15	0.30	-0.56	-1.06	0.67	0.33	6.50	7.00	
18	15	42.0	0.00	13.81	0.90	0.00	12.43	10.0	18.1	2.0	25.28	33.64	4.26	33	0.40	-0.54	-0.71	4.55	4.45	7.40	7.00	
19	18	453.0	0.00	11.75	0.90	0.00	10.58	10.0	16.3	2.2	22.89	33.43	3.85	33	0.40	1.27	-0.54	5.68	4.83	13.40	7.40	Inserted Line
20	17	121.0	0.61	0.61	0.90	0.55	0.55	10.0	10.0	2.8	1.54	3.52	1.37	15	0.30	-0.20	-0.56	0.79	0.73	6.80	6.50	
21	19	58.0	0.00	10.22	0.90	0.00	9.20	10.0	16.1	2.2	20.07	25.83	5.81	30	0.40	5.77	5.54	7.42	7.20	12.80	13.40	

Project File: INDIA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 113 | Run Date: 11-25-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.44 (ft)

RW 4/26/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	21	132.0	0.00	10.22	0.90	0.00	9.20	10.0	15.6	2.2	20.42	25.99	5.43	30	0.40	6.30	5.77	8.00	7.66	13.60	12.80	
23	22	57.0	0.00	8.04	0.90	0.00	7.24	10.0	15.3	2.2	16.22	26.05	3.87	30	0.40	6.53	6.30	8.44	8.39	20.40	13.60	
24	23	15.0	0.00	3.53	0.00	0.00	3.18	10.0	15.2	2.2	7.14	10.02	4.51	21	0.40	13.09	13.03	14.19	14.13	20.40	20.40	Inserted Line
25	24	7.0	0.59	2.81	0.90	0.53	2.53	10.0	10.3	2.8	7.00	21.74	4.89	18	4.29	13.64	13.34	14.65	14.66	20.40	20.40	
26	3	299.0	0.00	4.03	0.90	0.00	3.63	10.0	10.7	2.7	9.85	10.50	5.57	18	1.00	1.84	-1.15	3.66	1.03	9.10	7.70	Inserted Line
27	15	116.0	0.32	22.62	0.90	0.29	20.36	10.0	19.0	2.0	40.34	50.30	4.19	42	0.25	-0.42	-0.71	4.64	4.45	9.40	7.00	
28	27	105.0	1.35	22.30	0.90	1.22	20.07	10.0	18.5	2.0	40.34	50.06	4.19	42	0.25	-0.16	-0.42	4.94	4.77	8.60	9.40	Inserted Line
29	19	94.0	0.00	1.53	0.90	0.00	1.38	10.0	11.1	2.7	3.67	3.83	2.99	15	0.35	2.85	2.52	6.21	5.91	13.70	13.40	
30	26	240.0	4.03	4.03	0.90	3.63	3.63	10.0	10.0	2.8	10.18	10.50	5.76	18	1.00	4.24	1.84	5.99	3.73	8.80	9.10	
31	28	115.0	1.35	20.95	0.90	1.22	18.86	10.0	18.0	2.0	38.52	44.99	4.00	42	0.20	0.07	-0.16	5.15	4.98	8.50	8.60	
32	29	35.0	0.70	0.70	0.90	0.63	0.63	10.0	10.0	2.8	1.77	5.98	1.44	15	0.86	3.35	3.05	6.38	6.35	13.70	13.70	
33	31	254.0	0.00	14.02	0.90	0.00	12.62	10.0	16.4	2.2	27.20	45.08	2.83	42	0.20	0.58	0.07	5.59	5.40	8.50	8.50	
34	33	170.0	1.40	7.88	0.90	1.26	7.09	10.0	12.1	2.5	18.04	23.65	3.04	33	0.20	0.92	0.58	5.91	5.71	10.10	8.50	
35	34	120.0	0.00	6.48	0.90	0.00	5.83	10.0	11.3	2.6	15.36	23.65	2.59	33	0.20	1.16	0.92	6.03	5.93	10.00	10.10	Inserted Line
36	35	81.0	0.00	6.48	0.90	0.00	5.83	10.0	10.8	2.7	15.74	28.79	2.65	33	0.30	1.40	1.16	6.12	6.05	9.40	10.00	Inserted Line
37	36	95.0	1.39	1.39	0.90	1.25	1.25	10.0	10.0	2.8	3.51	3.57	2.86	15	0.31	2.83	2.54	6.48	6.20	9.80	9.40	
38	29	12.0	0.66	0.83	0.90	0.59	0.75	10.0	11.0	2.7	2.00	10.21	1.63	15	2.50	3.35	3.05	6.36	6.35	13.70	13.70	
39	36	91.0	1.57	5.09	0.90	1.41	4.58	10.0	10.4	2.7	12.59	14.42	4.01	24	0.41	1.77	1.40	6.48	6.20	15.00	9.40	
40	39	97.0	3.52	3.52	0.90	3.17	3.17	10.0	10.0	2.8	8.89	10.04	4.71	21	0.40	7.93	7.54	9.21	8.82	23.40	15.00	
41	23	33.0	0.00	4.51	0.90	0.00	4.06	10.0	11.7	2.6	10.50	15.75	3.34	24	0.48	6.69	6.53	8.76	8.69	20.00	20.40	
42	41	13.0	2.37	2.37	0.90	2.13	2.13	10.0	10.0	2.8	5.99	15.95	3.39	18	2.31	7.49	7.19	8.98	8.94	20.00	20.00	

Project File: INDIA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 113 | Run Date: 11-25-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.44 (ft)

RLW 11/26/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
43	24	420.0	0.00	0.72	0.90	0.00	0.65	10.0	10.4	2.7	1.78	4.57	2.51	15	0.50	15.44	13.34	15.97	14.66	22.90	20.40	
44	7	70.0	0.00	20.85	0.90	0.00	16.65	10.0	17.0	2.1	35.11	36.53	4.97	36	0.30	-0.86	-1.07	4.30	4.11	12.60	10.00	
45	44	146.0	2.35	19.60	0.00	0.00	15.53	10.0	16.5	2.1	33.32	36.61	4.71	36	0.30	-0.42	-0.86	5.05	4.68	0.00	12.60	Inserted Line
46	45	171.0	0.00	17.25	0.90	0.00	15.53	10.0	15.9	2.2	34.01	36.42	4.81	36	0.30	0.09	-0.42	5.54	5.10	0.00	0.00	Inserted Line
47	46	59.0	0.00	17.25	0.90	0.00	15.53	10.0	15.7	2.2	34.25	36.84	4.85	36	0.31	0.27	0.09	5.86	5.71	12.40	0.00	
48	47	113.0	0.00	10.06	0.90	0.00	9.05	10.0	15.1	2.3	20.44	42.09	2.89	36	0.40	0.72	0.27	6.33	6.23	14.80	12.40	
49	48	186.0	0.00	10.06	0.90	0.00	9.05	10.0	14.1	2.3	21.23	42.07	3.00	36	0.40	1.46	0.72	6.58	6.39	21.20	14.80	
50	49	92.0	0.00	10.06	0.90	0.00	9.05	10.0	13.6	2.4	21.63	42.30	6.02	36	0.40	13.53	13.16	15.05	14.68	25.00	21.20	
51	50	47.0	0.00	4.90	0.90	0.00	4.41	10.0	11.6	2.6	11.48	14.38	5.09	24	0.40	15.26	15.07	16.61	16.42	25.50	25.00	
52	51	157.0	0.00	4.90	0.90	0.00	4.41	10.0	10.9	2.7	11.85	14.33	4.60	24	0.40	15.89	15.26	17.32	16.91	24.80	25.50	
53	52	25.0	0.22	0.22	0.90	0.20	0.20	10.0	10.0	2.8	0.56	7.07	0.61	15	1.20	16.94	16.64	17.70	17.70	24.80	24.80	
54	52	10.0	0.48	4.68	0.90	0.43	4.21	10.0	10.3	2.8	11.64	15.99	3.92	24	0.50	15.94	15.89	17.71	17.70	24.80	24.80	
55	47	37.0	0.30	5.16	0.90	0.27	4.64	10.0	10.8	2.7	12.55	20.23	2.56	30	0.24	0.36	0.27	6.26	6.23	13.10	12.40	
56	47	6.0	0.32	2.03	0.90	0.29	1.83	10.0	10.7	2.7	4.95	5.89	4.04	15	0.83	2.07	2.02	6.26	6.23	12.40	12.40	
57	2	159.0	0.00	1.75	0.90	0.00	1.58	10.0	11.7	2.6	4.08	3.55	3.32	15	0.30	-0.89	-1.37	0.87	0.23	0.00	7.50	
58	57	261.0	1.75	1.75	0.90	1.58	1.58	10.0	10.0	2.8	4.42	5.74	2.52	18	0.30	-0.11	-0.89	1.32	0.89	22.90	0.00	
59	43	7.0	0.00	0.72	0.90	0.00	0.65	10.0	10.4	2.8	1.79	13.37	2.98	15	4.29	15.74	15.44	16.28	16.17	22.90	22.90	
60	50	36.0	0.00	5.16	0.90	0.00	4.64	10.0	13.5	2.4	11.17	14.10	4.97	24	0.39	14.67	14.53	16.01	15.88	25.50	25.00	
61	60	93.0	0.00	2.37	0.90	0.00	2.13	10.0	13.0	2.5	5.23	6.62	4.16	18	0.40	20.09	19.72	21.09	20.73	26.90	25.50	
62	61	71.0	0.00	0.33	0.90	0.00	0.30	10.0	10.9	2.7	0.80	4.13	0.71	15	0.41	20.38	20.09	21.37	21.36	28.00	26.90	
63	62	37.0	0.33	0.33	0.90	0.30	0.30	10.0	10.0	2.8	0.83	4.50	1.30	15	0.49	20.81	20.63	21.39	21.38	28.00	28.00	

Project File: INDIA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 113 | Run Date: 11-25-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.44 (ft)

RAW 11/26/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(In/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	61	37.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	4.63	0.26	15	0.51	20.53	20.34	21.36	21.36	26.90	26.90	
65	61	12.0	1.94	1.94	0.90	1.75	1.75	10.0	10.0	2.8	4.90	10.21	4.92	15	2.50	20.64	20.34	21.53	21.36	26.90	26.90	
66	60	83.0	0.00	2.79	0.90	0.00	2.51	10.0	11.7	2.6	6.52	7.47	4.58	18	0.51	15.59	15.17	16.68	16.34	27.00	25.50	
67	66	41.0	0.26	0.26	0.90	0.23	0.23	10.0	10.0	2.8	0.66	5.52	2.80	15	0.73	19.69	19.39	20.01	19.68	27.00	27.00	
68	66	18.0	0.23	0.23	0.90	0.21	0.21	10.0	10.0	2.8	0.58	8.34	3.20	15	1.67	19.69	19.39	20.00	19.61	27.10	27.00	
69	66	189.0	0.00	2.30	0.90	0.00	2.07	10.0	10.7	2.7	5.63	7.41	3.82	18	0.50	16.53	15.59	17.55	17.03	30.30	27.00	
70	69	41.0	0.00	2.30	0.90	0.00	2.07	10.0	10.5	2.7	5.68	7.52	3.61	18	0.51	16.74	16.53	17.93	17.85	30.20	30.30	
71	70	6.0	1.72	1.72	0.90	1.55	1.55	10.0	10.0	2.8	4.35	14.44	6.88	15	5.00	20.84	20.54	22.60	21.01	30.10	30.20	
72	70	33.0	0.58	0.58	0.90	0.52	0.52	10.0	10.0	2.8	1.47	6.16	3.70	15	0.91	20.84	20.54	21.33	20.96	30.50	30.20	
73	25	58.0	2.22	2.22	0.90	2.00	2.00	10.0	10.0	2.8	5.61	7.43	3.23	18	0.50	13.93	13.64	15.32	15.17	20.40	20.40	
74	4	28.0	3.78	3.78	0.90	3.40	3.40	10.0	10.0	2.8	9.55	10.87	5.41	18	1.07	-0.25	-0.55	2.18	1.95	6.70	7.50	
75	4	56.0	0.32	2.29	0.90	0.29	2.06	10.0	10.2	2.8	5.73	6.46	4.67	15	1.00	0.01	-0.55	2.39	1.95	7.00	7.50	
76	75	50.0	1.97	1.97	0.90	1.77	1.77	10.0	10.0	2.8	4.98	5.63	4.06	15	0.76	0.39	0.01	3.20	2.90	7.00	7.00	
77	6	18.0	0.35	1.22	0.90	0.32	1.10	10.0	10.1	2.8	3.07	8.34	2.50	15	1.67	0.10	-0.20	3.09	3.05	5.90	6.30	
78	6	25.0	0.35	0.35	0.90	0.32	0.32	10.0	10.0	2.8	0.88	7.07	0.72	15	1.20	0.10	-0.20	3.05	3.05	6.30	6.30	
79	77	12.0	0.87	0.87	0.90	0.78	0.78	10.0	10.0	2.8	2.20	4.57	1.79	15	0.50	0.16	0.10	3.15	3.14	5.90	5.90	
80	18	14.0	0.46	0.46	0.90	0.41	0.41	10.0	10.0	2.8	1.16	9.45	0.95	15	2.14	1.26	0.96	4.83	4.83	7.30	7.40	
81	18	29.0	0.47	1.60	0.90	0.42	1.44	10.0	10.1	2.8	4.03	6.57	3.28	15	1.03	1.26	0.96	4.94	4.83	7.30	7.40	
82	81	12.0	1.13	1.13	0.90	1.02	1.02	10.0	10.0	2.8	2.86	4.57	2.33	15	0.50	1.32	1.26	5.05	5.02	7.30	7.30	
83	38	20.0	0.17	0.17	0.90	0.15	0.15	10.0	10.0	2.8	0.43	4.57	0.35	15	0.50	3.70	3.60	6.38	6.38	9.80	13.70	
84	41	12.0	0.32	0.32	0.90	0.29	0.29	10.0	10.0	2.8	0.81	4.57	0.66	15	0.50	7.50	7.44	8.94	8.94	19.60	20.00	

Project File: INDIA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 113 | Run Date: 11-25-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.44 (ft)

RLW 11/26/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
85	54	66.0	4.20	4.20	0.90	3.78	3.78	10.0	10.0	2.8	10.61	15.99	3.55	24	0.50	16.27	15.94	17.98	17.88	25.40	24.80	
86	56	154.0	1.71	1.71	0.90	1.54	1.54	10.0	10.0	2.8	4.32	5.58	3.52	15	0.75	3.20	2.05	7.23	6.54	15.30	12.40	
87	55	32.0	1.10	1.10	0.90	0.99	0.99	10.0	10.0	2.8	2.78	3.23	2.27	15	0.25	0.44	0.36	6.45	6.39	13.10	13.10	
88	59	32.0	0.72	0.72	0.90	0.65	0.65	10.0	10.0	2.8	1.82	4.57	3.47	15	0.50	15.90	15.74	16.44	16.30	23.30	22.90	
89	10	34.0	0.36	0.78	0.90	0.32	0.70	10.0	10.3	2.8	1.94	6.07	1.58	15	0.88	0.11	-0.19	3.05	3.02	6.60	7.40	
90	10	9.0	0.37	0.37	0.90	0.33	0.33	10.0	10.0	2.8	0.93	11.79	0.76	15	3.33	0.11	-0.19	3.03	3.02	7.30	7.40	
91	11	45.0	3.53	3.53	0.90	3.18	3.18	10.0	10.0	2.8	8.92	10.50	5.05	18	1.00	0.43	-0.02	4.02	3.70	7.30	7.00	
92	11	22.0	1.74	1.74	0.90	1.57	1.57	10.0	10.0	2.8	4.40	5.51	3.58	15	0.73	0.39	0.23	3.80	3.70	7.40	7.00	
93	33	63.0	0.00	6.14	0.90	0.00	5.53	10.0	16.0	2.2	12.07	15.60	3.04	27	0.25	1.24	1.08	5.81	5.71	9.60	8.50	
94	93	189.0	0.96	6.14	0.90	0.86	5.53	10.0	15.0	2.3	12.55	15.44	3.16	27	0.25	1.71	1.24	6.26	5.95	8.90	9.60	
95	94	322.0	0.00	5.18	0.90	0.00	4.66	10.0	13.4	2.4	11.25	12.41	3.58	24	0.30	-2.38	-3.35	7.19	6.39	7.70	8.90	
96	95	300.0	0.00	5.18	0.90	0.00	4.66	10.0	12.0	2.6	11.91	12.39	3.79	24	0.30	-1.48	-2.38	8.05	7.22	7.80	7.70	
97	96	155.0	0.68	3.61	0.90	0.61	3.25	10.0	11.3	2.6	8.58	8.63	3.57	21	0.30	-1.02	-1.48	8.73	8.28	7.30	7.80	
98	97	239.0	2.93	2.93	0.90	2.64	2.64	10.0	10.0	2.8	7.40	9.11	3.08	21	0.33	0.07	-0.72	9.34	8.82	7.40	7.30	
99	96	84.0	1.57	1.57	0.90	1.41	1.41	10.0	10.0	2.8	3.97	4.11	3.23	15	0.40	0.91	0.57	8.59	8.28	7.40	7.80	
100	31	131.0	0.00	4.33	0.90	0.00	3.90	10.0	15.4	2.2	8.72	10.08	2.77	24	0.20	1.08	0.82	5.60	5.40	7.90	8.50	
101	100	150.0	0.00	4.33	0.90	0.00	3.90	10.0	14.5	2.3	9.01	10.11	2.87	24	0.20	-1.52	-1.82	5.94	5.70	8.00	7.90	
102	101	395.0	2.36	4.33	0.90	2.12	3.90	10.0	12.3	2.5	9.83	10.11	3.13	24	0.20	-0.73	-1.52	6.70	5.96	8.20	8.00	
103	102	394.0	1.97	1.97	0.90	1.77	1.77	10.0	10.0	2.8	4.98	5.75	2.82	18	0.30	0.95	-0.23	7.61	6.72	7.50	8.20	
104	41	44.0	0.00	1.82	0.90	0.00	1.64	10.0	11.4	2.6	4.29	6.72	2.43	18	0.41	6.87	6.69	9.01	8.94	20.00	20.00	
105	104	226.0	1.82	1.82	0.90	1.64	1.64	10.0	10.0	2.8	4.60	6.63	2.60	18	0.40	7.77	6.87	9.49	9.05	20.00	20.00	

Project File: INDIA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 113 | Run Date: 11-25-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.44 (ft)

RLW 9/24/03

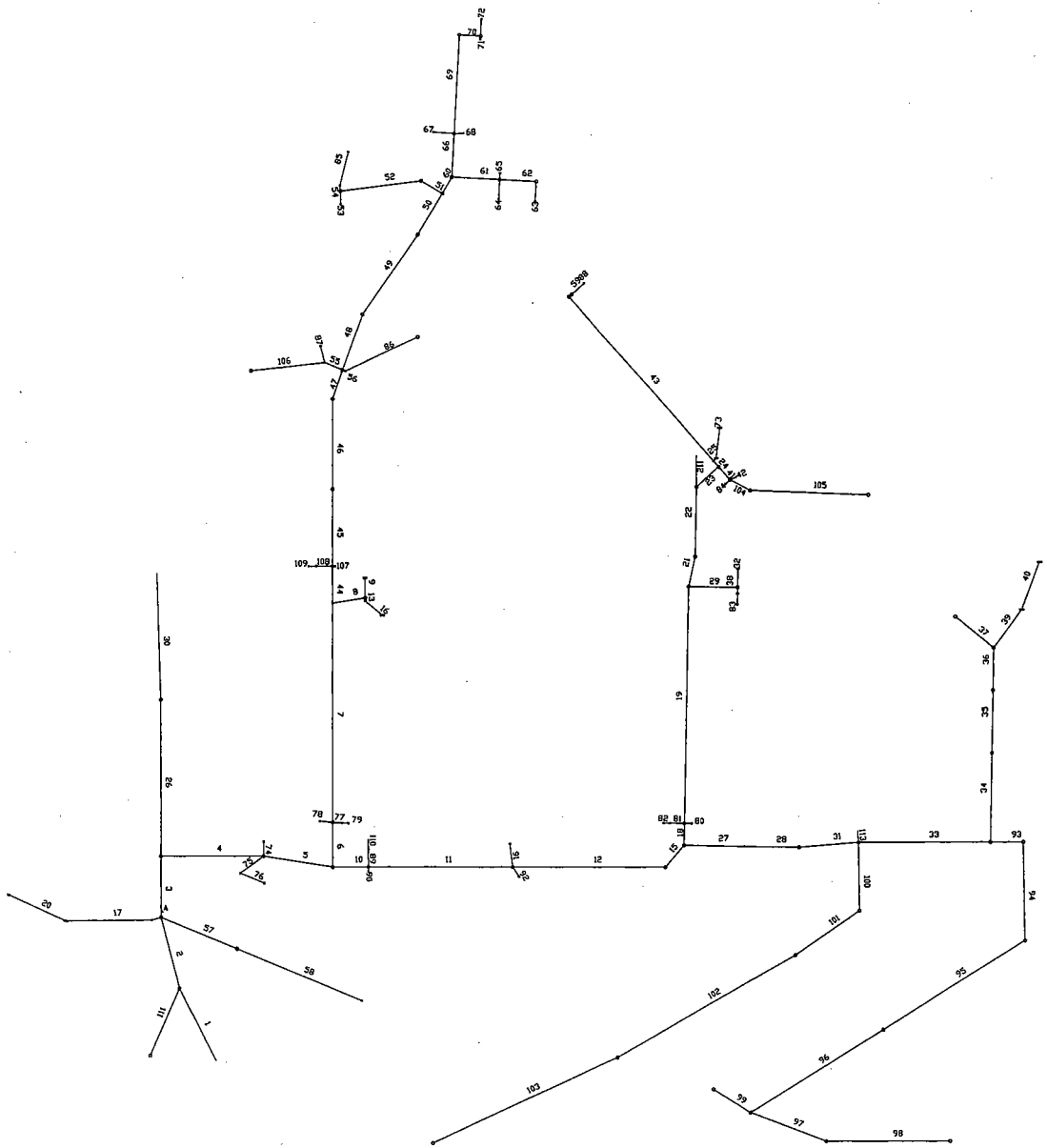
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
106	55	142.0	3.76	3.76	0.90	3.38	3.38	10.0	10.0	2.8	9.50	11.39	3.02	24	0.25	1.30	0.94	6.64	6.39	12.00	13.10	
107	44	5.0	0.38	0.38	0.90	0.34	0.34	10.0	10.0	2.8	0.96	5.00	0.78	15	0.60	0.12	0.09	4.68	4.68	12.50	12.60	
108	44	31.0	0.29	0.87	0.90	0.26	0.78	10.0	10.2	2.8	2.18	4.64	1.77	15	0.52	0.25	0.09	4.72	4.68	12.50	12.60	
109	108	15.0	0.58	0.58	0.90	0.52	0.52	10.0	10.0	2.8	1.47	4.41	1.19	15	0.47	0.32	0.25	4.75	4.74	12.50	12.50	
110	89	18.0	0.42	0.42	0.90	0.38	0.38	10.0	10.0	2.8	1.06	4.57	0.86	15	0.50	0.20	0.11	3.08	3.07	7.30	6.60	
111	1	141.0	1.31	1.31	0.90	1.18	1.18	10.0	10.0	2.8	3.31	5.73	3.35	18	0.30	0.52	0.10	1.34	0.92	7.60	7.60	
112	22	57.0	2.18	2.18	0.90	1.96	1.96	10.0	10.0	2.8	5.51	5.73	3.12	18	0.30	6.47	6.30	8.54	8.39	17.00	13.60	
113	31	20.0	1.25	1.25	0.90	1.13	1.13	10.0	10.0	2.8	3.16	3.54	2.57	15	0.30	1.38	1.32	5.45	5.40	8.50	8.50	

Project File: INDIA-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 113 | Run Date: 11-25-2003

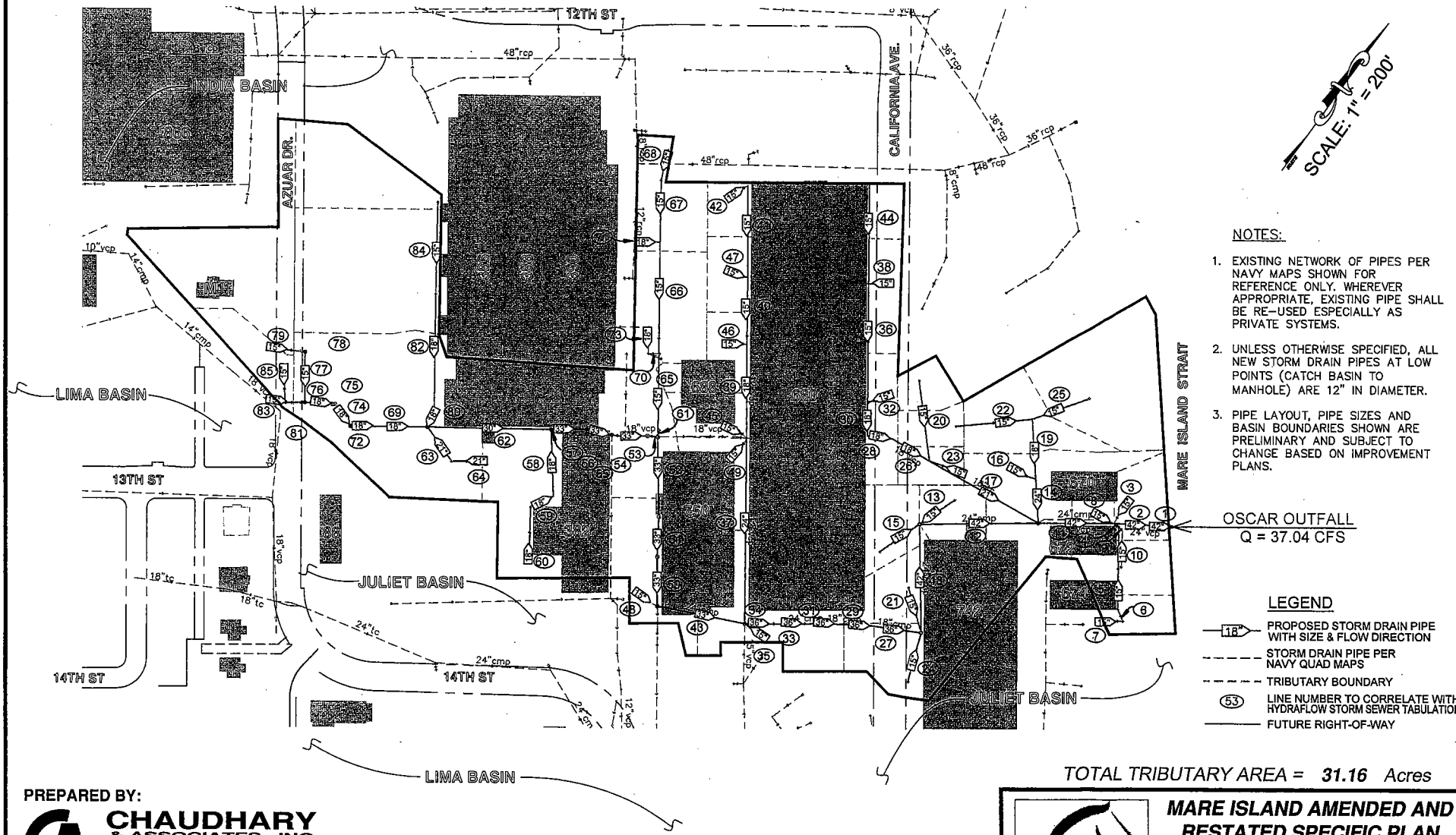
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.44 (ft)

RLW 11/26/03



LINE DIAGRAM

INDIA BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **31.16** Acres

PREPARED BY:

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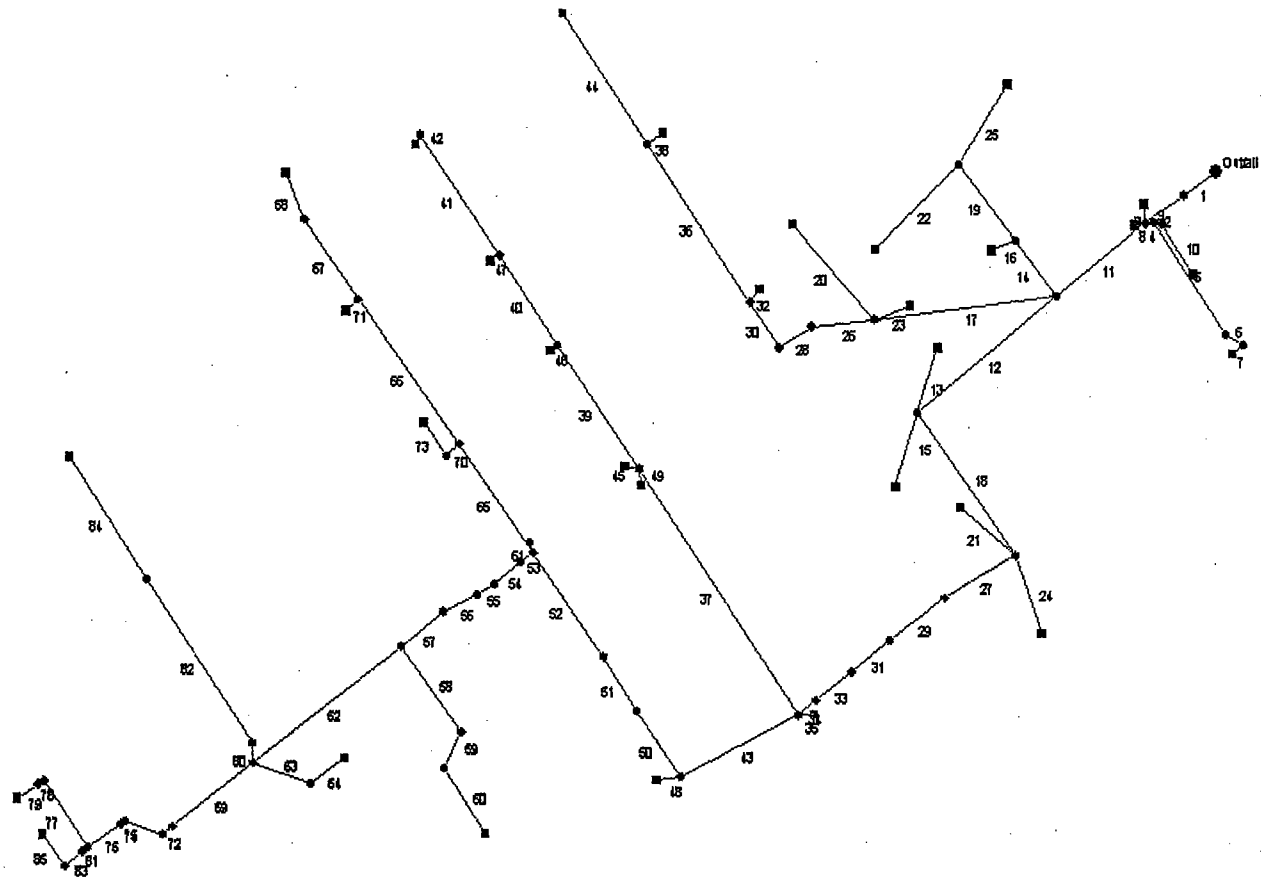
\0008077\HYDROLOGY\SPEXHIBITS\OSCARBASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

OSCAR BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: Oscar-Outfall.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 85	10-21-2003

RW 10/21/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	56.0	0.00	31.16	0.90	0.00	28.04	10.0	36.3	1.3	37.04	38.03	4.50	42	0.14	-4.32	-4.40	-1.52	-1.61	5.00	5.00	
2	1	66.0	0.00	31.16	0.90	0.00	28.04	10.0	36.1	1.3	37.20	39.16	4.45	42	0.15	-4.22	-4.32	-1.39	-1.48	5.00	5.00	
3	2	25.0	0.45	0.45	0.90	0.41	0.41	10.0	10.0	2.8	1.14	4.66	1.33	15	0.52	-1.84	-1.97	-1.07	-1.08	5.00	5.00	
4	2	13.0	0.00	0.82	0.90	0.00	0.74	10.0	16.1	2.2	1.61	2.53	1.31	15	0.15	-2.70	-2.72	-1.07	-1.08	5.00	5.00	
5	4	175.0	0.00	0.30	0.90	0.00	0.27	10.0	11.3	2.6	0.71	2.89	0.72	15	0.20	-1.85	-2.20	-1.02	-1.05	5.00	5.00	
6	5	28.0	0.00	0.30	0.90	0.00	0.27	10.0	10.5	2.7	0.74	2.99	0.89	15	0.21	-1.79	-1.85	-1.01	-1.02	5.00	5.00	
7	6	19.0	0.30	0.30	0.90	0.27	0.27	10.0	10.0	2.8	0.76	4.44	1.69	15	0.47	-1.45	-1.54	-1.00	-1.00	5.00	5.00	
8	2	16.0	0.23	0.23	0.90	0.21	0.21	10.0	10.0	2.8	0.58	4.57	0.65	15	0.50	-1.89	-1.97	-1.08	-1.08	7.00	5.00	
9	4	11.0	0.00	0.52	0.90	0.00	0.47	10.0	11.2	2.7	1.24	4.77	1.36	15	0.55	-1.89	-1.95	-1.05	-1.05	7.00	5.00	
10	9	77.0	0.52	0.52	0.90	0.47	0.47	10.0	10.0	2.8	1.31	4.54	2.00	15	0.49	-1.51	-1.89	-0.97	-1.02	7.00	7.00	
11	2	160.0	0.00	29.66	0.90	0.00	26.69	10.0	35.5	1.3	35.79	36.45	3.95	42	0.13	-4.01	-4.22	-0.90	-1.08	7.00	5.00	
12	11	252.0	0.00	22.54	0.90	0.00	20.29	10.0	34.3	1.4	27.79	31.69	2.95	42	0.10	-3.76	-4.01	-0.50	-0.66	7.00	7.00	
13	12	90.0	0.53	0.53	0.90	0.48	0.48	10.0	10.0	2.8	1.34	4.57	1.46	15	0.50	-1.06	-1.51	-0.33	-0.36	7.00	7.00	
14	11	93.0	0.00	3.83	0.90	0.00	3.45	10.0	15.7	2.2	7.61	12.41	3.01	24	0.30	-1.98	-2.26	-0.57	-0.66	7.00	7.00	
15	12	102.0	0.98	0.98	0.90	0.88	0.88	10.0	10.0	2.8	2.48	4.09	2.41	15	0.40	-1.10	-1.51	-0.23	-0.36	7.00	7.00	
16	14	36.0	1.43	1.43	0.90	1.29	1.29	10.0	10.0	2.8	3.61	4.57	3.44	15	0.50	-1.30	-1.48	-0.34	-0.43	7.00	7.00	
17	11	265.0	0.00	3.29	0.90	0.00	2.96	10.0	15.7	2.2	6.55	7.08	2.94	21	0.20	-1.73	-2.26	-0.26	-0.66	7.00	7.00	
18	12	231.0	0.00	21.03	0.90	0.00	18.93	10.0	33.2	1.4	26.48	30.33	2.79	42	0.09	-3.55	-3.76	-0.22	-0.36	8.00	7.00	
19	14	126.0	0.72	2.40	0.90	0.65	2.16	10.0	15.1	2.3	4.88	5.77	2.79	18	0.30	-1.60	-1.98	-0.18	-0.43	8.00	7.00	
20	17	170.0	0.26	0.26	0.90	0.23	0.23	10.0	10.0	2.8	0.66	4.57	1.26	15	0.50	-0.38	-1.23	0.02	-0.12	8.00	7.00	
21	18	100.0	0.84	0.84	0.90	0.76	0.76	10.0	10.0	2.8	2.12	2.33	1.77	15	0.13	-1.17	-1.30	-0.01	-0.10	8.00	8.00	

Project File: Oscar-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 85 | Run Date: 10-21-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.61 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	19	163.0	0.26	0.26	0.90	0.23	0.23	10.0	10.0	2.8	0.66	4.55	1.33	15	0.50	-0.29	-1.10	0.09	-0.06	8.00	8.00	
23	17	55.0	0.26	0.26	0.90	0.23	0.23	10.0	10.0	2.8	0.66	4.61	0.66	15	0.51	-0.95	-1.23	-0.12	-0.12	8.00	7.00	
24	18	107.0	0.80	0.80	0.90	0.72	0.72	10.0	10.0	2.8	2.02	2.34	1.69	15	0.13	-1.16	-1.30	-0.01	-0.10	8.00	8.00	
25	19	126.0	1.42	1.42	0.90	1.28	1.28	10.0	10.0	2.8	3.59	4.57	3.73	15	0.50	-0.47	-1.10	0.35	-0.06	8.00	8.00	
26	17	91.0	0.00	2.77	0.90	0.00	2.49	10.0	15.2	2.2	5.60	6.23	3.44	18	0.35	-1.16	-1.48	0.10	-0.12	8.00	7.00	
27	18	116.0	0.00	19.39	0.90	0.00	17.45	10.0	32.8	1.4	24.62	26.99	3.51	36	0.16	-2.86	-3.05	0.04	-0.10	8.00	8.00	
28	26	54.0	0.00	2.77	0.90	0.00	2.49	10.0	15.0	2.3	5.66	8.69	3.37	18	0.69	-0.97	-1.34	0.30	0.18	10.00	8.00	
29	27	96.0	0.00	19.39	0.90	0.00	17.45	10.0	32.5	1.4	24.80	26.36	3.54	36	0.16	-2.71	-2.86	0.18	0.06	10.00	8.00	
30	28	71.0	0.00	2.77	0.90	0.00	2.49	10.0	14.6	2.3	5.73	6.23	3.31	18	0.35	-0.72	-0.97	0.67	0.50	10.00	10.00	
31	29	69.0	0.00	19.39	0.90	0.00	17.45	10.0	32.2	1.4	24.92	26.63	3.56	36	0.16	-2.60	-2.71	0.29	0.21	10.00	10.00	
32	30	22.0	1.23	1.23	0.90	1.11	1.11	10.0	10.0	2.8	3.11	4.57	2.54	15	0.50	-0.36	-0.47	0.87	0.82	10.00	10.00	
33	31	64.0	0.00	19.39	0.90	0.00	17.45	10.0	32.0	1.4	25.03	26.36	3.57	36	0.16	-2.50	-2.60	0.40	0.32	10.00	10.00	
34	33	32.0	0.00	19.39	0.90	0.00	17.45	10.0	31.9	1.4	25.09	26.36	3.58	36	0.16	-2.45	-2.50	0.47	0.43	10.00	10.00	
35	34	22.0	1.76	1.76	0.90	1.58	1.58	10.0	10.0	2.8	4.45	4.57	3.62	15	0.50	-0.59	-0.70	0.77	0.66	10.00	10.00	
36	30	251.0	0.00	1.54	0.90	0.00	1.39	10.0	13.2	2.4	3.37	4.08	3.03	15	0.40	0.53	-0.47	1.50	0.82	10.00	10.00	
37	34	392.0	0.00	4.04	0.90	0.00	3.64	10.0	14.9	2.3	8.26	10.15	2.63	24	0.20	-1.66	-2.45	1.19	0.66	10.00	10.00	
38	36	26.0	1.01	1.01	0.90	0.91	0.91	10.0	10.0	2.8	2.55	4.57	2.27	15	0.50	0.66	0.53	1.69	1.67	12.00	10.00	
39	37	199.0	0.00	2.36	0.90	0.00	2.12	10.0	13.8	2.4	5.03	5.77	3.04	18	0.30	0.44	-0.16	1.69	1.30	12.00	10.00	
40	39	142.0	0.00	1.37	0.90	0.00	1.23	10.0	12.9	2.5	3.03	4.57	3.17	15	0.50	1.40	0.69	2.18	1.85	12.00	12.00	
41	40	192.0	0.00	0.57	0.90	0.00	0.51	10.0	10.2	2.8	1.43	4.57	2.33	15	0.50	2.36	1.40	2.84	2.40	12.00	12.00	
42	41	14.0	0.57	0.57	0.90	0.51	0.51	10.0	10.0	2.8	1.44	4.57	1.54	15	0.50	2.15	2.08	3.01	3.01	12.00	12.00	

Project File: Oscar-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 85 | Run Date: 10-21-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.61 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	34	189.0	0.00	13.59	0.90	0.00	12.23	10.0	31.1	1.5	17.86	19.99	3.01	33	0.14	-1.93	-2.20	0.88	0.66	12.00	10.00	
44	36	210.0	0.53	0.53	0.90	0.48	0.48	10.0	10.0	2.8	1.34	3.54	1.60	15	0.30	1.16	0.53	1.82	1.67	12.00	10.00	
45	37	22.0	0.62	0.62	0.90	0.56	0.56	10.0	10.0	2.8	1.57	4.57	1.28	15	0.50	-0.07	-0.18	1.31	1.30	12.00	10.00	
46	39	13.0	0.99	0.99	0.90	0.89	0.89	10.0	10.0	2.8	2.50	4.74	2.04	15	0.54	0.48	0.41	1.87	1.85	12.00	12.00	
47	40	15.0	0.80	0.80	0.90	0.72	0.72	10.0	10.0	2.8	2.02	4.72	1.65	15	0.53	1.20	1.12	2.41	2.40	14.00	12.00	
48	43	35.0	1.30	1.30	0.90	1.17	1.17	10.0	10.0	2.8	3.29	4.50	2.68	15	0.49	-0.26	-0.43	1.11	1.02	14.00	12.00	
49	37	21.0	1.06	1.06	0.90	0.95	0.95	10.0	10.0	2.8	2.68	4.46	2.18	15	0.48	-0.08	-0.18	1.33	1.30	14.00	10.00	
50	43	106.0	0.00	12.29	0.90	0.00	11.06	10.0	30.6	1.5	16.31	19.22	2.75	33	0.13	-1.79	-1.93	1.12	1.02	14.00	12.00	
51	50	85.0	0.00	12.29	0.90	0.00	11.06	10.0	30.3	1.5	16.44	19.02	2.77	33	0.13	-1.68	-1.79	1.22	1.14	14.00	14.00	
52	51	168.0	0.00	12.29	0.90	0.00	11.06	10.0	29.6	1.5	16.68	19.99	2.81	33	0.14	-1.44	-1.68	1.41	1.24	14.00	14.00	
53	52	22.0	0.00	9.51	0.90	0.00	8.56	10.0	16.2	2.2	18.57	19.53	3.13	33	0.14	-1.41	-1.44	1.56	1.53	14.00	14.00	
54	53	48.0	0.00	9.51	0.90	0.00	8.56	10.0	16.0	2.2	18.74	20.19	3.15	33	0.15	-1.34	-1.41	1.64	1.58	14.00	14.00	
55	54	28.0	0.00	9.51	0.90	0.00	8.56	10.0	15.8	2.2	18.83	19.99	3.17	33	0.14	-1.30	-1.34	1.70	1.66	14.00	14.00	
56	55	54.0	0.00	9.51	0.90	0.00	8.56	10.0	15.5	2.2	19.02	19.04	3.20	33	0.13	-1.23	-1.30	1.79	1.72	14.00	14.00	
57	56	76.0	0.00	9.51	0.90	0.00	8.56	10.0	15.1	2.3	19.30	20.12	3.25	33	0.14	-1.12	-1.23	1.97	1.86	14.00	14.00	
58	57	140.0	0.00	2.16	0.90	0.00	1.94	10.0	10.9	2.7	5.24	5.75	2.96	18	0.30	0.55	0.13	2.48	2.13	14.00	14.00	
59	58	54.0	0.00	2.16	0.90	0.00	1.94	10.0	10.6	2.7	5.31	7.43	3.01	18	0.50	1.07	0.80	2.73	2.59	14.00	14.00	
60	59	104.0	2.16	2.16	0.90	1.94	1.94	10.0	10.0	2.8	5.46	7.43	3.09	18	0.50	1.59	1.07	3.09	2.85	14.00	14.00	
61	52	14.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	4.57	0.21	15	0.50	0.13	0.06	1.53	1.53	14.00	14.00	
62	57	263.0	0.00	7.35	0.90	0.00	6.62	10.0	13.8	2.4	15.70	23.04	3.20	30	0.32	-0.04	-0.87	2.51	2.13	14.00	14.00	
63	62	87.0	0.00	2.67	0.90	0.00	2.40	10.0	10.4	2.8	6.63	8.82	2.76	21	0.31	0.67	0.40	2.83	2.67	14.00	14.00	

Project File: Oscar-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 85 | Run Date: 10-21-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.61 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	63	60.0	2.67	2.67	0.90	2.40	2.40	10.0	10.0	2.8	6.75	8.68	2.81	21	0.30	0.85	0.67	3.04	2.93	16.00	14.00	
65	52	176.0	0.00	2.68	0.90	0.00	2.41	10.0	29.0	1.5	3.69	5.88	3.81	15	0.83	1.43	-0.03	2.20	1.53	16.00	14.00	
66	65	236.0	0.00	0.67	0.90	0.00	0.60	10.0	25.9	1.6	0.99	2.88	1.11	15	0.20	1.90	1.43	2.61	2.54	16.00	16.00	
67	66	129.0	0.00	0.10	0.90	0.00	0.09	10.0	15.3	2.2	0.20	2.90	0.36	15	0.20	2.16	1.90	2.65	2.64	16.00	16.00	
68	67	65.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	2.89	0.70	15	0.20	2.29	2.16	2.66	2.65	16.00	16.00	
69	62	144.0	0.00	1.88	0.90	0.00	1.69	10.0	12.8	2.5	4.18	9.98	2.96	18	0.90	1.95	0.65	2.90	2.67	16.00	14.00	
70	65	24.0	0.00	2.01	0.90	0.00	1.81	10.0	10.3	2.8	5.00	7.43	3.05	18	0.50	1.30	1.18	2.57	2.54	16.00	16.00	
71	66	24.0	0.57	0.57	0.90	0.51	0.51	10.0	10.0	2.8	1.44	7.43	1.89	18	0.50	2.03	1.91	2.65	2.64	16.00	16.00	
72	69	18.0	0.00	1.88	0.90	0.00	1.69	10.0	12.7	2.5	4.20	9.90	3.96	18	0.89	2.11	1.95	2.90	2.93	16.00	16.00	
73	70	55.0	2.01	2.01	0.90	1.81	1.81	10.0	10.0	2.8	5.08	7.49	3.10	18	0.51	1.58	1.30	2.81	2.72	16.00	16.00	
74	72	56.0	0.00	1.88	0.90	0.00	1.69	10.0	12.3	2.5	4.27	10.02	3.93	18	0.91	2.62	2.11	3.41	3.13	16.00	16.00	
75	74	7.0	0.00	1.88	0.90	0.00	1.69	10.0	12.3	2.5	4.27	6.87	3.35	18	0.43	2.65	2.62	3.66	3.65	16.00	16.00	
76	75	57.0	0.00	1.88	0.90	0.00	1.69	10.0	11.9	2.6	4.34	7.49	3.79	18	0.51	2.94	2.65	3.78	3.69	16.00	16.00	
77	76	106.0	0.00	1.48	0.90	0.00	1.33	10.0	10.2	2.8	3.69	12.08	4.35	15	3.50	6.90	3.19	7.67	4.06	16.00	16.00	
78	77	10.0	0.00	1.48	0.90	0.00	1.33	10.0	10.2	2.8	3.70	12.08	3.95	15	3.50	7.25	6.90	8.02	8.01	16.00	16.00	
79	78	35.0	1.48	1.48	0.90	1.33	1.33	10.0	10.0	2.8	3.74	12.06	4.53	15	3.49	8.47	7.25	9.24	8.07	16.00	16.00	
80	62	26.0	0.00	2.80	0.90	0.00	2.52	10.0	12.8	2.5	6.22	7.43	3.52	18	0.50	0.78	0.65	2.77	2.67	16.00	14.00	
81	76	10.0	0.00	0.40	0.90	0.00	0.36	10.0	11.7	2.6	0.93	4.57	1.05	15	0.50	3.24	3.19	4.06	4.06	16.00	16.00	
82	80	260.0	1.87	2.80	0.90	1.68	2.52	10.0	11.7	2.6	6.54	7.43	3.70	18	0.50	2.08	0.78	3.92	2.91	16.00	16.00	
83	81	31.0	0.00	0.40	0.90	0.00	0.36	10.0	11.1	2.7	0.96	4.49	1.26	15	0.48	3.39	3.24	4.07	4.07	16.00	16.00	
84	82	194.0	0.93	0.93	0.90	0.84	0.84	10.0	10.0	2.8	2.35	4.59	2.20	15	0.51	3.31	2.33	4.21	3.95	16.00	16.00	

Project File: Oscar-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 85 | Run Date: 10-21-2003

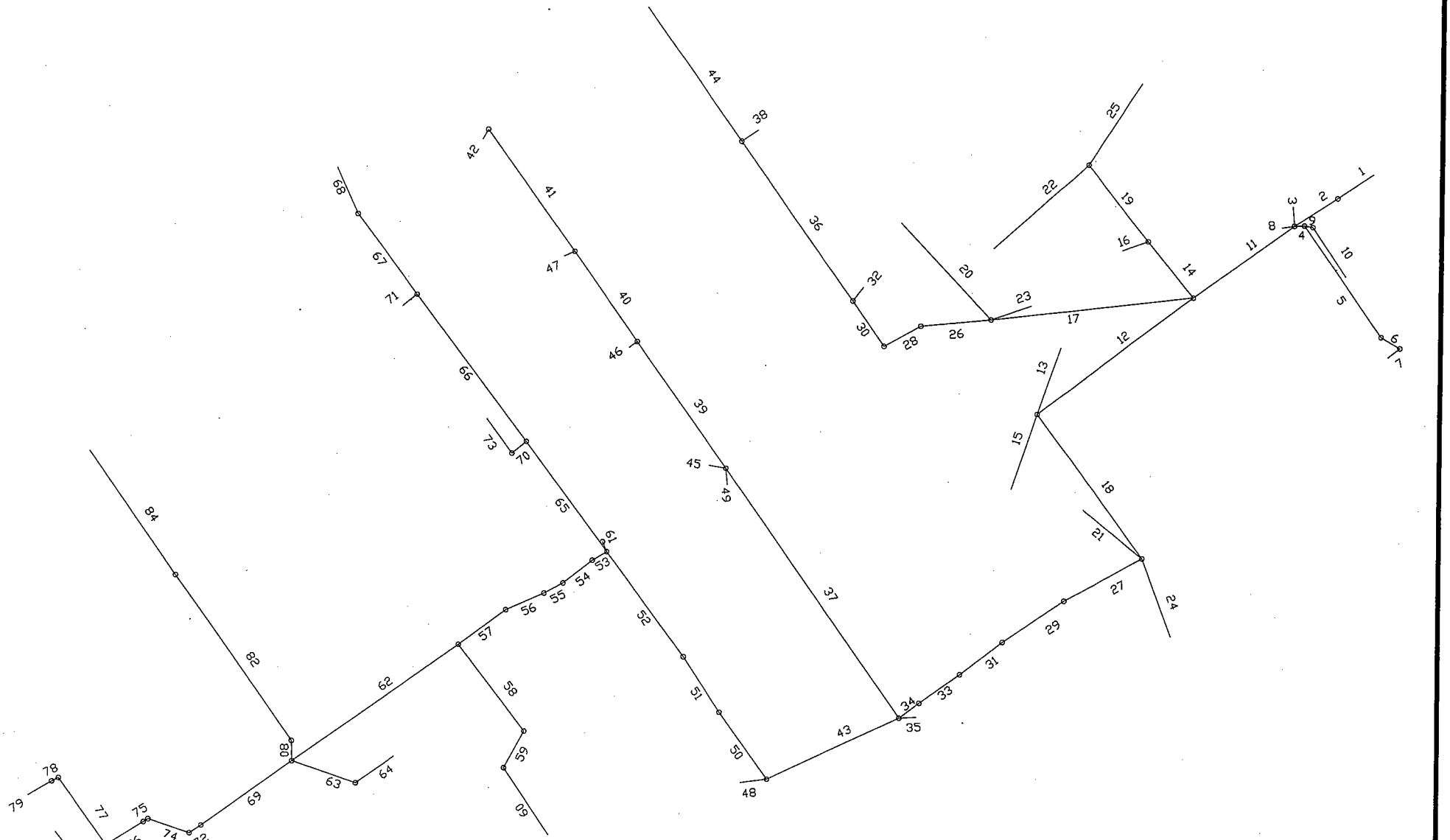
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.61 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
85	83	53.0	0.40	0.40	0.90	0.36	0.36	10.0	10.0	2.8	1.01	4.61	1.90	15	0.51	3.66	3.39	4.13	4.10	16.00	16.00	

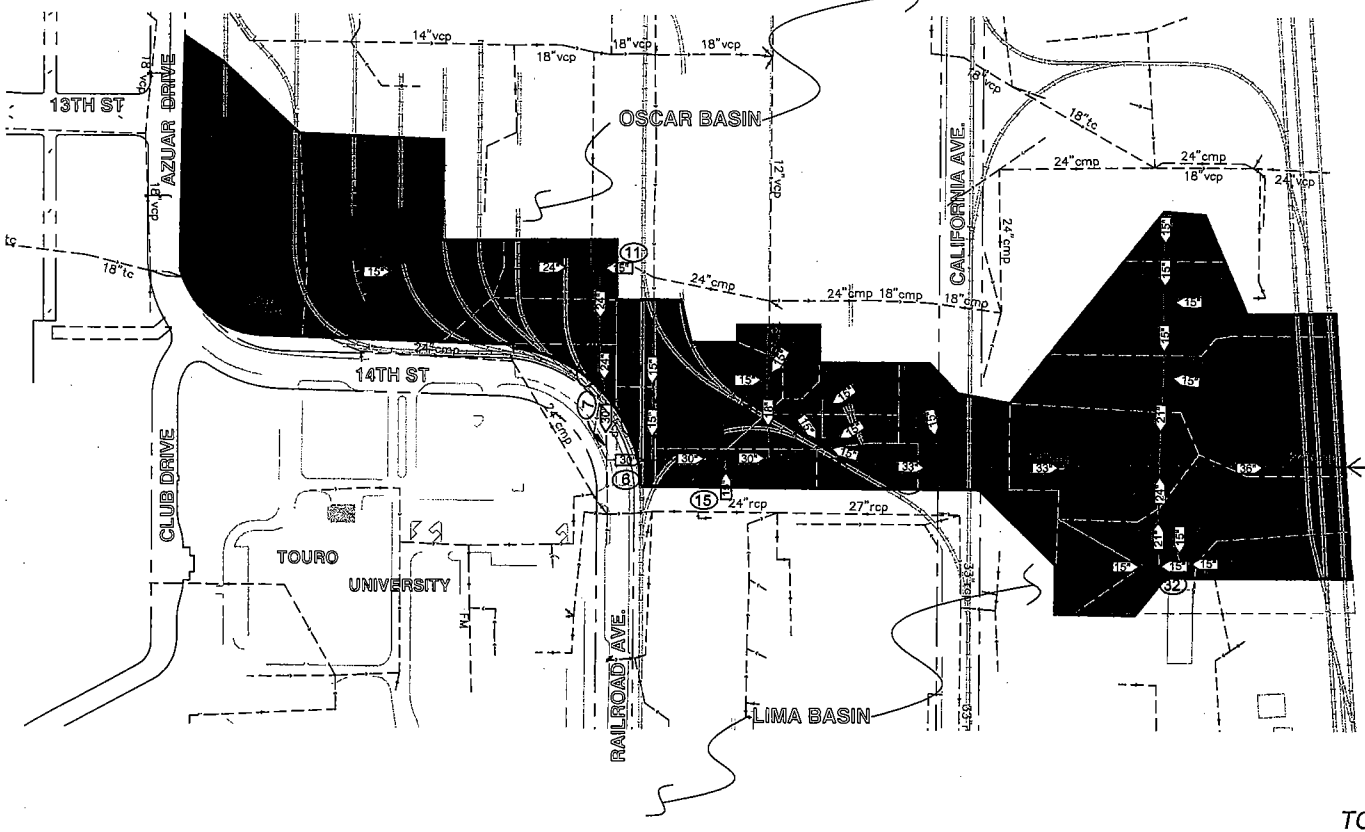
Project File: Oscar-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 85 | Run Date: 10-21-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.61 (ft)



LINE DIAGRAM

OSCAR BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **14.18** Acres

PREPARED BY:

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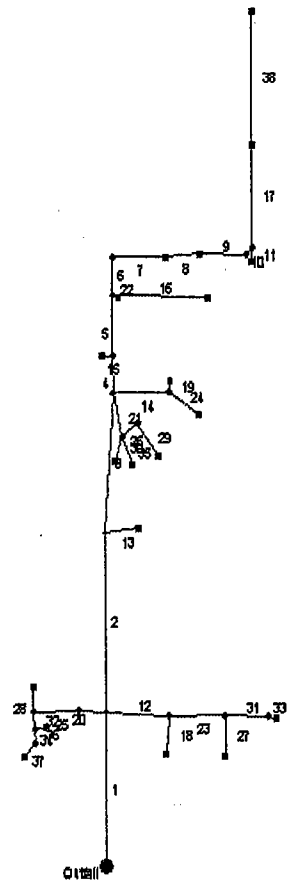
\0008077\HYDROLOGY\SPEXHIBITS\JULIETBASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

JULIET BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: Juliet-RLW-Outfall.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 38	10-16-2003

RLW 10/16/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	300.0	0.00	14.18	0.90	0.00	12.76	10.0	24.3	1.7	21.75	23.10	3.71	36	0.12	-3.64	-4.00	-1.32	-1.69	9.40	9.40	
2	1	356.0	0.00	8.13	0.90	0.00	7.32	10.0	21.9	1.8	13.29	19.82	2.69	33	0.14	-2.89	-3.39	-0.88	-1.11	8.60	9.40	
3	2	277.0	0.00	7.49	0.90	0.00	6.74	10.0	20.0	1.9	12.94	19.84	2.76	33	0.14	-2.50	-2.89	-0.57	-0.75	8.10	8.60	
4	3	71.0	0.00	5.65	0.90	0.00	5.09	10.0	19.5	2.0	9.92	16.86	2.66	30	0.17	-2.13	-2.25	-0.39	-0.44	8.40	8.10	
5	4	119.0	0.00	5.29	0.90	0.00	4.76	10.0	18.5	2.0	9.56	17.23	2.56	30	0.18	-1.92	-2.13	-0.21	-0.28	8.70	8.40	
6	5	74.0	0.00	4.86	0.90	0.00	4.37	10.0	14.5	2.3	10.09	19.66	2.73	30	0.23	-1.75	-1.92	-0.05	-0.10	9.10	8.70	
7	6	116.0	0.37	4.86	0.90	0.33	4.37	10.0	13.6	2.4	10.47	19.79	2.90	30	0.23	-1.48	-1.75	0.16	0.08	7.50	9.10	
8	7	78.0	0.40	4.49	0.90	0.36	4.04	10.0	13.2	2.4	9.84	12.01	4.26	24	0.28	-0.76	-0.98	0.62	0.40	7.80	7.50	
9	8	101.0	0.00	4.09	0.90	0.00	3.68	10.0	12.6	2.5	9.19	13.12	3.83	24	0.34	-0.42	-0.76	0.93	0.76	10.00	7.80	
10	9	20.0	0.00	4.09	0.90	0.00	3.68	10.0	12.5	2.5	9.23	12.39	3.58	24	0.30	-0.36	-0.42	1.16	1.12	10.00	10.00	
11	10	27.0	0.41	0.41	0.90	0.37	0.37	10.0	10.0	2.8	1.04	4.48	1.10	15	0.48	0.52	0.39	1.36	1.36	10.00	10.00	
12	1	140.0	0.00	2.84	0.90	0.00	2.56	10.0	15.5	2.2	5.70	6.69	3.05	21	0.18	-2.14	-2.39	-0.88	-1.11	7.50	9.40	
13	2	75.0	0.64	0.64	0.90	0.58	0.58	10.0	10.0	2.8	1.62	4.54	3.00	15	0.49	-1.02	-1.39	-0.51	-0.75	10.00	8.60	
14	3	125.0	0.00	0.99	0.90	0.00	0.89	10.0	12.8	2.5	2.20	4.41	2.48	18	0.18	-0.91	-1.13	-0.16	-0.38	7.60	8.10	
15	4	24.0	0.36	0.36	0.90	0.32	0.32	10.0	10.0	2.8	0.91	4.57	1.80	15	0.50	-0.76	-0.88	-0.27	-0.28	7.90	8.40	
16	5	211.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	4.58	1.66	15	0.50	0.39	-0.67	0.67	-0.10	8.40	8.70	
17	10	204.0	1.93	3.68	0.90	1.74	3.31	10.0	11.2	2.6	8.78	14.25	3.71	24	0.40	0.45	-0.36	1.67	1.36	10.60	10.00	
18	12	74.0	1.70	1.70	0.90	1.53	1.53	10.0	10.0	2.8	4.30	4.57	4.23	15	0.50	-1.27	-1.64	-0.31	-0.68	8.40	7.50	
19	14	20.0	0.77	0.77	0.90	0.69	0.69	10.0	10.0	2.8	1.95	4.57	3.57	15	0.50	-0.06	-0.16	0.51	0.41	7.60	7.60	
20	1	60.0	1.05	3.21	0.90	0.94	2.89	10.0	12.2	2.5	7.32	9.68	2.88	24	0.18	-2.53	-2.64	-1.04	-1.11	8.50	9.40	
21	3	87.0	0.00	0.85	0.90	0.00	0.77	10.0	13.5	2.4	1.84	2.68	2.35	15	0.17	-0.85	-1.00	-0.09	-0.24	8.40	8.10	

Project File: Juliet-RLW-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 38 | Run Date: 10-16-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.69 (ft)

RJW 10/16/03

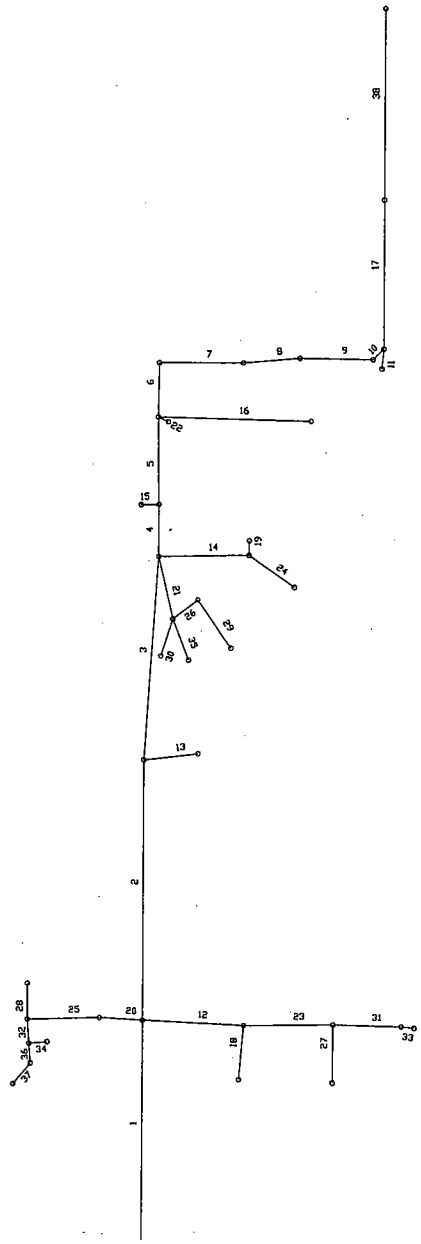
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	5	15.0	0.23	0.23	0.90	0.21	0.21	10.0	10.0	2.8	0.58	4.72	1.17	15	0.53	-0.59	-0.67	-0.09	-0.10	8.70	8.70	
23	12	123.0	0.00	1.14	0.90	0.00	1.03	10.0	14.6	2.3	2.36	3.73	2.80	15	0.33	-1.23	-1.64	-0.49	-0.73	7.10	7.50	
24	14	76.0	0.22	0.22	0.90	0.20	0.20	10.0	10.0	2.8	0.56	4.57	2.48	15	0.50	0.22	-0.16	0.52	0.14	8.10	7.60	
25	20	100.0	0.00	2.16	0.90	0.00	1.94	10.0	11.5	2.6	5.09	7.26	3.27	21	0.21	-1.82	-2.03	-0.74	-0.95	6.10	8.50	
26	21	43.0	0.00	0.29	0.90	0.00	0.26	10.0	12.2	2.5	0.66	3.55	0.61	15	0.30	-0.97	-1.10	0.00	0.00	8.10	8.40	
27	23	79.0	0.94	0.94	0.90	0.85	0.85	10.0	10.0	2.8	2.38	10.45	3.24	15	2.62	0.84	-1.23	1.46	-0.34	5.40	7.10	
28	25	49.0	0.27	0.27	0.90	0.24	0.24	10.0	10.0	2.8	0.68	4.52	0.76	15	0.49	-1.33	-1.57	-0.57	-0.57	6.10	6.10	
29	26	80.0	0.29	0.29	0.90	0.26	0.26	10.0	10.0	2.8	0.73	4.57	1.61	15	0.50	-0.32	-0.72	0.07	0.01	8.60	8.10	
30	21	53.0	0.26	0.26	0.90	0.23	0.23	10.0	10.0	2.8	0.66	4.61	1.25	15	0.51	-0.45	-0.72	0.01	0.00	8.60	8.40	
31	23	94.0	0.00	0.20	0.90	0.00	0.18	10.0	10.7	2.7	0.49	3.05	0.46	15	0.22	-1.27	-1.48	-0.33	-0.34	5.40	7.10	
32	25	33.0	0.00	1.89	0.90	0.00	1.70	10.0	10.7	2.7	4.61	7.30	2.56	21	0.21	-1.75	-1.82	-0.54	-0.57	6.10	6.10	
33	31	18.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	4.57	0.80	15	0.50	-0.93	-1.02	-0.33	-0.33	5.40	5.40	
34	32	25.0	1.19	1.19	0.90	1.07	1.07	10.0	10.0	2.8	3.01	4.47	3.04	15	0.48	-1.30	-1.42	-0.40	-0.44	4.80	6.10	
35	21	60.0	0.30	0.30	0.90	0.27	0.27	10.0	10.0	2.8	0.76	4.57	1.14	15	0.50	-0.55	-0.85	0.01	0.00	8.60	8.40	
36	32	27.0	0.00	0.70	0.90	0.00	0.63	10.0	10.4	2.7	1.73	3.51	1.60	15	0.30	-1.42	-1.50	-0.42	-0.44	6.50	6.10	
37	36	37.0	0.70	0.70	0.90	0.63	0.63	10.0	10.0	2.8	1.77	4.11	1.76	15	0.41	-1.27	-1.42	-0.37	-0.39	6.50	6.50	
38	17	262.0	1.75	1.75	0.90	1.58	1.58	10.0	10.0	2.8	4.42	4.57	4.24	15	0.50	2.51	1.20	3.50	2.19	11.00	10.60	

Project File: Juliet-RLW-Outfall.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 38 | Run Date: 10-16-2003

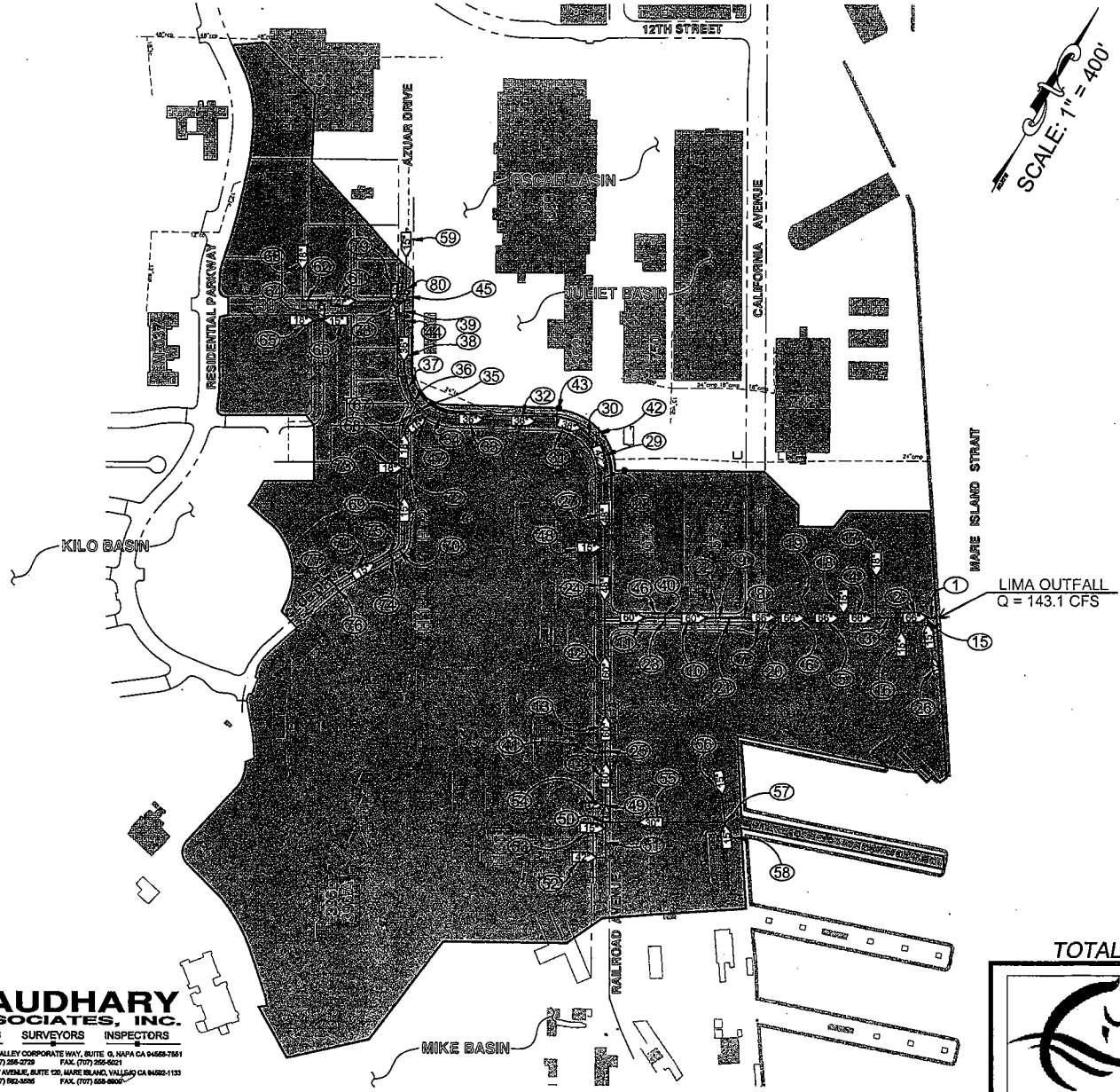
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.69 (ft)

10/16/03



LINE DIAGRAM

JULIET BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = 111.2 Acres

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

LIMA BASIN

DATE: DECEMBER 1, 2003

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.

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Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1	End	68.0	0.00	111.2	0.90	0.00	91.95	10.0	28.2	1.6	143.1	172.8	8.12	66	0.26	-4.32	-4.50	-0.50	-0.68	9.30	9.30	
2	1	97.0	0.00	109.8	0.90	0.00	90.74	10.0	27.8	1.6	142.2	163.5	6.46	66	0.24	-4.09	-4.32	0.66	0.53	7.80	9.30	
3	2	89.0	0.00	107.8	0.90	0.00	88.87	10.0	27.6	1.6	140.1	163.1	5.93	66	0.24	-3.88	-4.09	1.46	1.32	7.20	7.80	
4	3	120.0	0.00	105.5	0.90	0.00	86.81	10.0	27.2	1.6	138.1	162.2	5.81	66	0.23	-3.60	-3.88	2.21	2.01	6.70	7.20	
5	4	126.0	0.00	103.7	0.90	0.00	85.23	10.0	26.8	1.6	136.9	163.9	5.76	66	0.24	-3.30	-3.60	2.94	2.73	8.60	6.70	
6	5	111.0	0.00	102.9	0.90	0.00	84.53	10.0	26.4	1.6	136.9	162.5	5.76	66	0.23	-3.04	-3.30	3.57	3.38	9.00	8.60	
7	6	84.0	13.36	102.2	0.90	12.02	83.89	10.0	26.1	1.6	136.7	163.9	5.76	66	0.24	-2.84	-3.04	4.22	4.08	9.20	9.00	
8	7	95.0	0.00	88.87	0.90	0.00	71.87	10.0	25.9	1.6	117.9	128.2	6.01	60	0.24	-2.61	-2.84	4.50	4.30	7.90	9.20	
9	8	50.0	0.00	88.68	0.90	0.00	71.70	10.0	25.7	1.6	118.1	127.6	6.02	60	0.24	-2.49	-2.61	5.16	5.06	9.00	7.90	
10	9	184.0	0.00	88.08	0.90	0.00	71.16	10.0	25.2	1.7	118.8	125.9	6.05	60	0.23	-2.06	-2.49	6.10	5.72	9.10	9.00	
11	10	222.0	0.00	87.52	0.90	0.00	70.65	10.0	24.5	1.7	119.8	127.3	6.10	60	0.24	-1.53	-2.06	7.14	6.67	10.30	9.10	
12	11	334.0	3.45	46.16	0.90	3.11	36.46	10.0	15.7	2.2	80.48	126.7	4.10	60	0.24	-0.74	-1.53	8.04	7.72	11.00	10.30	
13	12	150.0	0.00	42.71	0.90	0.00	33.35	10.0	15.1	2.3	75.45	127.6	3.84	60	0.24	-0.38	-0.74	8.21	8.08	8.60	11.00	
14	13	192.0	0.00	41.89	0.90	0.00	32.67	10.0	14.2	2.3	76.27	126.1	3.88	60	0.23	0.07	-0.38	8.60	8.44	8.60	8.60	
15	1	27.0	0.01	1.34	0.90	0.01	1.21	10.0	10.7	2.7	3.28	9.13	3.62	15	2.00	-0.07	-0.61	0.65	0.53	9.40	9.30	
16	2	62.0	2.08	2.08	0.90	1.87	1.87	10.0	10.0	2.8	5.26	6.46	4.67	15	1.00	0.65	0.03	1.64	1.32	7.40	7.80	
17	3	271.0	2.29	2.29	0.90	2.06	2.06	10.0	10.0	2.8	5.79	10.50	3.65	18	1.00	1.68	-1.03	2.82	2.01	5.56	7.20	
18	4	35.0	1.75	1.75	0.90	1.58	1.58	10.0	10.0	2.8	4.42	6.46	3.60	15	1.00	-0.18	-0.53	2.90	2.73	8.00	6.70	
19	5	76.0	0.78	0.78	0.90	0.70	0.70	10.0	10.0	2.8	1.97	2.86	2.51	12	0.64	2.28	1.79	3.62	3.38	5.98	8.60	
20	6	47.0	0.71	0.71	0.90	0.64	0.64	10.0	10.0	2.8	1.79	3.56	2.28	12	1.00	0.58	0.11	4.20	4.08	9.30	9.00	
21	8	20.0	0.19	0.19	0.90	0.17	0.17	10.0	10.0	2.8	0.48	3.56	0.61	12	1.00	0.79	0.59	5.06	5.06	8.00	7.90	

Project File: LIMA-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 80 | Run Date: 12-11-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.68 (ft)

RLW 12/11/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	9	41.0	0.60	0.60	0.90	0.54	0.54	10.0	10.0	2.8	1.52	3.56	1.93	12	1.00	1.14	0.73	5.80	5.72	8.30	9.00	
23	10	21.0	0.26	0.26	0.90	0.23	0.23	10.0	10.0	2.8	0.66	3.56	0.84	12	1.00	1.43	1.22	6.68	6.67	8.40	9.10	
24	11	253.0	0.00	41.36	0.90	0.00	34.20	10.0	23.6	1.7	59.39	78.73	4.73	48	0.30	0.75	-0.01	8.16	7.72	9.50	10.30	
25	13	10.0	0.48	0.48	0.90	0.43	0.43	10.0	10.0	2.8	1.21	2.52	1.54	12	0.50	4.10	4.05	8.45	8.44	8.60	8.60	Existing
26	15	168.0	1.33	1.33	0.90	1.20	1.20	10.0	10.0	2.8	3.36	3.56	5.14	12	1.00	6.67	4.99	7.45	5.76	8.77	9.40	
27	24	232.0	13.19	40.16	0.75	9.89	33.12	10.0	22.8	1.8	58.81	78.34	4.68	48	0.30	-0.29	-0.98	8.89	8.50	9.30	9.50	
28	27	46.0	0.00	26.97	0.90	0.00	23.22	10.0	22.6	1.8	41.44	55.50	4.31	42	0.30	-0.15	-0.29	9.02	8.94	9.10	9.30	
29	28	102.0	0.00	26.97	0.90	0.00	23.22	10.0	22.2	1.8	41.89	55.46	4.35	42	0.30	0.16	-0.15	9.33	9.15	8.50	9.10	
30	29	70.0	0.00	26.54	0.90	0.00	22.84	10.0	22.0	1.8	41.42	59.65	5.86	36	0.80	0.72	0.16	9.73	9.46	9.30	8.50	
31	30	99.0	0.00	26.54	0.90	0.00	22.84	10.0	21.7	1.8	41.74	59.95	5.91	36	0.81	1.52	0.72	10.36	9.97	10.00	9.30	
32	31	239.0	0.00	25.48	0.90	0.00	21.88	10.0	21.0	1.9	40.75	61.62	5.77	36	0.85	3.56	1.52	11.71	10.82	14.40	10.00	
33	32	168.0	0.00	25.48	0.90	0.00	21.88	10.0	20.6	1.9	41.29	61.53	5.84	36	0.85	4.99	3.56	12.43	11.79	20.40	14.40	
34	33	61.0	0.11	25.48	0.90	0.10	21.88	10.0	20.4	1.9	41.48	65.03	5.87	36	0.95	5.57	4.99	12.75	12.51	22.50	20.40	
35	34	62.0	0.00	24.78	0.90	0.00	21.34	10.0	20.3	1.9	40.66	64.51	5.75	36	0.94	6.40	5.82	13.57	13.34	25.50	22.50	
36	35	27.0	3.49	21.58	0.90	3.14	18.46	10.0	17.4	2.1	38.42	66.69	5.44	36	1.00	6.68	6.41	14.17	14.08	24.90	25.50	
37	36	113.0	0.00	18.09	0.90	0.00	15.32	10.0	17.0	2.1	32.33	66.69	4.57	36	1.00	8.31	7.18	14.65	14.38	19.30	24.90	
38	37	171.0	0.00	18.09	0.90	0.00	15.32	10.0	16.4	2.2	33.00	42.06	4.67	36	0.40	8.99	8.31	15.21	14.79	17.20	19.30	
39	38	70.0	3.62	17.99	0.90	3.26	15.23	10.0	16.2	2.2	33.08	42.18	4.68	36	0.40	9.27	8.99	15.72	15.55	26.00	17.20	
40	10	15.0	0.00	0.30	0.90	0.00	0.27	10.0	10.8	2.7	0.73	2.60	0.93	12	0.53	3.66	3.58	6.68	6.67	8.40	9.10	Existing
41	13	23.0	0.34	0.34	0.75	0.26	0.26	10.0	10.0	2.8	0.72	2.46	0.91	12	0.48	4.10	3.99	8.45	8.44	8.60	8.60	Existing
42	29	34.0	0.43	0.43	0.90	0.39	0.39	10.0	10.0	2.8	1.09	3.35	1.38	12	0.88	2.83	2.53	9.49	9.46	8.60	8.50	

Project File: LIMA-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 80 | Run Date: 12-11-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.68 (ft)

RLW 12/11/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	31	33.0	1.06	1.06	0.90	0.95	0.95	10.0	10.0	2.8	2.68	3.40	3.41	12	0.91	3.20	2.90	11.01	10.82	9.50	10.00	
44	38	6.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	38.65	0.21	15	35.83	11.45	9.30	15.55	15.55	26.00	17.20	
45	39	42.0	0.81	3.91	0.75	0.61	2.56	10.0	16.0	2.2	5.60	6.68	3.17	18	0.40	9.69	9.52	16.18	16.06	34.00	26.00	
46	40	49.0	0.30	0.30	0.90	0.27	0.27	10.0	10.0	2.8	0.76	2.49	0.97	12	0.49	3.90	3.66	6.72	6.69	8.40	8.40	Existing
47	34	43.0	0.59	0.59	0.75	0.44	0.44	10.0	10.0	2.8	1.24	5.02	1.01	15	0.60	6.33	6.07	13.36	13.34	22.00	22.50	
48	24	16.0	1.20	1.20	0.90	1.08	1.08	10.0	10.0	2.8	3.03	4.57	2.47	15	0.50	2.09	2.01	8.54	8.50	0.00	9.50	
49	14	63.0	0.00	24.72	0.90	0.00	19.79	10.0	13.9	2.4	46.72	74.62	3.72	48	0.27	1.25	1.08	8.90	8.84	12.40	8.60	
50	49	23.0	0.00	16.39	0.90	0.00	12.29	10.0	10.7	2.7	33.33	73.37	2.65	48	0.26	1.31	1.25	9.13	9.12	12.60	12.40	
51	50	107.0	0.00	14.99	0.90	0.00	11.24	10.0	10.2	2.8	31.30	55.02	3.25	42	0.30	2.13	1.81	9.34	9.24	14.60	12.60	
52	51	34.0	14.99	14.99	0.75	11.24	11.24	10.0	10.0	2.8	31.57	57.23	3.28	42	0.32	2.24	2.13	9.54	9.51	14.80	14.60	
53	50	31.0	1.40	1.40	0.75	1.05	1.05	10.0	10.0	2.8	2.95	3.67	2.40	15	0.32	3.41	3.31	9.30	9.24	12.00	12.60	
54	14	28.0	17.17	17.17	0.75	12.88	12.88	10.0	10.0	2.8	36.16	53.78	3.76	42	0.29	1.66	1.58	8.87	8.84	11.60	8.60	
55	49	438.0	0.00	8.33	0.90	0.00	7.50	10.0	12.1	2.5	19.07	22.51	3.89	30	0.30	4.07	2.75	10.07	9.12	9.40	12.40	
56	55	189.0	0.72	0.72	0.90	0.65	0.65	10.0	10.0	2.8	1.82	3.51	1.48	15	0.30	5.63	5.07	10.45	10.30	7.50	9.40	
57	55	28.0	6.19	7.61	0.90	5.57	6.85	10.0	10.4	2.8	18.84	21.92	3.84	30	0.29	4.15	4.07	10.36	10.30	9.30	9.40	
58	57	73.0	1.42	1.42	0.90	1.28	1.28	10.0	10.0	2.8	3.59	4.66	2.92	15	0.52	5.03	4.65	10.62	10.39	8.50	9.30	
59	45	221.0	0.30	0.30	0.90	0.27	0.27	10.0	10.0	2.8	0.76	4.07	0.62	15	0.40	10.57	9.69	16.37	16.34	17.10	34.00	
60	39	42.0	0.00	10.46	0.90	0.00	9.41	10.0	12.1	2.5	23.97	31.64	4.88	30	0.60	9.52	9.27	16.21	16.06	19.80	26.00	
61	60	261.0	0.00	7.51	0.90	0.00	6.76	10.0	11.1	2.7	17.99	24.02	4.53	27	0.60	11.09	9.52	17.46	16.58	30.10	19.80	Inserted Line
62	61	66.0	0.00	3.06	0.90	0.00	2.75	10.0	10.8	2.7	7.42	8.07	4.20	18	0.59	11.48	11.09	18.11	17.78	32.00	30.10	
63	62	221.0	3.06	3.06	0.90	2.75	2.75	10.0	10.0	2.8	7.73	8.15	4.38	18	0.60	12.81	11.48	19.58	18.38	27.00	32.00	

Project File: LIMA-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 80 | Run Date: 12-11-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.68 (ft)

RLW 12/11/03

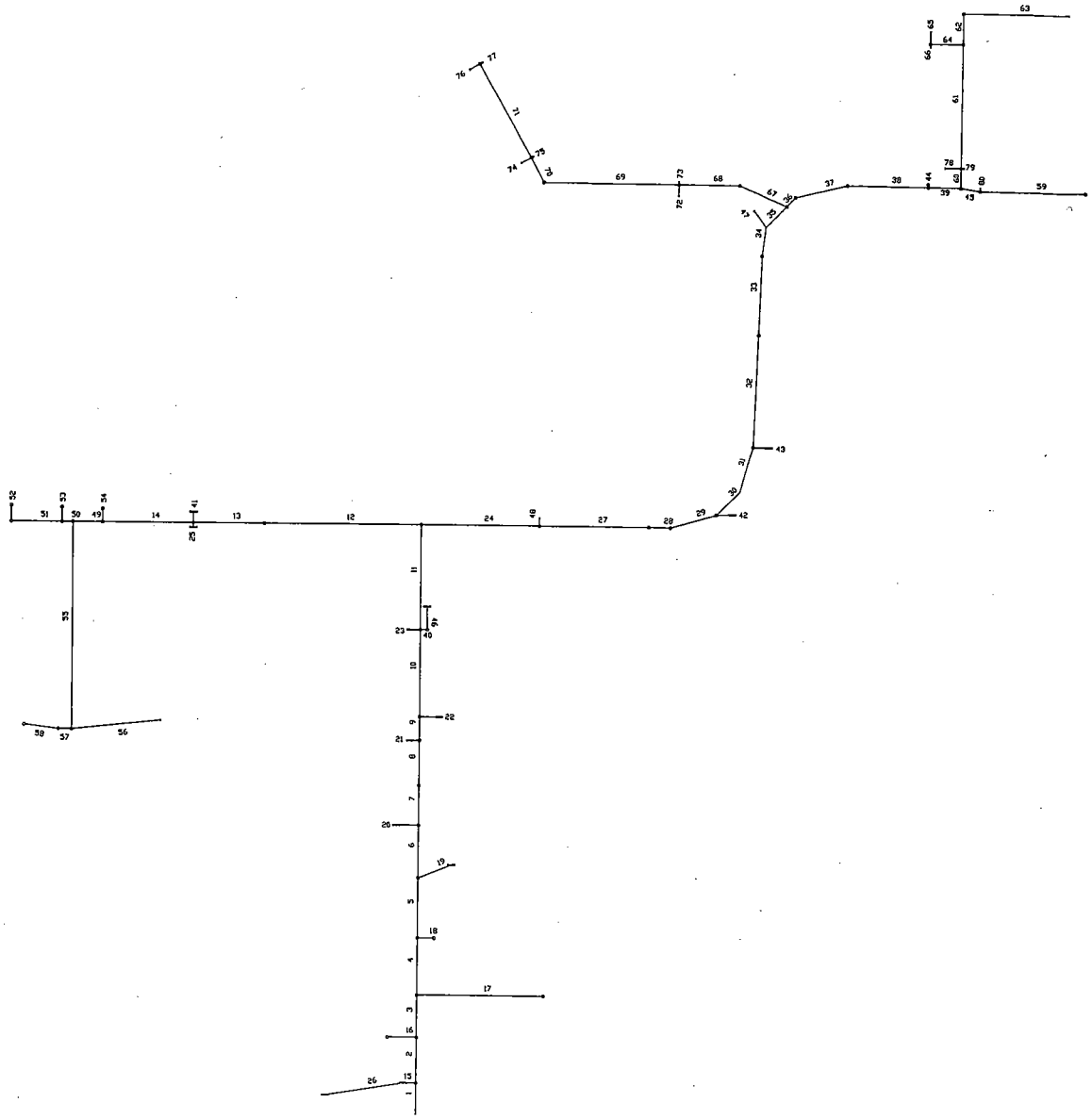
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	61	70.0	0.00	4.45	0.90	0.00	4.01	10.0	10.1	2.8	11.19	12.27	4.65	21	0.60	11.51	11.09	18.13	17.78	33.50	30.10	
65	64	26.0	3.30	3.30	0.90	2.97	2.97	10.0	10.0	2.8	8.34	11.28	4.72	18	1.15	12.06	11.76	18.63	18.46	33.50	33.50	
66	64	6.0	1.15	1.15	0.90	1.04	1.04	10.0	10.0	2.8	2.91	14.44	2.37	15	5.00	12.06	11.76	18.48	18.46	33.50	33.50	
67	35	110.0	0.00	3.20	0.90	0.00	2.88	10.0	19.8	1.9	5.57	33.21	4.09	18	10.00	17.41	6.41	18.31	14.08	30.20	25.50	
68	67	130.0	0.00	3.20	0.90	0.00	2.88	10.0	19.2	2.0	5.66	26.77	4.61	18	6.50	25.86	17.41	26.77	18.49	34.60	30.20	
69	68	286.0	0.00	0.78	0.90	0.00	0.70	10.0	15.9	2.2	1.54	11.73	2.32	15	3.30	35.29	25.86	35.79	27.17	42.70	34.60	
70	69	59.0	0.00	0.78	0.90	0.00	0.70	10.0	15.3	2.2	1.58	15.82	2.93	15	6.00	38.83	35.29	39.33	35.94	46.50	42.70	
71	70	227.0	0.00	0.53	0.90	0.00	0.48	10.0	11.8	2.6	1.23	20.42	2.47	15	10.00	61.53	38.83	61.97	39.51	69.00	46.50	
72	68	24.0	0.16	0.16	0.90	0.14	0.14	10.0	10.0	2.8	0.40	3.98	2.17	12	1.25	27.16	26.86	27.43	27.17	34.60	34.60	
73	68	6.0	2.26	2.26	0.90	2.03	2.03	10.0	10.0	2.8	5.71	23.48	5.49	18	5.00	26.66	26.36	27.57	27.17	34.60	34.60	
74	70	24.0	0.08	0.08	0.90	0.07	0.07	10.0	10.0	2.8	0.20	3.98	2.29	12	1.25	40.13	39.83	40.32	39.98	46.50	46.50	
75	70	5.0	0.17	0.17	0.90	0.15	0.15	10.0	10.0	2.8	0.43	8.72	3.42	12	6.00	40.13	39.83	40.62	39.98	46.50	46.50	
76	71	24.0	0.07	0.07	0.90	0.06	0.06	10.0	10.0	2.8	0.18	3.98	2.20	12	1.25	62.83	62.53	63.01	62.67	69.00	69.00	
77	71	6.0	0.46	0.46	0.90	0.41	0.41	10.0	10.0	2.8	1.16	7.96	4.39	12	5.00	62.83	62.53	63.70	62.79	69.00	69.00	
78	60	34.0	1.07	1.07	0.90	0.96	0.96	10.0	10.0	2.8	2.70	6.07	2.20	15	0.88	10.07	9.77	16.64	16.58	19.20	19.80	
79	60	6.0	1.88	1.88	0.90	1.69	1.69	10.0	10.0	2.8	4.75	14.44	3.87	15	5.00	10.07	9.77	16.61	16.58	19.20	19.80	
80	45	7.0	2.80	2.80	0.60	1.68	1.68	15.0	15.0	2.3	3.81	13.37	3.10	15	4.29	9.99	9.69	16.36	16.34	17.90	34.00	

Project File: LIMA-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 80 | Run Date: 12-11-2003

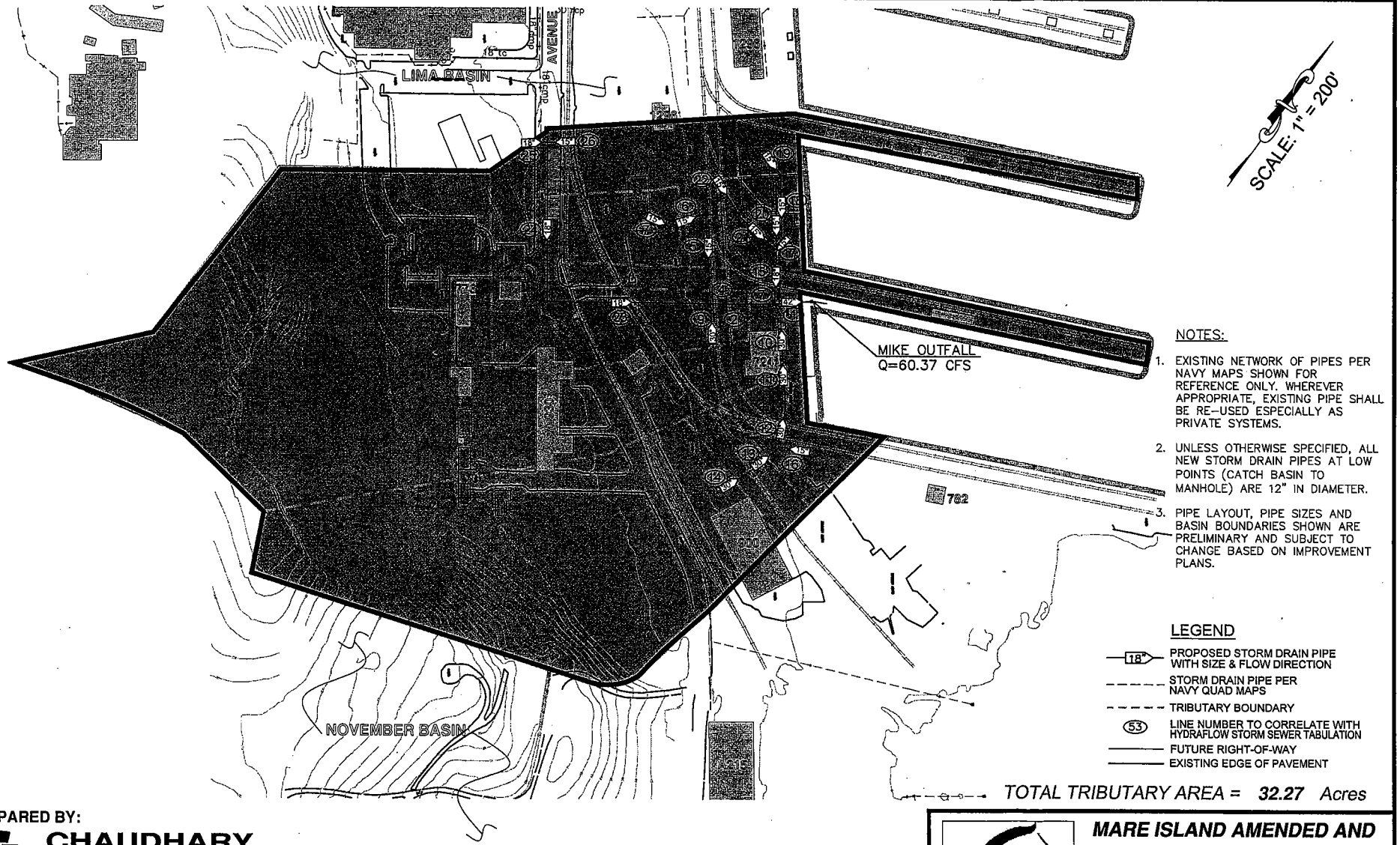
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -0.68 (ft)

RZW 12/11/03



LINE DIAGRAM

LIMA BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY
- EXISTING EDGE OF PAVEMENT

TOTAL TRIBUTARY AREA = **32.27** Acres

PREPARED BY:

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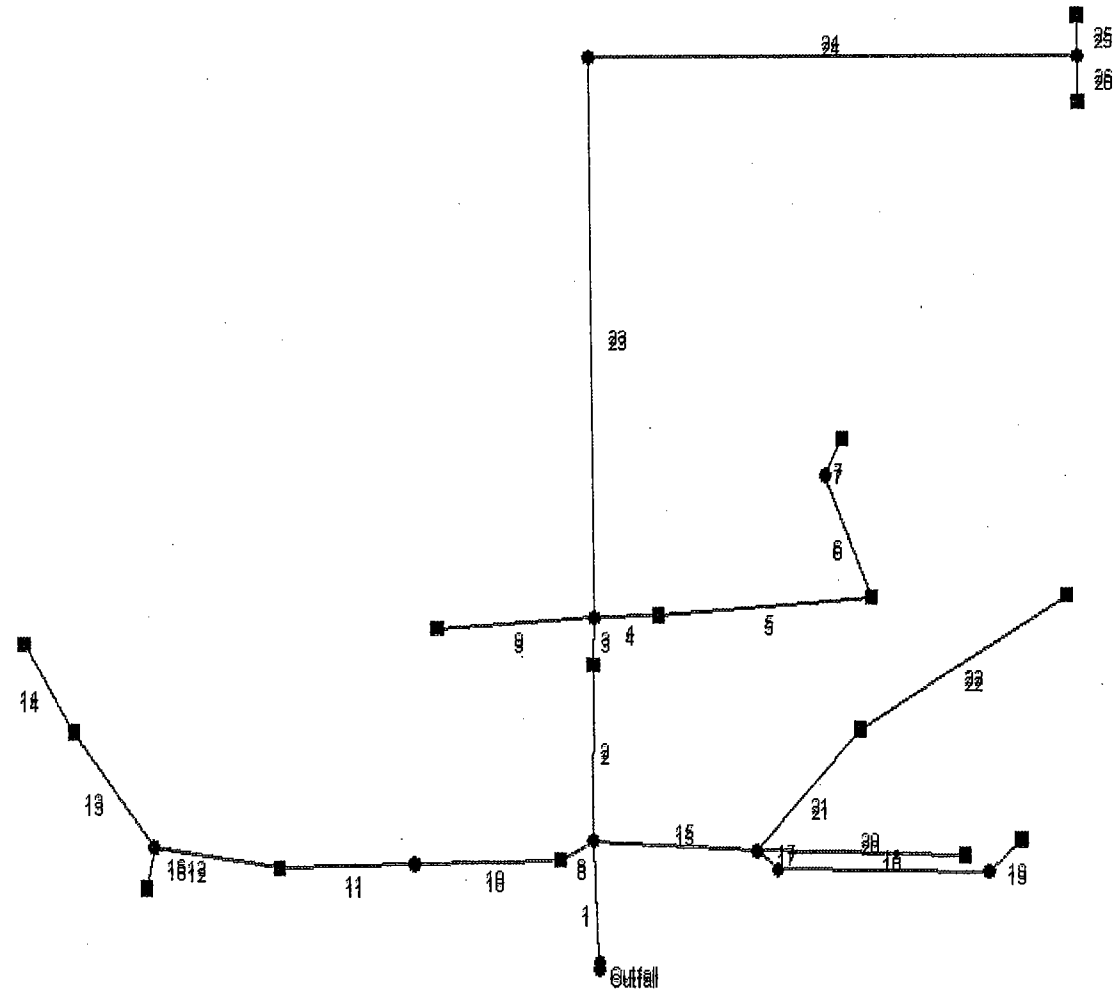
\0008077\HYDROLOGY\SPEXHIBITS\MIKEBASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

MIKE BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: MIKE-OUTFALL.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 26	11-05-2003

RW 11/5/03

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	77.0	0.00	32.27	0.90	0.00	29.04	10.0	17.5	2.1	60.37	70.68	8.25	42	0.49	-3.12	-3.50	-0.64	-1.01	7.30	9.00	
2	1	110.0	1.28	18.33	0.90	1.15	16.50	10.0	17.1	2.1	34.69	47.16	5.02	36	0.50	-2.07	-2.62	0.67	0.43	9.40	7.30	
3	2	30.0	0.00	17.05	0.90	0.00	15.35	10.0	17.0	2.1	32.38	47.16	4.64	36	0.50	-1.92	-2.07	0.93	0.87	9.30	9.40	
4	3	45.0	1.43	2.82	0.90	1.29	2.54	10.0	11.8	2.6	6.56	7.14	5.34	15	1.22	0.38	-0.17	1.73	1.27	9.30	9.30	
5	4	149.0	0.37	1.39	0.90	0.33	1.25	10.0	10.9	2.7	3.37	7.06	3.62	15	1.19	2.16	0.38	2.89	1.95	9.00	9.30	Inserted Line
6	5	83.0	0.00	1.02	0.90	0.00	0.92	10.0	10.2	2.8	2.55	7.09	3.07	15	1.20	3.16	2.16	3.80	3.37	11.30	9.00	
7	6	26.0	1.02	1.02	0.90	0.92	0.92	10.0	10.0	2.8	2.58	7.05	3.52	15	1.19	3.47	3.16	4.11	3.99	12.00	11.30	
8	1	26.0	0.67	10.65	0.90	0.60	9.58	10.0	11.6	2.6	24.97	29.00	5.09	30	0.50	-1.99	-2.12	0.51	0.43	7.90	7.30	
9	3	110.0	12.77	12.77	0.90	11.49	11.49	10.0	10.0	2.8	32.27	44.93	7.32	30	1.20	-0.10	-1.42	1.80	1.27	9.20	9.30	
10	8	102.0	0.00	9.98	0.90	0.00	8.98	10.0	11.2	2.6	23.79	29.00	4.85	30	0.50	-1.48	-1.99	1.13	0.79	8.80	7.90	
11	10	94.0	0.35	9.98	0.90	0.32	8.98	10.0	10.9	2.7	24.15	29.00	4.92	30	0.50	-1.01	-1.48	1.49	1.19	8.90	8.80	
12	11	88.0	0.00	9.63	0.90	0.00	8.67	10.0	10.6	2.7	23.65	29.00	4.82	30	0.50	-0.57	-1.01	1.93	1.68	9.30	8.90	
13	12	91.0	0.62	9.02	0.90	0.56	8.12	10.0	10.3	2.8	22.51	29.16	4.59	30	0.51	-0.11	-0.57	2.56	2.29	10.30	9.30	
14	13	65.0	8.40	8.40	0.90	7.56	7.56	10.0	10.0	2.8	21.23	29.22	4.32	30	0.51	0.22	-0.11	2.90	2.73	13.10	10.30	
15	1	114.0	0.00	3.29	0.90	0.00	2.96	10.0	15.9	2.2	6.50	7.09	3.71	18	0.46	-0.60	-1.12	0.83	0.43	7.20	7.30	
16	12	26.0	0.61	0.61	0.90	0.55	0.55	10.0	10.0	2.8	1.54	6.94	1.52	15	1.15	1.44	1.14	2.29	2.29	9.20	9.30	
17	15	19.0	0.00	1.14	0.90	0.00	1.03	10.0	11.3	2.6	2.71	4.19	2.21	15	0.42	-0.27	-0.35	1.02	0.99	7.20	7.20	
18	17	147.0	0.00	1.14	0.90	0.00	1.03	10.0	10.2	2.8	2.85	4.58	2.69	15	0.50	0.47	-0.27	1.36	1.08	7.40	7.20	
19	18	30.0	1.14	1.14	0.90	1.03	1.03	10.0	10.0	2.8	2.88	4.57	2.91	15	0.50	0.62	0.47	1.51	1.47	7.20	7.40	
20	15	145.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	4.55	0.61	15	0.50	0.37	-0.35	1.00	0.99	6.60	7.20	
21	15	105.0	0.62	1.95	0.90	0.56	1.76	10.0	11.0	2.7	4.69	5.38	3.96	15	0.70	0.38	-0.35	1.48	0.99	7.40	7.20	

Project File: MIKE-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 26 | Run Date: 11-05-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.01 (ft)

RW 11/5/03

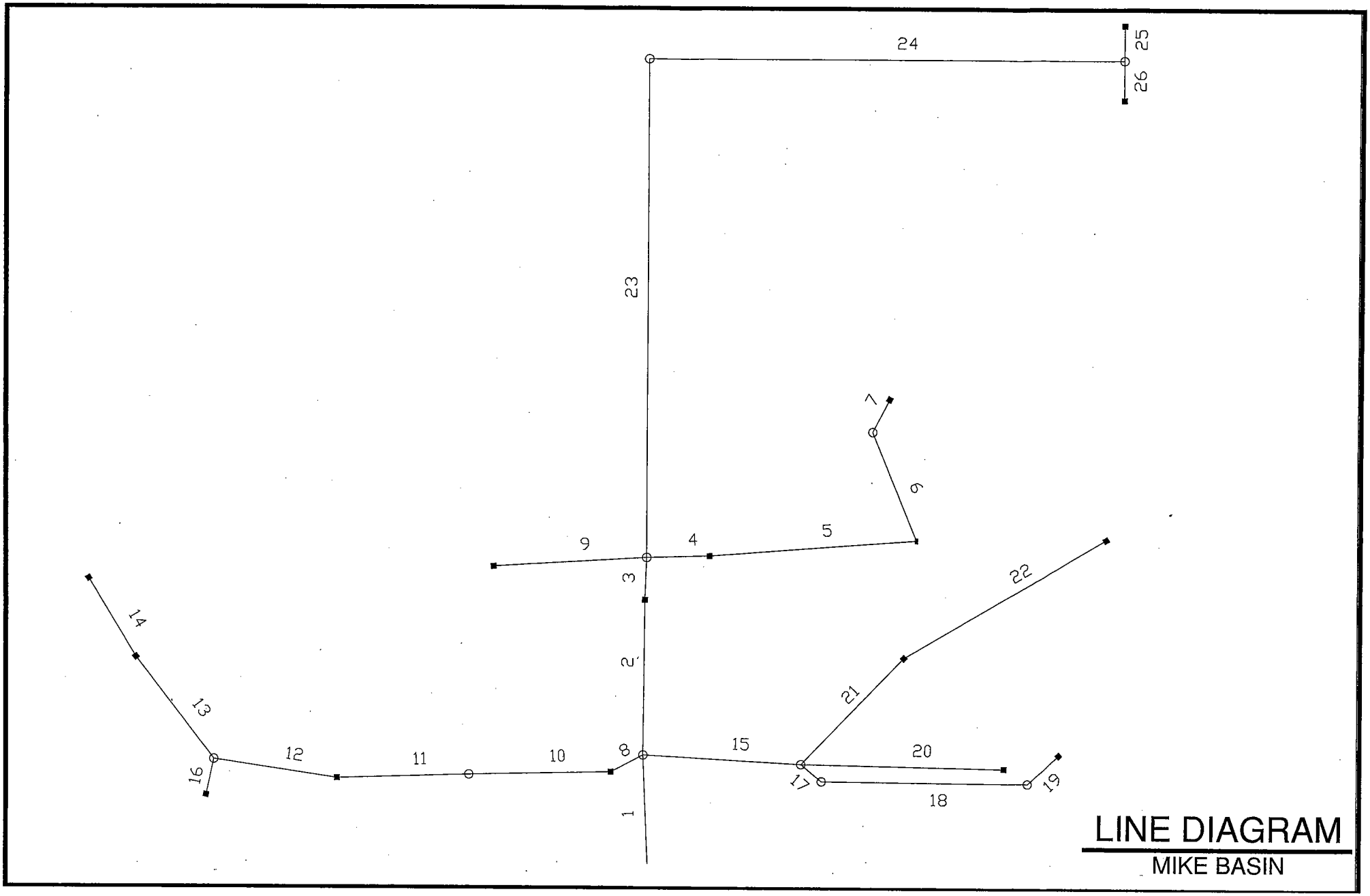
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	21	167.0	1.33	1.33	0.90	1.20	1.20	10.0	10.0	2.8	3.36	5.41	3.61	15	0.70	1.55	0.38	2.28	1.67	9.30	7.40	
23	3	352.0	0.00	1.46	0.90	0.00	1.31	10.0	13.9	2.4	3.11	11.98	2.90	18	1.30	4.16	-0.42	4.83	1.27	19.70	9.30	
24	23	340.0	0.00	1.46	0.90	0.00	1.31	10.0	11.1	2.7	3.49	11.97	3.63	18	1.30	8.58	4.16	9.29	5.09	16.40	19.70	
25	24	25.0	1.26	1.26	0.90	1.13	1.13	10.0	10.0	2.8	3.18	11.50	3.33	18	1.20	8.88	8.58	9.56	9.57	15.60	16.40	
26	24	28.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	6.68	1.00	15	1.07	9.13	8.83	9.56	9.57	15.90	16.40	

Project File: MIKE-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 26 | Run Date: 11-05-2003

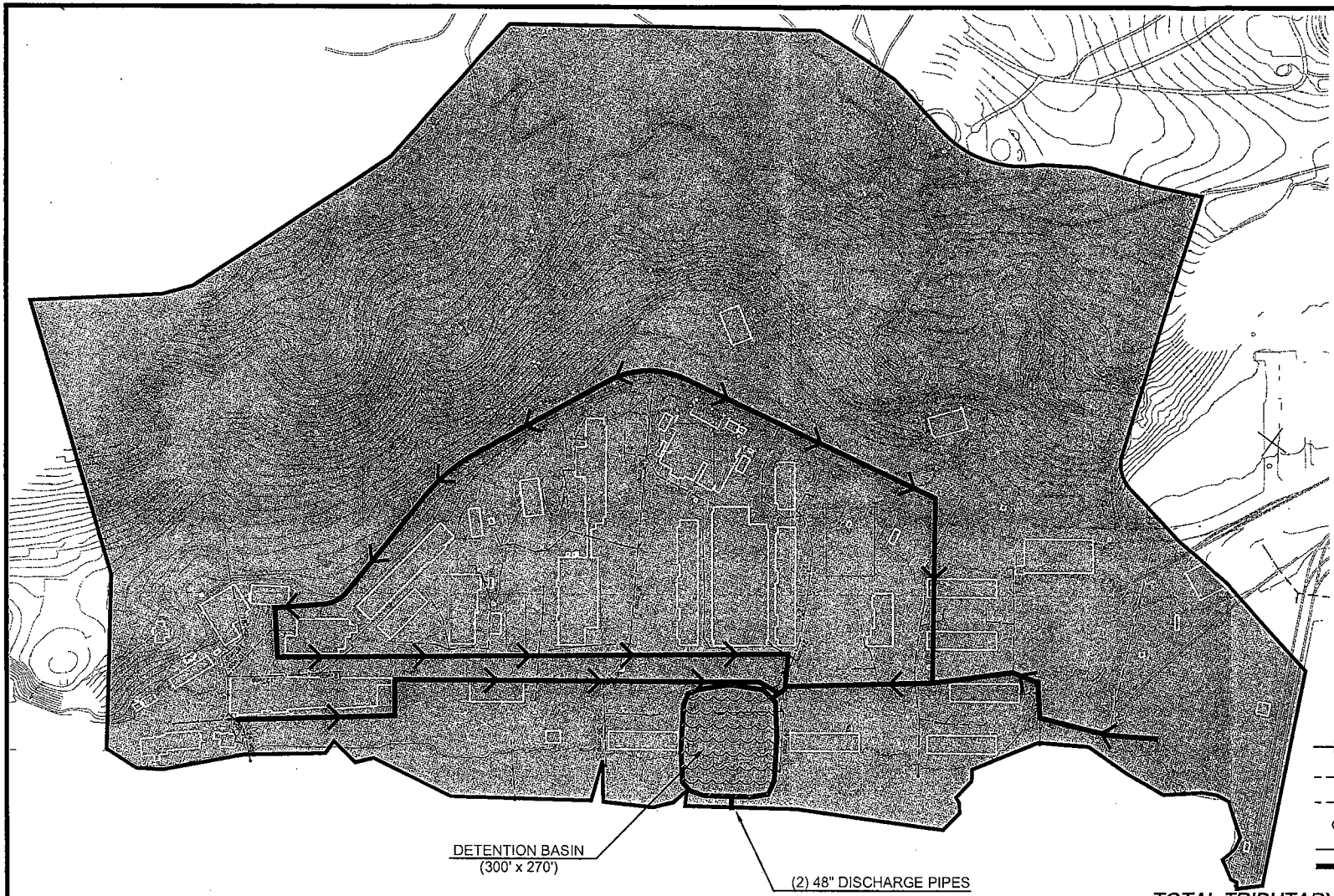
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = -1.01 (ft)

RW 11/5/03



LINE DIAGRAM

MIKE BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY
- PROPOSED STORM DRAIN CHANNEL

*TOTAL TRIBUTARY AREA = **143.90** Acres*

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.
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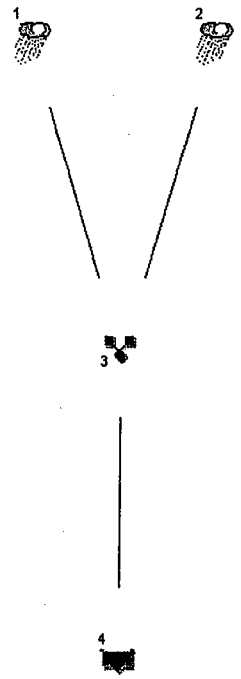
\\0008077\HYDROLOGY\SPEXHIBITS\NOVEMBERBASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

NOVEMBER BASIN

DATE: DECEMBER 1, 2003



Hydraflow Hydrographs Diagram	Project: November-RT-Basin.gpw	11-04-2003

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	------	------	2.39	------	------	30.70	------	------	114.90	GOLF COURSE
2	SCS Runoff	------	------	7.97	------	------	21.12	------	------	45.19	COMMERCIAL AREA
3	Combine	1, 2	------	8.39	------	------	51.82	------	------	160.09	Total Q
4	Reservoir	3	------	2.43	------	------	13.05	------	------	62.11	Pond Design

Reservoir Report

Reservoir No. 1 - Pond Design

Pond Data

Bottom LxW = 300.0 x 270.0 ft Side slope = 2.0:1 Bottom elev. = 0.10 ft Depth = 7.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	0.10	81,000	0.000	0.000
0.35	0.45	81,800	0.654	0.654
0.70	0.80	82,604	0.660	1.315
1.05	1.15	83,412	0.667	1.981
1.40	1.50	84,223	0.673	2.655
1.75	1.85	85,039	0.680	3.335
2.10	2.20	85,859	0.687	4.022
2.45	2.55	86,682	0.693	4.715
2.80	2.90	87,509	0.700	5.414
3.15	3.25	88,341	0.706	6.121
3.50	3.60	89,176	0.713	6.834
3.85	3.95	90,015	0.720	7.554
4.20	4.30	90,858	0.727	8.281
4.55	4.65	91,705	0.733	9.014
4.90	5.00	92,556	0.740	9.754
5.25	5.35	93,411	0.747	10.501
5.60	5.70	94,270	0.754	11.255
5.95	6.05	95,132	0.761	12.016
6.30	6.40	95,999	0.768	12.784
6.65	6.75	96,870	0.775	13.559
7.00	7.10	97,744	0.782	14.341

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 48.0	48.0	0.0	0.0
Span in	= 48.0	48.0	0.0	0.0
No. Barrels	= 1	1	0	0
Invert El. ft	= 2.00	2.00	0.00	0.00
Length ft	= 40.0	40.0	0.0	0.0
Slope %	= 2.00	2.00	0.00	0.00
N-Value	= .013	.013	.000	.000
Orif. Coeff.	= 0.60	0.60	0.00	0.00
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 0.00	0.00	0.00	0.00
Crest El. ft	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0.000	0.10	0.00	0.00	---	---	---	---	---	---	---	0.00
0.04	0.065	0.14	0.00	0.00	---	---	---	---	---	---	---	0.00
0.07	0.131	0.17	0.00	0.00	---	---	---	---	---	---	---	0.00
0.11	0.196	0.21	0.00	0.00	---	---	---	---	---	---	---	0.00
0.14	0.262	0.24	0.00	0.00	---	---	---	---	---	---	---	0.00
0.18	0.327	0.28	0.00	0.00	---	---	---	---	---	---	---	0.00
0.21	0.392	0.31	0.00	0.00	---	---	---	---	---	---	---	0.00
0.25	0.458	0.35	0.00	0.00	---	---	---	---	---	---	---	0.00
0.28	0.523	0.38	0.00	0.00	---	---	---	---	---	---	---	0.00
0.32	0.589	0.42	0.00	0.00	---	---	---	---	---	---	---	0.00
0.35	0.654	0.45	0.00	0.00	---	---	---	---	---	---	---	0.00
0.39	0.720	0.49	0.00	0.00	---	---	---	---	---	---	---	0.00
0.42	0.786	0.52	0.00	0.00	---	---	---	---	---	---	---	0.00
0.46	0.852	0.56	0.00	0.00	---	---	---	---	---	---	---	0.00
0.49	0.918	0.59	0.00	0.00	---	---	---	---	---	---	---	0.00
0.53	0.984	0.63	0.00	0.00	---	---	---	---	---	---	---	0.00
0.56	1.050	0.66	0.00	0.00	---	---	---	---	---	---	---	0.00

Continues on next page...

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.60	1.116	0.70	0.00	0.00	---	---	---	---	---	---	---	0.00
0.63	1.182	0.73	0.00	0.00	---	---	---	---	---	---	---	0.00
0.67	1.248	0.77	0.00	0.00	---	---	---	---	---	---	---	0.00
0.70	1.315	0.80	0.00	0.00	---	---	---	---	---	---	---	0.00
0.74	1.381	0.84	0.00	0.00	---	---	---	---	---	---	---	0.00
0.77	1.448	0.87	0.00	0.00	---	---	---	---	---	---	---	0.00
0.80	1.515	0.91	0.00	0.00	---	---	---	---	---	---	---	0.00
0.84	1.581	0.94	0.00	0.00	---	---	---	---	---	---	---	0.00
0.87	1.648	0.97	0.00	0.00	---	---	---	---	---	---	---	0.00
0.91	1.715	1.01	0.00	0.00	---	---	---	---	---	---	---	0.00
0.94	1.781	1.05	0.00	0.00	---	---	---	---	---	---	---	0.00
0.98	1.848	1.08	0.00	0.00	---	---	---	---	---	---	---	0.00
1.02	1.915	1.12	0.00	0.00	---	---	---	---	---	---	---	0.00
1.05	1.981	1.15	0.00	0.00	---	---	---	---	---	---	---	0.00
1.09	2.049	1.19	0.00	0.00	---	---	---	---	---	---	---	0.00
1.12	2.116	1.22	0.00	0.00	---	---	---	---	---	---	---	0.00
1.16	2.184	1.26	0.00	0.00	---	---	---	---	---	---	---	0.00
1.19	2.251	1.29	0.00	0.00	---	---	---	---	---	---	---	0.00
1.23	2.318	1.33	0.00	0.00	---	---	---	---	---	---	---	0.00
1.26	2.386	1.36	0.00	0.00	---	---	---	---	---	---	---	0.00
1.30	2.453	1.40	0.00	0.00	---	---	---	---	---	---	---	0.00
1.33	2.520	1.43	0.00	0.00	---	---	---	---	---	---	---	0.00
1.37	2.588	1.47	0.00	0.00	---	---	---	---	---	---	---	0.00
1.40	2.655	1.50	0.00	0.00	---	---	---	---	---	---	---	0.00
1.44	2.723	1.54	0.00	0.00	---	---	---	---	---	---	---	0.00
1.47	2.791	1.57	0.00	0.00	---	---	---	---	---	---	---	0.00
1.51	2.859	1.61	0.00	0.00	---	---	---	---	---	---	---	0.00
1.54	2.927	1.64	0.00	0.00	---	---	---	---	---	---	---	0.00
1.58	2.995	1.68	0.00	0.00	---	---	---	---	---	---	---	0.00
1.61	3.063	1.71	0.00	0.00	---	---	---	---	---	---	---	0.00
1.65	3.131	1.75	0.00	0.00	---	---	---	---	---	---	---	0.00
1.68	3.199	1.78	0.00	0.00	---	---	---	---	---	---	---	0.00
1.72	3.267	1.82	0.00	0.00	---	---	---	---	---	---	---	0.00
1.75	3.335	1.85	0.00	0.00	---	---	---	---	---	---	---	0.00
1.79	3.404	1.89	0.00	0.00	---	---	---	---	---	---	---	0.00
1.82	3.472	1.92	0.00	0.00	---	---	---	---	---	---	---	0.00
1.86	3.541	1.96	0.00	0.00	---	---	---	---	---	---	---	0.00
1.89	3.610	1.99	0.00	0.00	---	---	---	---	---	---	---	0.00
1.93	3.678	2.03	0.00	0.00	---	---	---	---	---	---	---	0.00
1.96	3.747	2.06	0.03	0.02	---	---	---	---	---	---	---	0.02
2.00	3.816	2.10	0.06	0.06	---	---	---	---	---	---	---	0.06
2.03	3.884	2.13	0.10	0.10	---	---	---	---	---	---	---	0.10
2.07	3.953	2.17	0.17	0.17	---	---	---	---	---	---	---	0.17
2.10	4.022	2.20	0.24	0.24	---	---	---	---	---	---	---	0.24
2.14	4.091	2.24	0.36	0.33	---	---	---	---	---	---	---	0.33
2.17	4.160	2.27	0.42	0.42	---	---	---	---	---	---	---	0.42
2.21	4.229	2.31	0.54	0.54	---	---	---	---	---	---	---	0.54
2.24	4.299	2.34	0.68	0.68	---	---	---	---	---	---	---	0.68
2.28	4.368	2.38	0.84	0.83	---	---	---	---	---	---	---	0.83
2.31	4.437	2.41	1.03	0.97	---	---	---	---	---	---	---	0.97
2.35	4.507	2.45	1.15	1.15	---	---	---	---	---	---	---	1.15
2.38	4.576	2.48	1.38	1.37	---	---	---	---	---	---	---	1.37
2.42	4.645	2.52	1.52	1.52	---	---	---	---	---	---	---	1.52
2.45	4.715	2.55	1.81	1.73	---	---	---	---	---	---	---	1.73
2.49	4.785	2.59	1.97	1.95	---	---	---	---	---	---	---	1.95
2.52	4.855	2.62	2.17	2.17	---	---	---	---	---	---	---	2.17
2.56	4.925	2.66	2.51	2.48	---	---	---	---	---	---	---	2.48
2.59	4.995	2.69	2.71	2.71	---	---	---	---	---	---	---	2.71
2.63	5.065	2.73	2.94	2.94	---	---	---	---	---	---	---	2.94
2.66	5.135	2.76	3.38	3.20	---	---	---	---	---	---	---	3.20
2.70	5.205	2.80	3.62	3.48	---	---	---	---	---	---	---	3.48
2.73	5.275	2.83	3.89	3.89	---	---	---	---	---	---	---	3.89
2.77	5.344	2.87	4.17	4.17	---	---	---	---	---	---	---	4.17
2.80	5.414	2.90	4.46	4.46	---	---	---	---	---	---	---	4.46
2.84	5.485	2.94	4.80	4.80	---	---	---	---	---	---	---	4.80
2.87	5.556	2.97	5.11	5.11	---	---	---	---	---	---	---	5.11
2.91	5.626	3.01	5.44	5.44	---	---	---	---	---	---	---	5.44
2.94	5.697	3.04	6.03	5.99	---	---	---	---	---	---	---	5.99
2.98	5.768	3.08	6.39	6.35	---	---	---	---	---	---	---	6.35
3.01	5.838	3.11	6.76	6.71	---	---	---	---	---	---	---	6.71

Continues on next page...

Stage / Storage / Discharge Table

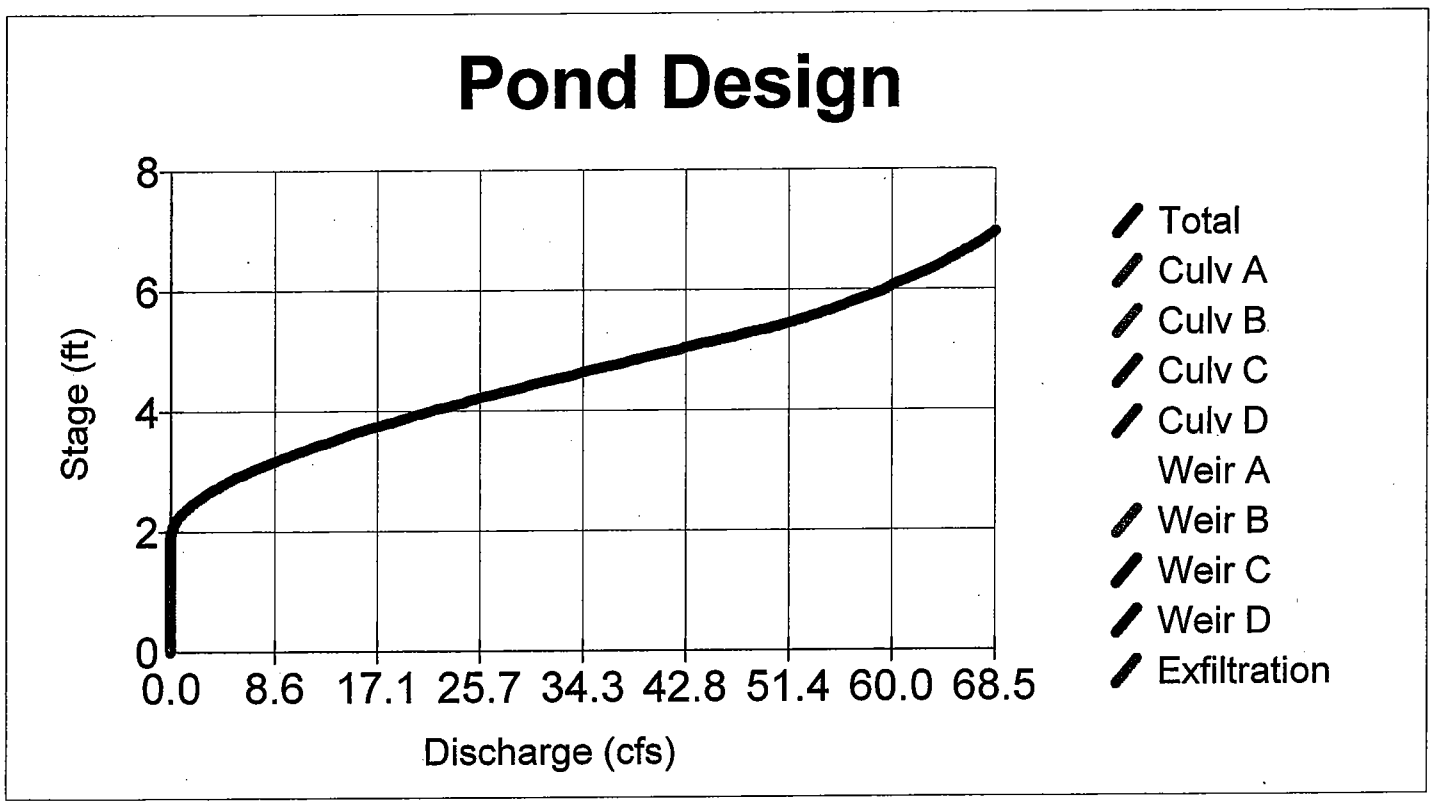
Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
3.05	5.909	3.15	7.15	7.08	---	---	---	---	---	---	---	7.08
3.08	5.980	3.18	7.58	7.58	---	---	---	---	---	---	---	7.58
3.12	6.050	3.22	7.99	7.99	---	---	---	---	---	---	---	7.99
3.15	6.121	3.25	8.42	8.41	---	---	---	---	---	---	---	8.41
3.19	6.192	3.29	8.85	8.85	---	---	---	---	---	---	---	8.85
3.22	6.264	3.32	9.29	9.29	---	---	---	---	---	---	---	9.29
3.26	6.335	3.36	9.81	9.81	---	---	---	---	---	---	---	9.81
3.29	6.406	3.39	10.29	10.29	---	---	---	---	---	---	---	10.29
3.33	6.478	3.43	10.77	10.77	---	---	---	---	---	---	---	10.77
3.36	6.549	3.46	11.27	11.26	---	---	---	---	---	---	---	11.26
3.40	6.620	3.50	11.79	11.71	---	---	---	---	---	---	---	11.71
3.43	6.691	3.53	12.33	12.15	---	---	---	---	---	---	---	12.15
3.47	6.763	3.57	12.90	12.89	---	---	---	---	---	---	---	12.89
3.50	6.834	3.60	13.46	13.38	---	---	---	---	---	---	---	13.38
3.54	6.906	3.64	14.04	13.84	---	---	---	---	---	---	---	13.84
3.57	6.978	3.67	14.64	14.29	---	---	---	---	---	---	---	14.29
3.61	7.050	3.71	14.79	14.79	---	---	---	---	---	---	---	14.79
3.64	7.122	3.74	15.37	15.37	---	---	---	---	---	---	---	15.37
3.68	7.194	3.78	15.97	15.97	---	---	---	---	---	---	---	15.97
3.71	7.266	3.81	16.57	16.57	---	---	---	---	---	---	---	16.57
3.75	7.338	3.85	17.27	17.27	---	---	---	---	---	---	---	17.27
3.78	7.410	3.88	17.89	17.89	---	---	---	---	---	---	---	17.89
3.82	7.482	3.92	18.53	18.53	---	---	---	---	---	---	---	18.53
3.85	7.554	3.95	19.19	19.14	---	---	---	---	---	---	---	19.14
3.89	7.627	3.98	19.89	19.63	---	---	---	---	---	---	---	19.63
3.92	7.699	4.02	20.61	20.13	---	---	---	---	---	---	---	20.13
3.96	7.772	4.05	20.77	20.77	---	---	---	---	---	---	---	20.77
3.99	7.845	4.09	21.45	21.44	---	---	---	---	---	---	---	21.44
4.03	7.917	4.12	22.13	22.13	---	---	---	---	---	---	---	22.13
4.06	7.990	4.16	22.92	22.92	---	---	---	---	---	---	---	22.92
4.09	8.063	4.19	23.63	23.63	---	---	---	---	---	---	---	23.63
4.13	8.135	4.23	24.35	24.31	---	---	---	---	---	---	---	24.31
4.16	8.208	4.26	25.13	24.82	---	---	---	---	---	---	---	24.82
4.20	8.281	4.30	25.35	25.34	---	---	---	---	---	---	---	25.34
4.23	8.354	4.33	26.08	26.08	---	---	---	---	---	---	---	26.08
4.27	8.427	4.37	26.82	26.82	---	---	---	---	---	---	---	26.82
4.30	8.501	4.40	27.57	27.57	---	---	---	---	---	---	---	27.57
4.34	8.574	4.44	28.41	28.41	---	---	---	---	---	---	---	28.41
4.37	8.647	4.47	29.18	29.14	---	---	---	---	---	---	---	29.14
4.41	8.721	4.51	30.01	29.65	---	---	---	---	---	---	---	29.65
4.44	8.794	4.54	30.23	30.23	---	---	---	---	---	---	---	30.23
4.48	8.867	4.58	31.01	31.01	---	---	---	---	---	---	---	31.01
4.51	8.941	4.61	31.79	31.79	---	---	---	---	---	---	---	31.79
4.55	9.014	4.65	32.66	32.66	---	---	---	---	---	---	---	32.66
4.58	9.088	4.68	33.45	33.44	---	---	---	---	---	---	---	33.44
4.62	9.162	4.72	34.30	34.00	---	---	---	---	---	---	---	34.00
4.65	9.236	4.75	34.54	34.54	---	---	---	---	---	---	---	34.54
4.69	9.310	4.79	35.34	35.34	---	---	---	---	---	---	---	35.34
4.72	9.384	4.82	36.23	36.23	---	---	---	---	---	---	---	36.23
4.76	9.458	4.86	37.03	37.02	---	---	---	---	---	---	---	37.02
4.79	9.532	4.89	37.83	37.82	---	---	---	---	---	---	---	37.82
4.83	9.606	4.93	38.73	38.32	---	---	---	---	---	---	---	38.32
4.86	9.680	4.96	39.62	39.19	---	---	---	---	---	---	---	39.19
4.90	9.754	5.00	39.84	39.84	---	---	---	---	---	---	---	39.84
4.93	9.829	5.03	40.65	40.64	---	---	---	---	---	---	---	40.64
4.97	9.904	5.07	41.45	41.45	---	---	---	---	---	---	---	41.45
5.00	9.978	5.10	42.34	42.34	---	---	---	---	---	---	---	42.34
5.04	10.053	5.14	43.22	42.88	---	---	---	---	---	---	---	42.88
5.07	10.128	5.17	43.46	43.46	---	---	---	---	---	---	---	43.46
5.11	10.203	5.21	44.34	44.34	---	---	---	---	---	---	---	44.34
5.14	10.277	5.24	45.15	45.14	---	---	---	---	---	---	---	45.14
5.18	10.352	5.28	46.02	46.01	---	---	---	---	---	---	---	46.01
5.21	10.427	5.31	46.84	46.74	---	---	---	---	---	---	---	46.74
5.25	10.501	5.35	47.74	47.47	---	---	---	---	---	---	---	47.47
5.28	10.577	5.38	47.99	47.99	---	---	---	---	---	---	---	47.99
5.32	10.652	5.42	48.84	48.84	---	---	---	---	---	---	---	48.84
5.35	10.728	5.45	49.63	49.63	---	---	---	---	---	---	---	49.63
5.39	10.803	5.49	50.44	50.44	---	---	---	---	---	---	---	50.44
5.42	10.878	5.52	51.06	51.06	---	---	---	---	---	---	---	51.06
5.46	10.954	5.56	51.68	51.64	---	---	---	---	---	---	---	51.64

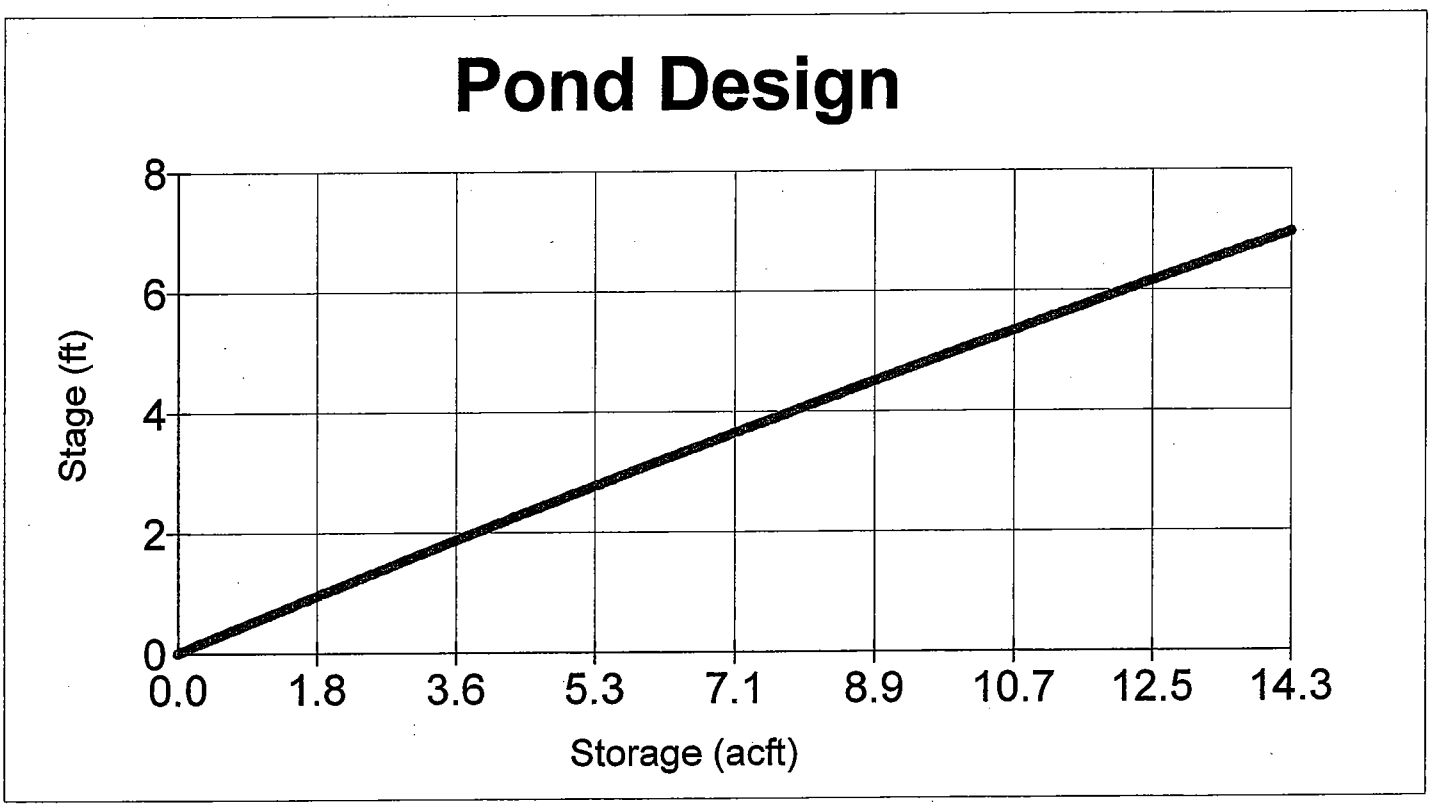
Continues on next page...

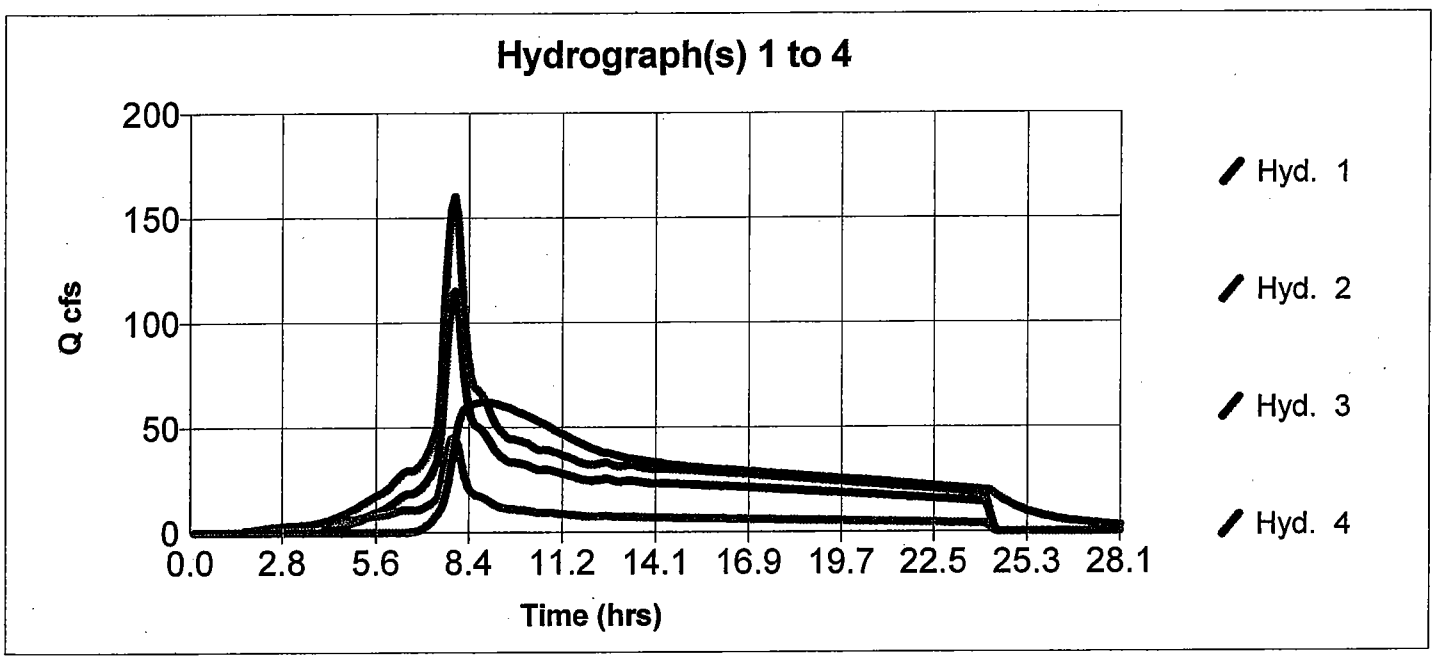
Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
5.49	11.029	5.59	52.28	52.24	---	---	---	---	---	---	---	52.24
5.53	11.105	5.63	52.88	52.81	---	---	---	---	---	---	---	52.81
5.56	11.180	5.66	53.47	53.36	---	---	---	---	---	---	---	53.36
5.60	11.255	5.70	54.05	53.88	---	---	---	---	---	---	---	53.88
5.63	11.332	5.73	54.62	54.38	---	---	---	---	---	---	---	54.38
5.67	11.408	5.77	55.18	54.98	---	---	---	---	---	---	---	54.98
5.70	11.484	5.80	55.73	55.43	---	---	---	---	---	---	---	55.43
5.74	11.560	5.84	56.27	55.94	---	---	---	---	---	---	---	55.94
5.77	11.636	5.87	56.80	56.40	---	---	---	---	---	---	---	56.40
5.81	11.712	5.91	57.32	56.83	---	---	---	---	---	---	---	56.83
5.84	11.788	5.94	57.32	57.32	---	---	---	---	---	---	---	57.32
5.88	11.864	5.98	57.83	57.83	---	---	---	---	---	---	---	57.83
5.91	11.940	6.01	58.33	58.33	---	---	---	---	---	---	---	58.33
5.95	12.016	6.05	58.82	58.82	---	---	---	---	---	---	---	58.82
5.98	12.093	6.08	59.30	59.29	---	---	---	---	---	---	---	59.29
6.02	12.170	6.12	59.76	59.58	---	---	---	---	---	---	---	59.58
6.05	12.247	6.15	60.22	59.87	---	---	---	---	---	---	---	59.87
6.09	12.324	6.19	60.22	60.22	---	---	---	---	---	---	---	60.22
6.12	12.400	6.22	60.66	60.66	---	---	---	---	---	---	---	60.66
6.16	12.477	6.26	61.10	61.10	---	---	---	---	---	---	---	61.10
6.19	12.554	6.29	61.52	61.52	---	---	---	---	---	---	---	61.52
6.23	12.631	6.33	61.93	61.93	---	---	---	---	---	---	---	61.93
6.26	12.707	6.36	62.33	62.33	---	---	---	---	---	---	---	62.33
6.30	12.784	6.40	62.71	62.71	---	---	---	---	---	---	---	62.71
6.33	12.862	6.43	63.09	63.09	---	---	---	---	---	---	---	63.09
6.37	12.939	6.47	63.45	63.45	---	---	---	---	---	---	---	63.45
6.40	13.017	6.50	63.81	63.81	---	---	---	---	---	---	---	63.81
6.44	13.094	6.54	64.15	64.15	---	---	---	---	---	---	---	64.15
6.47	13.172	6.57	64.48	64.47	---	---	---	---	---	---	---	64.47
6.51	13.249	6.61	64.79	64.79	---	---	---	---	---	---	---	64.79
6.54	13.327	6.64	65.10	65.10	---	---	---	---	---	---	---	65.10
6.58	13.404	6.68	65.39	65.39	---	---	---	---	---	---	---	65.39
6.61	13.482	6.71	65.67	65.67	---	---	---	---	---	---	---	65.67
6.65	13.559	6.75	66.20	65.97	---	---	---	---	---	---	---	65.97
6.68	13.637	6.78	66.45	66.40	---	---	---	---	---	---	---	66.40
6.72	13.715	6.82	66.69	66.69	---	---	---	---	---	---	---	66.69
6.75	13.794	6.85	66.92	66.91	---	---	---	---	---	---	---	66.91
6.79	13.872	6.89	67.33	67.25	---	---	---	---	---	---	---	67.25
6.82	13.950	6.92	67.53	67.53	---	---	---	---	---	---	---	67.53
6.86	14.028	6.96	67.88	67.77	---	---	---	---	---	---	---	67.77
6.89	14.106	6.99	68.04	68.04	---	---	---	---	---	---	---	68.04
6.93	14.185	7.03	68.34	68.33	---	---	---	---	---	---	---	68.33
6.96	14.263	7.06	68.59	68.52	---	---	---	---	---	---	---	68.52
7.00	14.341	7.10	68.81	68.72	---	---	---	---	---	---	---	68.72

...End


Pond Design
Stage (ft)
8
6
4
2
0
0.0
8.6
17.1
25.7
34.3
42.8
51.4
60.0
68.5
Discharge (cfs)
Total
Culv A
Culv B
Culv C
Culv D
Weir A
Weir B
Weir C
Weir D
Exfiltration


Pond Design
Stage (ft)
8
6
4
2
0
0.0
1.8
3.6
5.3
7.1
8.9
10.7
12.5
14.3
Storage (acft)


Hydrograph(s) 1 to 4
Q cfs
200
150
100
50
0
0.0
2.8
5.6
8.4
11.2
14.1
16.9
19.7
22.5
25.3
28.1
Time (hrs)
Hyd. 1
Hyd. 2
Hyd. 3
Hyd. 4

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	30.70	6	480	13.598	---	------	------	GOLF COURSE
2	SCS Runoff	21.12	6	480	6.856	---	------	------	COMMERCIAL AREA
3	Combine	51.82	6	480	20.454	1, 2	------	------	Total Q
4	Reservoir	13.05	6	768	16.769	3	3.58	6.786	Pond Design

Hyd. No.	Hydrograph type	Peak flow	Time interval	Time to peak	Volume	Inflow hyd(s)	Maximum elevation	Maximum storage	Hydrograph description
	(origin)	(cfs)	(min)	(min)	(acft)		(ft)	(acft)	
1	SCS Runoff	30.70	6	480.00	13.598				GOLF COURSE
2	SCS Runoff	21.12	6	480.00	6.856				COMMERCIAL AREA
3	Combine	51.82	6	480.00	20.454	1, 2			Total Q
4	Reservoir	13.05	6	768.00	16.769	3	3.58	6.786	Pond Design
5									
6									
7									
8									
9									
10									
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48									
49									
50									

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 1

GOLF COURSE

Hydrograph type	= SCS Runoff	Peak discharge	= 30.70 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Drainage area	= 116.10 ac	Curve number	= 70
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18 min
Total precip.	= 4.25 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 13.598 acft

Hydrograph Discharge Table

Time (min)	Outflow cfs	Time (min)	Outflow cfs	Time (min)	Outflow cfs	Time (min)	Outflow cfs
372	0.33	576	11.58	780	9.17	984	8.71
378	0.63	582	11.45	786	9.26	990	8.69
384	0.98	588	11.51	792	9.41	996	8.67
390	1.33	594	11.51	798	9.45	1002	8.64
396	1.65	600	11.44	804	9.40	1008	8.62
402	1.92	606	11.39	810	9.28	1014	8.60
408	2.20	612	11.31	816	9.18	1020	8.57
414	2.54	618	11.04	822	9.10	1026	8.55
420	2.95	624	10.81	828	9.04	1032	8.52
426	3.44	630	10.63	834	9.00	1038	8.50
432	4.03	636	10.63	840	8.99	1044	8.47
438	4.73	642	10.71	846	9.00	1050	8.44
444	5.57	648	10.72	852	9.04	1056	8.42
450	6.58	654	10.66	858	9.06	1062	8.39
456	9.84	660	10.55	864	9.06	1068	8.36
462	16.05	666	10.43	870	9.05	1074	8.34
468	22.27	672	10.31	876	9.03	1080	8.31
474	27.51	678	10.18	882	9.02	1086	8.28
480	30.70 <<	684	10.05	888	9.01	1092	8.25
486	30.34	690	9.91	894	8.99	1098	8.22
492	26.27	696	9.74	900	8.98	1104	8.19
498	22.16	702	9.54	906	8.96	1110	8.16
504	18.86	708	9.38	912	8.94	1116	8.13
510	16.96	714	9.28	918	8.93	1122	8.10
516	16.06	720	9.23	924	8.91	1128	8.07
522	16.03	726	9.23	930	8.89	1134	8.04
528	15.80	732	9.25	936	8.87	1140	8.01
534	15.36	738	9.32	942	8.86	1146	7.98
540	14.64	744	9.43	948	8.84	1152	7.94
546	13.89	750	9.58	954	8.82	1158	7.91
552	13.15	756	9.61	960	8.80	1164	7.88
558	12.63	762	9.44	966	8.78	1170	7.85
564	12.20	768	9.29	972	8.76	1176	7.81
570	11.89	774	9.19	978	8.73	1182	7.78

Continues on next page...

Hydrograph Discharge Table

Time -- Outflow (min cfs)	
1188	7.75
1194	7.71
1200	7.68
1206	7.64
1212	7.61
1218	7.57
1224	7.54
1230	7.50
1236	7.47
1242	7.43
1248	7.39
1254	7.36
1260	7.32
1266	7.28
1272	7.24
1278	7.21
1284	7.17
1290	7.13
1296	7.09
1302	7.05
1308	7.02
1314	6.98
1320	6.94
1326	6.90
1332	6.86
1338	6.82
1344	6.78
1350	6.74
1356	6.70
1362	6.66
1368	6.62
1374	6.58
1380	6.54
1386	6.49
1392	6.45
1398	6.41
1404	6.37
1410	6.33
1416	6.29
1422	6.24
1428	6.20
1434	6.16
1440	6.12
1446	4.87
1452	2.43
1458	0.81

...End

Hydrograph Report

Hyd. No. 2

COMMERCIAL AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 21.12 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Drainage area	= 27.80 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 12 min
Total precip.	= 4.25 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 6.856 acft

Hydrograph Discharge Table

Time (min)	Outflow cfs	Time (min)	Outflow cfs	Time (min)	Outflow cfs	Time (min)	Outflow cfs
156	0.28	360	3.45	564	5.90	768	3.74
162	0.36	366	3.65	570	5.70	774	3.68
168	0.43	372	3.90	576	5.50	780	3.67
174	0.50	378	4.14	582	5.39	786	3.69
180	0.57	384	4.33	588	5.38	792	3.74
186	0.63	390	4.47	594	5.34	798	3.74
192	0.69	396	4.51	600	5.27	804	3.71
198	0.75	402	4.47	606	5.20	810	3.65
204	0.82	408	4.48	612	5.13	816	3.60
210	0.89	414	4.60	618	4.98	822	3.56
216	0.97	420	4.83	624	4.84	828	3.53
222	1.06	426	5.14	630	4.73	834	3.50
228	1.15	432	5.53	636	4.71	840	3.49
234	1.24	438	5.99	642	4.71	846	3.48
240	1.33	444	6.54	648	4.69	852	3.49
246	1.40	450	7.18	654	4.64	858	3.49
252	1.47	456	9.72	660	4.57	864	3.48
258	1.54	462	14.40	666	4.49	870	3.46
264	1.62	468	18.23	672	4.42	876	3.45
270	1.71	474	20.62	678	4.34	882	3.44
276	1.80	480	21.12 <<	684	4.27	888	3.42
282	1.89	486	19.53	690	4.19	894	3.41
288	1.99	492	16.06	696	4.10	900	3.39
294	2.10	498	12.97	702	4.00	906	3.38
300	2.21	504	10.66	708	3.92	912	3.37
306	2.34	510	9.36	714	3.86	918	3.35
312	2.48	516	8.67	720	3.83	924	3.34
318	2.61	522	8.49	726	3.81	930	3.32
324	2.74	528	8.23	732	3.80	936	3.31
330	2.87	534	7.88	738	3.82	942	3.30
336	2.97	540	7.41	744	3.85	948	3.28
342	3.06	546	6.94	750	3.90	954	3.27
348	3.16	552	6.49	756	3.89	960	3.25
354	3.29	558	6.17	762	3.81	966	3.24

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Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
972	3.22	1278	2.46
978	3.21	1284	2.44
984	3.19	1290	2.42
990	3.18	1296	2.41
996	3.17	1302	2.39
1002	3.15	1308	2.38
1008	3.14	1314	2.36
1014	3.12	1320	2.35
1020	3.11	1326	2.33
1026	3.09	1332	2.31
1032	3.08	1338	2.30
1038	3.06	1344	2.28
1044	3.05	1350	2.27
1050	3.03	1356	2.25
1056	3.02	1362	2.24
1062	3.00	1368	2.22
1068	2.99	1374	2.20
1074	2.97	1380	2.19
1080	2.96	1386	2.17
1086	2.94	1392	2.16
1092	2.93	1398	2.14
1098	2.91	1404	2.13
1104	2.90	1410	2.11
1110	2.88	1416	2.09
1116	2.87	1422	2.08
1122	2.85	1428	2.06
1128	2.84	1434	2.05
1134	2.82	1440	2.03
1140	2.81	1446	1.62
1146	2.79	1452	0.81
1152	2.78	1458	0.27
1158	2.76		
1164	2.75		
1170	2.73	*...End*	
1176	2.72		
1182	2.70		
1188	2.69		
1194	2.67		
1200	2.66		
1206	2.64		
1212	2.63		
1218	2.61		
1224	2.59		
1230	2.58		
1236	2.56		
1242	2.55		
1248	2.53		
1254	2.52		
1260	2.50		
1266	2.49		
1272	2.47		

Hydrograph Report

Hyd. No. 3

Total Q

Hydrograph type = Combined
Storm frequency = 10 yrs
Inflow hyds. = 1, 2

Peak discharge = 51.82 cfs
Time interval = 6 min

Hydrograph Volume = 20.454 acft

Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
180	0.00	0.57	0.57
186	0.00	0.63	0.63
192	0.00	0.69	0.69
198	0.00	0.75	0.75
204	0.00	0.82	0.82
210	0.00	0.89	0.89
216	0.00	0.97	0.97
222	0.00	1.06	1.06
228	0.00	1.15	1.15
234	0.00	1.24	1.24
240	0.00	1.33	1.33
246	0.00	1.40	1.40
252	0.00	1.47	1.47
258	0.00	1.54	1.54
264	0.00	1.62	1.62
270	0.00	1.71	1.71
276	0.00	1.80	1.80
282	0.00	1.89	1.89
288	0.00	1.99	1.99
294	0.00	2.10	2.10
300	0.00	2.21	2.21
306	0.00	2.34	2.34
312	0.00	2.48	2.48
318	0.00	2.61	2.61
324	0.00	2.74	2.74
330	0.00	2.87	2.87
336	0.00	2.97	2.97
342	0.00	3.06	3.06
348	0.00	3.16	3.16
354	0.00	3.29	3.29
360	0.02	3.45	3.47
366	0.11	3.65	3.76
372	0.33	3.90	4.23
378	0.63	4.14	4.77
384	0.98	4.33	5.31
390	1.33	4.47	5.80
396	1.65	4.51	6.16
402	1.92	4.47	6.38

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Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
408	2.20	4.48	6.68
414	2.54	4.60	7.13
420	2.95	4.83	7.78
426	3.44	5.14	8.58
432	4.03	5.53	9.55
438	4.73	5.99	10.72
444	5.57	6.54	12.12
450	6.58	7.18	13.76
456	9.84	9.72	19.55
462	16.05	14.40	30.45
468	22.27	18.23	40.50
474	27.51	20.62	48.13
480	30.70 <<	21.12 <<	51.82 <<
486	30.34	19.53	49.87
492	26.27	16.06	42.33
498	22.16	12.97	35.12
504	18.86	10.66	29.52
510	16.96	9.36	26.32
516	16.06	8.67	24.72
522	16.03	8.49	24.52
528	15.80	8.23	24.03
534	15.36	7.88	23.25
540	14.64	7.41	22.04
546	13.89	6.94	20.83
552	13.15	6.49	19.65
558	12.63	6.17	18.80
564	12.20	5.90	18.11
570	11.89	5.70	17.58
576	11.58	5.50	17.08
582	11.45	5.39	16.85
588	11.51	5.38	16.89
594	11.51	5.34	16.85
600	11.44	5.27	16.71
606	11.39	5.20	16.59
612	11.31	5.13	16.44
618	11.04	4.98	16.01
624	10.81	4.84	15.65
630	10.63	4.73	15.36
636	10.63	4.71	15.34
642	10.71	4.71	15.42
648	10.72	4.69	15.41
654	10.66	4.64	15.31
660	10.55	4.57	15.12
666	10.43	4.49	14.92
672	10.31	4.42	14.72
678	10.18	4.34	14.52
684	10.05	4.27	14.31
690	9.91	4.19	14.10
696	9.74	4.10	13.84
702	9.54	4.00	13.54
708	9.38	3.92	13.30

Continues on next page...

Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
714	9.28	3.86	13.14
720	9.23	3.83	13.06
726	9.23	3.81	13.03
732	9.25	3.80	13.06
738	9.32	3.82	13.14
744	9.43	3.85	13.28
750	9.58	3.90	13.47
756	9.61	3.89	13.50
762	9.44	3.81	13.26
768	9.29	3.74	13.03
774	9.19	3.68	12.87
780	9.17	3.67	12.84
786	9.26	3.69	12.96
792	9.41	3.74	13.16
798	9.45	3.74	13.20
804	9.40	3.71	13.11
810	9.28	3.65	12.93
816	9.18	3.60	12.79
822	9.10	3.56	12.67
828	9.04	3.53	12.57
834	9.00	3.50	12.51
840	8.99	3.49	12.47
846	9.00	3.48	12.48
852	9.04	3.49	12.52
858	9.06	3.49	12.54
864	9.06	3.48	12.54
870	9.05	3.46	12.51
876	9.03	3.45	12.48
882	9.02	3.44	12.46
888	9.01	3.42	12.43
894	8.99	3.41	12.40
900	8.98	3.39	12.37
906	8.96	3.38	12.34
912	8.94	3.37	12.31
918	8.93	3.35	12.28
924	8.91	3.34	12.25
930	8.89	3.32	12.22
936	8.87	3.31	12.18
942	8.86	3.30	12.15
948	8.84	3.28	12.12
954	8.82	3.27	12.08
960	8.80	3.25	12.05
966	8.78	3.24	12.01
972	8.76	3.22	11.98
978	8.73	3.21	11.94
984	8.71	3.19	11.91
990	8.69	3.18	11.87
996	8.67	3.17	11.83
1002	8.64	3.15	11.80
1008	8.62	3.14	11.76
1014	8.60	3.12	11.72

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Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
1020	8.57	3.11	11.68
1026	8.55	3.09	11.64
1032	8.52	3.08	11.60
1038	8.50	3.06	11.56
1044	8.47	3.05	11.52
1050	8.44	3.03	11.48
1056	8.42	3.02	11.44
1062	8.39	3.00	11.39
1068	8.36	2.99	11.35
1074	8.34	2.97	11.31
1080	8.31	2.96	11.27
1086	8.28	2.94	11.22
1092	8.25	2.93	11.18
1098	8.22	2.91	11.14
1104	8.19	2.90	11.09
1110	8.16	2.88	11.05
1116	8.13	2.87	11.00
1122	8.10	2.85	10.95
1128	8.07	2.84	10.91
1134	8.04	2.82	10.86
1140	8.01	2.81	10.82
1146	7.98	2.79	10.77
1152	7.94	2.78	10.72
1158	7.91	2.76	10.67
1164	7.88	2.75	10.63
1170	7.85	2.73	10.58
1176	7.81	2.72	10.53
1182	7.78	2.70	10.48
1188	7.75	2.69	10.43
1194	7.71	2.67	10.38
1200	7.68	2.66	10.33
1206	7.64	2.64	10.28
1212	7.61	2.63	10.23
1218	7.57	2.61	10.18
1224	7.54	2.59	10.13
1230	7.50	2.58	10.08
1236	7.47	2.56	10.03
1242	7.43	2.55	9.98
1248	7.39	2.53	9.93
1254	7.36	2.52	9.87
1260	7.32	2.50	9.82
1266	7.28	2.49	9.77
1272	7.24	2.47	9.72
1278	7.21	2.46	9.66
1284	7.17	2.44	9.61
1290	7.13	2.42	9.56
1296	7.09	2.41	9.50
1302	7.05	2.39	9.45
1308	7.02	2.38	9.39
1314	6.98	2.36	9.34
1320	6.94	2.35	9.28

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Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
1326	6.90	2.33	9.23
1332	6.86	2.31	9.17
1338	6.82	2.30	9.12
1344	6.78	2.28	9.06
1350	6.74	2.27	9.01
1356	6.70	2.25	8.95
1362	6.66	2.24	8.89
1368	6.62	2.22	8.84
1374	6.58	2.20	8.78
1380	6.54	2.19	8.73
1386	6.49	2.17	8.67
1392	6.45	2.16	8.61
1398	6.41	2.14	8.55
1404	6.37	2.13	8.50
1410	6.33	2.11	8.44
1416	6.29	2.09	8.38
1422	6.24	2.08	8.32
1428	6.20	2.06	8.26
1434	6.16	2.05	8.21
1440	6.12	2.03	8.15
1446	4.87	1.62	6.49
1452	2.43	0.81	3.24
1458	0.81	0.27	1.08

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 4

Pond Design

Hydrograph type	= Reservoir	Peak discharge	= 13.05 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Inflow hyd. No.	= 3	Reservoir name	= Pond Design
Max. Elevation	= 3.58 ft	Max. Storage	= 6.786 acft

Storage Indication method used.

Outflow hydrograph volume = 16.769 acft

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
504	29.52	2.27	0.43	0.43	-----	-----	-----	-----	-----	-----	-----	0.43
510	26.32	2.39	0.89	0.87	-----	-----	-----	-----	-----	-----	-----	0.87
516	24.72	2.49	1.41	1.40	-----	-----	-----	-----	-----	-----	-----	1.40
522	24.52	2.58	1.95	1.94	-----	-----	-----	-----	-----	-----	-----	1.94
528	24.03	2.67	2.62	2.61	-----	-----	-----	-----	-----	-----	-----	2.61
534	23.25	2.76	3.37	3.20	-----	-----	-----	-----	-----	-----	-----	3.20
540	22.04	2.84	3.96	3.96	-----	-----	-----	-----	-----	-----	-----	3.96
546	20.83	2.91	4.55	4.54	-----	-----	-----	-----	-----	-----	-----	4.54
552	19.65	2.97	5.13	5.13	-----	-----	-----	-----	-----	-----	-----	5.13
558	18.80	3.03	5.83	5.81	-----	-----	-----	-----	-----	-----	-----	5.81
564	18.11	3.08	6.43	6.39	-----	-----	-----	-----	-----	-----	-----	6.39
570	17.58	3.12	6.93	6.87	-----	-----	-----	-----	-----	-----	-----	6.87
576	17.08	3.17	7.42	7.39	-----	-----	-----	-----	-----	-----	-----	7.39
582	16.85	3.20	7.88	7.87	-----	-----	-----	-----	-----	-----	-----	7.87
588	16.89	3.24	8.30	8.30	-----	-----	-----	-----	-----	-----	-----	8.30
594	16.85	3.27	8.72	8.72	-----	-----	-----	-----	-----	-----	-----	8.72
600	16.71	3.31	9.12	9.12	-----	-----	-----	-----	-----	-----	-----	9.12
606	16.59	3.34	9.54	9.54	-----	-----	-----	-----	-----	-----	-----	9.54
612	16.44	3.36	9.93	9.93	-----	-----	-----	-----	-----	-----	-----	9.93
618	16.01	3.39	10.27	10.27	-----	-----	-----	-----	-----	-----	-----	10.27
624	15.65	3.41	10.57	10.57	-----	-----	-----	-----	-----	-----	-----	10.57
630	15.36	3.43	10.84	10.84	-----	-----	-----	-----	-----	-----	-----	10.84
636	15.34	3.45	11.09	11.09	-----	-----	-----	-----	-----	-----	-----	11.09
642	15.42	3.46	11.34	11.33	-----	-----	-----	-----	-----	-----	-----	11.33
648	15.41	3.48	11.58	11.53	-----	-----	-----	-----	-----	-----	-----	11.53
654	15.31	3.50	11.81	11.73	-----	-----	-----	-----	-----	-----	-----	11.73
660	15.12	3.51	12.02	11.90	-----	-----	-----	-----	-----	-----	-----	11.90
666	14.92	3.52	12.21	12.05	-----	-----	-----	-----	-----	-----	-----	12.05
672	14.72	3.53	12.38	12.22	-----	-----	-----	-----	-----	-----	-----	12.22
678	14.52	3.54	12.53	12.42	-----	-----	-----	-----	-----	-----	-----	12.42
684	14.31	3.55	12.66	12.58	-----	-----	-----	-----	-----	-----	-----	12.58
690	14.10	3.56	12.76	12.71	-----	-----	-----	-----	-----	-----	-----	12.71
696	13.84	3.56	12.84	12.82	-----	-----	-----	-----	-----	-----	-----	12.82
702	13.54	3.56	12.89	12.89	-----	-----	-----	-----	-----	-----	-----	12.89
708	13.30	3.57	12.93	12.92	-----	-----	-----	-----	-----	-----	-----	12.92
714	13.14	3.57	12.94	12.94	-----	-----	-----	-----	-----	-----	-----	12.94
720	13.06	3.57	12.95	12.95	-----	-----	-----	-----	-----	-----	-----	12.95
726	13.03	3.57	12.96	12.95	-----	-----	-----	-----	-----	-----	-----	12.95

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
732	13.06	3.57	12.97	12.96	-----	-----	-----	-----	-----	-----	-----	12.96
738	13.14	3.57	12.98	12.96	-----	-----	-----	-----	-----	-----	-----	12.96
744	13.28	3.57	12.99	12.98	-----	-----	-----	-----	-----	-----	-----	12.98
750	13.47	3.57	13.02	13.00	-----	-----	-----	-----	-----	-----	-----	13.00
756	13.50	3.57	13.05	13.03	-----	-----	-----	-----	-----	-----	-----	13.03
762	13.26	3.58	13.07	13.05	-----	-----	-----	-----	-----	-----	-----	13.05
768	13.03	3.58 <<	13.08	13.05	-----	-----	-----	-----	-----	-----	-----	13.05 <<
774	12.87	3.58	13.07	13.05	-----	-----	-----	-----	-----	-----	-----	13.05
780	12.84	3.58	13.06	13.04	-----	-----	-----	-----	-----	-----	-----	13.04
786	12.96	3.57	13.05	13.03	-----	-----	-----	-----	-----	-----	-----	13.03
792	13.16	3.57	13.05	13.03	-----	-----	-----	-----	-----	-----	-----	13.03
798	13.20	3.58	13.06	13.04	-----	-----	-----	-----	-----	-----	-----	13.04
804	13.11	3.58	13.07	13.04	-----	-----	-----	-----	-----	-----	-----	13.04
810	12.93	3.58	13.07	13.04	-----	-----	-----	-----	-----	-----	-----	13.04
816	12.79	3.57	13.05	13.03	-----	-----	-----	-----	-----	-----	-----	13.03
822	12.67	3.57	13.04	13.02	-----	-----	-----	-----	-----	-----	-----	13.02
828	12.57	3.57	13.01	12.99	-----	-----	-----	-----	-----	-----	-----	12.99
834	12.51	3.57	12.98	12.97	-----	-----	-----	-----	-----	-----	-----	12.97
840	12.47	3.57	12.95	12.94	-----	-----	-----	-----	-----	-----	-----	12.94
846	12.48	3.57	12.92	12.92	-----	-----	-----	-----	-----	-----	-----	12.92
852	12.52	3.57	12.90	12.89	-----	-----	-----	-----	-----	-----	-----	12.89
858	12.54	3.56	12.87	12.86	-----	-----	-----	-----	-----	-----	-----	12.86
864	12.54	3.56	12.85	12.84	-----	-----	-----	-----	-----	-----	-----	12.84
870	12.51	3.56	12.83	12.81	-----	-----	-----	-----	-----	-----	-----	12.81
876	12.48	3.56	12.81	12.79	-----	-----	-----	-----	-----	-----	-----	12.79
882	12.46	3.56	12.79	12.76	-----	-----	-----	-----	-----	-----	-----	12.76
888	12.43	3.56	12.77	12.73	-----	-----	-----	-----	-----	-----	-----	12.73
894	12.40	3.56	12.75	12.71	-----	-----	-----	-----	-----	-----	-----	12.71
900	12.37	3.55	12.73	12.68	-----	-----	-----	-----	-----	-----	-----	12.68
906	12.34	3.55	12.71	12.65	-----	-----	-----	-----	-----	-----	-----	12.65
912	12.31	3.55	12.69	12.63	-----	-----	-----	-----	-----	-----	-----	12.63
918	12.28	3.55	12.67	12.60	-----	-----	-----	-----	-----	-----	-----	12.60
924	12.25	3.55	12.65	12.57	-----	-----	-----	-----	-----	-----	-----	12.57
930	12.22	3.55	12.63	12.54	-----	-----	-----	-----	-----	-----	-----	12.54
936	12.18	3.55	12.61	12.52	-----	-----	-----	-----	-----	-----	-----	12.52
942	12.15	3.55	12.59	12.49	-----	-----	-----	-----	-----	-----	-----	12.49
948	12.12	3.54	12.56	12.46	-----	-----	-----	-----	-----	-----	-----	12.46
954	12.08	3.54	12.54	12.43	-----	-----	-----	-----	-----	-----	-----	12.43
960	12.05	3.54	12.52	12.40	-----	-----	-----	-----	-----	-----	-----	12.40
966	12.01	3.54	12.50	12.37	-----	-----	-----	-----	-----	-----	-----	12.37
972	11.98	3.54	12.47	12.34	-----	-----	-----	-----	-----	-----	-----	12.34
978	11.94	3.54	12.45	12.31	-----	-----	-----	-----	-----	-----	-----	12.31
984	11.91	3.54	12.42	12.28	-----	-----	-----	-----	-----	-----	-----	12.28
990	11.87	3.53	12.40	12.24	-----	-----	-----	-----	-----	-----	-----	12.24
996	11.83	3.53	12.38	12.21	-----	-----	-----	-----	-----	-----	-----	12.21
1002	11.80	3.53	12.35	12.18	-----	-----	-----	-----	-----	-----	-----	12.18
1008	11.76	3.53	12.33	12.15	-----	-----	-----	-----	-----	-----	-----	12.15
1014	11.72	3.53	12.30	12.13	-----	-----	-----	-----	-----	-----	-----	12.13
1020	11.68	3.53	12.27	12.11	-----	-----	-----	-----	-----	-----	-----	12.11
1026	11.64	3.52	12.25	12.08	-----	-----	-----	-----	-----	-----	-----	12.08
1032	11.60	3.52	12.22	12.06	-----	-----	-----	-----	-----	-----	-----	12.06

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1038	11.56	3.52	12.19	12.04	-----	-----	-----	-----	-----	-----	-----	12.04
1044	11.52	3.52	12.16	12.01	-----	-----	-----	-----	-----	-----	-----	12.01
1050	11.48	3.52	12.13	11.99	-----	-----	-----	-----	-----	-----	-----	11.99
1056	11.44	3.51	12.09	11.96	-----	-----	-----	-----	-----	-----	-----	11.96
1062	11.39	3.51	12.06	11.93	-----	-----	-----	-----	-----	-----	-----	11.93
1068	11.35	3.51	12.03	11.91	-----	-----	-----	-----	-----	-----	-----	11.91
1074	11.31	3.51	11.99	11.88	-----	-----	-----	-----	-----	-----	-----	11.88
1080	11.27	3.51	11.96	11.85	-----	-----	-----	-----	-----	-----	-----	11.85
1086	11.22	3.50	11.92	11.82	-----	-----	-----	-----	-----	-----	-----	11.82
1092	11.18	3.50	11.88	11.79	-----	-----	-----	-----	-----	-----	-----	11.79
1098	11.14	3.50	11.84	11.76	-----	-----	-----	-----	-----	-----	-----	11.76
1104	11.09	3.50	11.80	11.73	-----	-----	-----	-----	-----	-----	-----	11.73
1110	11.05	3.49	11.76	11.69	-----	-----	-----	-----	-----	-----	-----	11.69
1116	11.00	3.49	11.72	11.66	-----	-----	-----	-----	-----	-----	-----	11.66
1122	10.95	3.49	11.68	11.62	-----	-----	-----	-----	-----	-----	-----	11.62
1128	10.91	3.49	11.64	11.59	-----	-----	-----	-----	-----	-----	-----	11.59
1134	10.86	3.48	11.60	11.55	-----	-----	-----	-----	-----	-----	-----	11.55
1140	10.82	3.48	11.56	11.52	-----	-----	-----	-----	-----	-----	-----	11.52
1146	10.77	3.48	11.52	11.48	-----	-----	-----	-----	-----	-----	-----	11.48
1152	10.72	3.47	11.47	11.44	-----	-----	-----	-----	-----	-----	-----	11.44
1158	10.67	3.47	11.43	11.40	-----	-----	-----	-----	-----	-----	-----	11.40
1164	10.63	3.47	11.38	11.37	-----	-----	-----	-----	-----	-----	-----	11.37
1170	10.58	3.46	11.34	11.33	-----	-----	-----	-----	-----	-----	-----	11.33
1176	10.53	3.46	11.29	11.29	-----	-----	-----	-----	-----	-----	-----	11.29
1182	10.48	3.46	11.25	11.25	-----	-----	-----	-----	-----	-----	-----	11.25
1188	10.43	3.46	11.20	11.20	-----	-----	-----	-----	-----	-----	-----	11.20
1194	10.38	3.45	11.16	11.16	-----	-----	-----	-----	-----	-----	-----	11.16
1200	10.33	3.45	11.11	11.11	-----	-----	-----	-----	-----	-----	-----	11.11
1206	10.28	3.45	11.07	11.07	-----	-----	-----	-----	-----	-----	-----	11.07
1212	10.23	3.44	11.02	11.02	-----	-----	-----	-----	-----	-----	-----	11.02
1218	10.18	3.44	10.98	10.98	-----	-----	-----	-----	-----	-----	-----	10.98
1224	10.13	3.44	10.93	10.93	-----	-----	-----	-----	-----	-----	-----	10.93
1230	10.08	3.43	10.89	10.89	-----	-----	-----	-----	-----	-----	-----	10.89
1236	10.03	3.43	10.84	10.84	-----	-----	-----	-----	-----	-----	-----	10.84
1242	9.98	3.43	10.79	10.79	-----	-----	-----	-----	-----	-----	-----	10.79
1248	9.93	3.42	10.75	10.75	-----	-----	-----	-----	-----	-----	-----	10.75
1254	9.87	3.42	10.70	10.70	-----	-----	-----	-----	-----	-----	-----	10.70
1260	9.82	3.42	10.65	10.65	-----	-----	-----	-----	-----	-----	-----	10.65
1266	9.77	3.41	10.61	10.61	-----	-----	-----	-----	-----	-----	-----	10.61
1272	9.72	3.41	10.56	10.56	-----	-----	-----	-----	-----	-----	-----	10.56
1278	9.66	3.41	10.51	10.51	-----	-----	-----	-----	-----	-----	-----	10.51
1284	9.61	3.40	10.47	10.46	-----	-----	-----	-----	-----	-----	-----	10.46
1290	9.56	3.40	10.42	10.42	-----	-----	-----	-----	-----	-----	-----	10.42
1296	9.50	3.40	10.37	10.37	-----	-----	-----	-----	-----	-----	-----	10.37
1302	9.45	3.39	10.32	10.32	-----	-----	-----	-----	-----	-----	-----	10.32
1308	9.39	3.39	10.27	10.27	-----	-----	-----	-----	-----	-----	-----	10.27
1314	9.34	3.39	10.22	10.22	-----	-----	-----	-----	-----	-----	-----	10.22
1320	9.28	3.38	10.17	10.17	-----	-----	-----	-----	-----	-----	-----	10.17
1326	9.23	3.38	10.13	10.13	-----	-----	-----	-----	-----	-----	-----	10.13
1332	9.17	3.37	10.08	10.08	-----	-----	-----	-----	-----	-----	-----	10.08
1338	9.12	3.37	10.03	10.03	-----	-----	-----	-----	-----	-----	-----	10.03

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1344	9.06	3.37	9.98	9.98	-----	-----	-----	-----	-----	-----	-----	9.98
1350	9.01	3.36	9.93	9.93	-----	-----	-----	-----	-----	-----	-----	9.93
1356	8.95	3.36	9.88	9.88	-----	-----	-----	-----	-----	-----	-----	9.88
1362	8.89	3.36	9.83	9.83	-----	-----	-----	-----	-----	-----	-----	9.83
1368	8.84	3.35	9.77	9.77	-----	-----	-----	-----	-----	-----	-----	9.77
1374	8.78	3.35	9.71	9.71	-----	-----	-----	-----	-----	-----	-----	9.71
1380	8.73	3.34	9.66	9.66	-----	-----	-----	-----	-----	-----	-----	9.66
1386	8.67	3.34	9.60	9.60	-----	-----	-----	-----	-----	-----	-----	9.60
1392	8.61	3.34	9.55	9.55	-----	-----	-----	-----	-----	-----	-----	9.55
1398	8.55	3.33	9.49	9.49	-----	-----	-----	-----	-----	-----	-----	9.49
1404	8.50	3.33	9.43	9.43	-----	-----	-----	-----	-----	-----	-----	9.43
1410	8.44	3.33	9.38	9.38	-----	-----	-----	-----	-----	-----	-----	9.38
1416	8.38	3.32	9.32	9.32	-----	-----	-----	-----	-----	-----	-----	9.32
1422	8.32	3.32	9.27	9.27	-----	-----	-----	-----	-----	-----	-----	9.27
1428	8.26	3.31	9.22	9.22	-----	-----	-----	-----	-----	-----	-----	9.22
1434	8.21	3.31	9.17	9.17	-----	-----	-----	-----	-----	-----	-----	9.17
1440	8.15	3.31	9.12	9.12	-----	-----	-----	-----	-----	-----	-----	9.12
1446	6.49	3.30	9.03	9.03	-----	-----	-----	-----	-----	-----	-----	9.03
1452	3.24	3.28	8.82	8.82	-----	-----	-----	-----	-----	-----	-----	8.82
1458	1.08	3.26	8.49	8.49	-----	-----	-----	-----	-----	-----	-----	8.49
1464	0.00	3.22	8.11	8.11	-----	-----	-----	-----	-----	-----	-----	8.11
1470	0.00	3.19	7.73	7.73	-----	-----	-----	-----	-----	-----	-----	7.73
1476	0.00	3.16	7.35	7.32	-----	-----	-----	-----	-----	-----	-----	7.32
1482	0.00	3.13	7.01	6.95	-----	-----	-----	-----	-----	-----	-----	6.95
1488	0.00	3.10	6.70	6.65	-----	-----	-----	-----	-----	-----	-----	6.65
1494	0.00	3.08	6.42	6.38	-----	-----	-----	-----	-----	-----	-----	6.38
1500	0.00	3.05	6.16	6.12	-----	-----	-----	-----	-----	-----	-----	6.12
1506	0.00	3.03	5.82	5.80	-----	-----	-----	-----	-----	-----	-----	5.80
1512	0.00	3.00	5.43	5.43	-----	-----	-----	-----	-----	-----	-----	5.43
1518	0.00	2.98	5.23	5.23	-----	-----	-----	-----	-----	-----	-----	5.23
1524	0.00	2.96	5.04	5.04	-----	-----	-----	-----	-----	-----	-----	5.04
1530	0.00	2.94	4.86	4.86	-----	-----	-----	-----	-----	-----	-----	4.86
1536	0.00	2.92	4.67	4.67	-----	-----	-----	-----	-----	-----	-----	4.67
1542	0.00	2.90	4.49	4.49	-----	-----	-----	-----	-----	-----	-----	4.49
1548	0.00	2.89	4.34	4.33	-----	-----	-----	-----	-----	-----	-----	4.33
1554	0.00	2.87	4.19	4.19	-----	-----	-----	-----	-----	-----	-----	4.19
1560	0.00	2.85	4.05	4.05	-----	-----	-----	-----	-----	-----	-----	4.05
1566	0.00	2.83	3.92	3.92	-----	-----	-----	-----	-----	-----	-----	3.92
1572	0.00	2.82	3.80	3.75	-----	-----	-----	-----	-----	-----	-----	3.75
1578	0.00	2.80	3.68	3.58	-----	-----	-----	-----	-----	-----	-----	3.58
1584	0.00	2.79	3.58	3.43	-----	-----	-----	-----	-----	-----	-----	3.43
1590	0.00	2.77	3.48	3.32	-----	-----	-----	-----	-----	-----	-----	3.32
1596	0.00	2.76	3.38	3.21	-----	-----	-----	-----	-----	-----	-----	3.21
1602	0.00	2.75	3.23	3.11	-----	-----	-----	-----	-----	-----	-----	3.11
1608	0.00	2.74	3.07	3.01	-----	-----	-----	-----	-----	-----	-----	3.01
1614	0.00	2.72	2.92	2.92	-----	-----	-----	-----	-----	-----	-----	2.92
1620	0.00	2.71	2.85	2.85	-----	-----	-----	-----	-----	-----	-----	2.85
1626	0.00	2.70	2.77	2.77	-----	-----	-----	-----	-----	-----	-----	2.77
1632	0.00	2.69	2.70	2.70	-----	-----	-----	-----	-----	-----	-----	2.70
1638	0.00	2.68	2.64	2.63	-----	-----	-----	-----	-----	-----	-----	2.63
1644	0.00	2.67	2.57	2.56	-----	-----	-----	-----	-----	-----	-----	2.56

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1650	0.00	2.66	2.51	2.49	-----	-----	-----	-----	-----	-----	-----	2.49
1656	0.00	2.65	2.42	2.40	-----	-----	-----	-----	-----	-----	-----	2.40
1662	0.00	2.64	2.32	2.31	-----	-----	-----	-----	-----	-----	-----	2.31
1668	0.00	2.63	2.23	2.23	-----	-----	-----	-----	-----	-----	-----	2.23
1674	0.00	2.62	2.16	2.15	-----	-----	-----	-----	-----	-----	-----	2.15
1680	0.00	2.61	2.10	2.10	-----	-----	-----	-----	-----	-----	-----	2.10
1686	0.00	2.60	2.05	2.05	-----	-----	-----	-----	-----	-----	-----	2.05
1692	0.00	2.59	2.01	1.99	-----	-----	-----	-----	-----	-----	-----	1.99
1698	0.00	2.58	1.96	1.94	-----	-----	-----	-----	-----	-----	-----	1.94
1704	0.00	2.58	1.92	1.89	-----	-----	-----	-----	-----	-----	-----	1.89
1710	0.00	2.57	1.89	1.85	-----	-----	-----	-----	-----	-----	-----	1.85
1716	0.00	2.56	1.85	1.80	-----	-----	-----	-----	-----	-----	-----	1.80
1722	0.00	2.55	1.82	1.75	-----	-----	-----	-----	-----	-----	-----	1.75
1728	0.00	2.55	1.77	1.71	-----	-----	-----	-----	-----	-----	-----	1.71
1734	0.00	2.54	1.72	1.67	-----	-----	-----	-----	-----	-----	-----	1.67
1740	0.00	2.53	1.66	1.63	-----	-----	-----	-----	-----	-----	-----	1.63
1746	0.00	2.53	1.61	1.59	-----	-----	-----	-----	-----	-----	-----	1.59
1752	0.00	2.52	1.56	1.55	-----	-----	-----	-----	-----	-----	-----	1.55
1758	0.00	2.51	1.51	1.51	-----	-----	-----	-----	-----	-----	-----	1.51
1764	0.00	2.51	1.49	1.48	-----	-----	-----	-----	-----	-----	-----	1.48
1770	0.00	2.50	1.46	1.46	-----	-----	-----	-----	-----	-----	-----	1.46
1776	0.00	2.49	1.44	1.43	-----	-----	-----	-----	-----	-----	-----	1.43
1782	0.00	2.49	1.41	1.40	-----	-----	-----	-----	-----	-----	-----	1.40
1788	0.00	2.48	1.39	1.38	-----	-----	-----	-----	-----	-----	-----	1.38
1794	0.00	2.48	1.36	1.35	-----	-----	-----	-----	-----	-----	-----	1.35
1800	0.00	2.47	1.32	1.31	-----	-----	-----	-----	-----	-----	-----	1.31
1806	0.00	2.47	1.29	1.28	-----	-----	-----	-----	-----	-----	-----	1.28
1812	0.00	2.46	1.25	1.25	-----	-----	-----	-----	-----	-----	-----	1.25
1818	0.00	2.46	1.22	1.22	-----	-----	-----	-----	-----	-----	-----	1.22
1824	0.00	2.45	1.19	1.19	-----	-----	-----	-----	-----	-----	-----	1.19
1830	0.00	2.45	1.16	1.16	-----	-----	-----	-----	-----	-----	-----	1.16
1836	0.00	2.44	1.14	1.13	-----	-----	-----	-----	-----	-----	-----	1.13
1842	0.00	2.44	1.12	1.11	-----	-----	-----	-----	-----	-----	-----	1.11
1848	0.00	2.43	1.11	1.08	-----	-----	-----	-----	-----	-----	-----	1.08
1854	0.00	2.43	1.09	1.06	-----	-----	-----	-----	-----	-----	-----	1.06
1860	0.00	2.42	1.08	1.03	-----	-----	-----	-----	-----	-----	-----	1.03
1866	0.00	2.42	1.06	1.01	-----	-----	-----	-----	-----	-----	-----	1.01
1872	0.00	2.41	1.05	0.99	-----	-----	-----	-----	-----	-----	-----	0.99
1878	0.00	2.41	1.03	0.97	-----	-----	-----	-----	-----	-----	-----	0.97
1884	0.00	2.41	1.01	0.95	-----	-----	-----	-----	-----	-----	-----	0.95
1890	0.00	2.40	0.99	0.94	-----	-----	-----	-----	-----	-----	-----	0.94
1896	0.00	2.40	0.97	0.92	-----	-----	-----	-----	-----	-----	-----	0.92
1902	0.00	2.39	0.94	0.91	-----	-----	-----	-----	-----	-----	-----	0.91
1908	0.00	2.39	0.92	0.89	-----	-----	-----	-----	-----	-----	-----	0.89
1914	0.00	2.39	0.90	0.88	-----	-----	-----	-----	-----	-----	-----	0.88
1920	0.00	2.38	0.88	0.87	-----	-----	-----	-----	-----	-----	-----	0.87
1926	0.00	2.38	0.86	0.85	-----	-----	-----	-----	-----	-----	-----	0.85
1932	0.00	2.38	0.84	0.84	-----	-----	-----	-----	-----	-----	-----	0.84
1938	0.00	2.37	0.83	0.82	-----	-----	-----	-----	-----	-----	-----	0.82
1944	0.00	2.37	0.81	0.81	-----	-----	-----	-----	-----	-----	-----	0.81
1950	0.00	2.37	0.80	0.79	-----	-----	-----	-----	-----	-----	-----	0.79

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1956	0.00	2.36	0.78	0.78	-----	-----	-----	-----	-----	-----	-----	0.78
1962	0.00	2.36	0.77	0.76	-----	-----	-----	-----	-----	-----	-----	0.76
1968	0.00	2.36	0.75	0.75	-----	-----	-----	-----	-----	-----	-----	0.75
1974	0.00	2.35	0.74	0.74	-----	-----	-----	-----	-----	-----	-----	0.74
1980	0.00	2.35	0.72	0.72	-----	-----	-----	-----	-----	-----	-----	0.72
1986	0.00	2.35	0.71	0.71	-----	-----	-----	-----	-----	-----	-----	0.71
1992	0.00	2.34	0.70	0.70	-----	-----	-----	-----	-----	-----	-----	0.70
1998	0.00	2.34	0.68	0.68	-----	-----	-----	-----	-----	-----	-----	0.68
2004	0.00	2.34	0.67	0.67	-----	-----	-----	-----	-----	-----	-----	0.67
2010	0.00	2.34	0.66	0.66	-----	-----	-----	-----	-----	-----	-----	0.66
2016	0.00	2.33	0.65	0.65	-----	-----	-----	-----	-----	-----	-----	0.65
2022	0.00	2.33	0.64	0.64	-----	-----	-----	-----	-----	-----	-----	0.64
2028	0.00	2.33	0.63	0.63	-----	-----	-----	-----	-----	-----	-----	0.63
2034	0.00	2.33	0.62	0.62	-----	-----	-----	-----	-----	-----	-----	0.62
2040	0.00	2.32	0.61	0.61	-----	-----	-----	-----	-----	-----	-----	0.61
2046	0.00	2.32	0.60	0.60	-----	-----	-----	-----	-----	-----	-----	0.60
2052	0.00	2.32	0.59	0.59	-----	-----	-----	-----	-----	-----	-----	0.59
2058	0.00	2.32	0.58	0.58	-----	-----	-----	-----	-----	-----	-----	0.58
2064	0.00	2.31	0.57	0.57	-----	-----	-----	-----	-----	-----	-----	0.57
2070	0.00	2.31	0.56	0.56	-----	-----	-----	-----	-----	-----	-----	0.56
2076	0.00	2.31	0.55	0.55	-----	-----	-----	-----	-----	-----	-----	0.55
2082	0.00	2.31	0.54	0.54	-----	-----	-----	-----	-----	-----	-----	0.54
2088	0.00	2.30	0.54	0.54	-----	-----	-----	-----	-----	-----	-----	0.54
2094	0.00	2.30	0.53	0.53	-----	-----	-----	-----	-----	-----	-----	0.53
2100	0.00	2.30	0.52	0.52	-----	-----	-----	-----	-----	-----	-----	0.52
2106	0.00	2.30	0.51	0.51	-----	-----	-----	-----	-----	-----	-----	0.51
2112	0.00	2.29	0.51	0.51	-----	-----	-----	-----	-----	-----	-----	0.51
2118	0.00	2.29	0.50	0.50	-----	-----	-----	-----	-----	-----	-----	0.50
2124	0.00	2.29	0.49	0.49	-----	-----	-----	-----	-----	-----	-----	0.49
2130	0.00	2.29	0.49	0.49	-----	-----	-----	-----	-----	-----	-----	0.49
2136	0.00	2.29	0.48	0.48	-----	-----	-----	-----	-----	-----	-----	0.48
2142	0.00	2.28	0.47	0.47	-----	-----	-----	-----	-----	-----	-----	0.47
2148	0.00	2.28	0.47	0.47	-----	-----	-----	-----	-----	-----	-----	0.47
2154	0.00	2.28	0.46	0.46	-----	-----	-----	-----	-----	-----	-----	0.46
2160	0.00	2.28	0.45	0.45	-----	-----	-----	-----	-----	-----	-----	0.45
2166	0.00	2.28	0.45	0.45	-----	-----	-----	-----	-----	-----	-----	0.45
2172	0.00	2.28	0.44	0.44	-----	-----	-----	-----	-----	-----	-----	0.44
2178	0.00	2.27	0.43	0.43	-----	-----	-----	-----	-----	-----	-----	0.43
2184	0.00	2.27	0.43	0.43	-----	-----	-----	-----	-----	-----	-----	0.43
2190	0.00	2.27	0.42	0.42	-----	-----	-----	-----	-----	-----	-----	0.42
2196	0.00	2.27	0.42	0.42	-----	-----	-----	-----	-----	-----	-----	0.42
2202	0.00	2.27	0.42	0.41	-----	-----	-----	-----	-----	-----	-----	0.41
2208	0.00	2.26	0.41	0.41	-----	-----	-----	-----	-----	-----	-----	0.41
2214	0.00	2.26	0.41	0.40	-----	-----	-----	-----	-----	-----	-----	0.40
2220	0.00	2.26	0.41	0.40	-----	-----	-----	-----	-----	-----	-----	0.40
2226	0.00	2.26	0.40	0.39	-----	-----	-----	-----	-----	-----	-----	0.39
2232	0.00	2.26	0.40	0.39	-----	-----	-----	-----	-----	-----	-----	0.39
2238	0.00	2.26	0.40	0.39	-----	-----	-----	-----	-----	-----	-----	0.39
2244	0.00	2.25	0.40	0.38	-----	-----	-----	-----	-----	-----	-----	0.38
2250	0.00	2.25	0.39	0.38	-----	-----	-----	-----	-----	-----	-----	0.38
2256	0.00	2.25	0.39	0.37	-----	-----	-----	-----	-----	-----	-----	0.37

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
2262	0.00	2.25	0.39	0.37	-----	-----	-----	-----	-----	-----	-----	0.37
2268	0.00	2.25	0.38	0.36	-----	-----	-----	-----	-----	-----	-----	0.36
2274	0.00	2.25	0.38	0.36	-----	-----	-----	-----	-----	-----	-----	0.36
2280	0.00	2.25	0.38	0.36	-----	-----	-----	-----	-----	-----	-----	0.36
2286	0.00	2.24	0.38	0.35	-----	-----	-----	-----	-----	-----	-----	0.35
2292	0.00	2.24	0.37	0.35	-----	-----	-----	-----	-----	-----	-----	0.35
2298	0.00	2.24	0.37	0.34	-----	-----	-----	-----	-----	-----	-----	0.34
2304	0.00	2.24	0.37	0.34	-----	-----	-----	-----	-----	-----	-----	0.34
2310	0.00	2.24	0.37	0.34	-----	-----	-----	-----	-----	-----	-----	0.34
2316	0.00	2.24	0.36	0.33	-----	-----	-----	-----	-----	-----	-----	0.33
2322	0.00	2.24	0.36	0.33	-----	-----	-----	-----	-----	-----	-----	0.33
2328	0.00	2.23	0.36	0.32	-----	-----	-----	-----	-----	-----	-----	0.32
2334	0.00	2.23	0.35	0.32	-----	-----	-----	-----	-----	-----	-----	0.32
2340	0.00	2.23	0.35	0.32	-----	-----	-----	-----	-----	-----	-----	0.32
2346	0.00	2.23	0.34	0.31	-----	-----	-----	-----	-----	-----	-----	0.31
2352	0.00	2.23	0.34	0.31	-----	-----	-----	-----	-----	-----	-----	0.31
2358	0.00	2.23	0.33	0.31	-----	-----	-----	-----	-----	-----	-----	0.31
2364	0.00	2.23	0.33	0.30	-----	-----	-----	-----	-----	-----	-----	0.30
2370	0.00	2.22	0.32	0.30	-----	-----	-----	-----	-----	-----	-----	0.30
2376	0.00	2.22	0.32	0.30	-----	-----	-----	-----	-----	-----	-----	0.30
2382	0.00	2.22	0.32	0.30	-----	-----	-----	-----	-----	-----	-----	0.30
2388	0.00	2.22	0.31	0.29	-----	-----	-----	-----	-----	-----	-----	0.29
2394	0.00	2.22	0.31	0.29	-----	-----	-----	-----	-----	-----	-----	0.29
2400	0.00	2.22	0.30	0.29	-----	-----	-----	-----	-----	-----	-----	0.29
2406	0.00	2.22	0.30	0.28	-----	-----	-----	-----	-----	-----	-----	0.28
2412	0.00	2.22	0.29	0.28	-----	-----	-----	-----	-----	-----	-----	0.28
2418	0.00	2.22	0.29	0.28	-----	-----	-----	-----	-----	-----	-----	0.28
2424	0.00	2.21	0.29	0.27	-----	-----	-----	-----	-----	-----	-----	0.27
2430	0.00	2.21	0.28	0.27	-----	-----	-----	-----	-----	-----	-----	0.27
2436	0.00	2.21	0.28	0.27	-----	-----	-----	-----	-----	-----	-----	0.27
2442	0.00	2.21	0.28	0.27	-----	-----	-----	-----	-----	-----	-----	0.27
2448	0.00	2.21	0.27	0.26	-----	-----	-----	-----	-----	-----	-----	0.26
2454	0.00	2.21	0.27	0.26	-----	-----	-----	-----	-----	-----	-----	0.26
2460	0.00	2.21	0.26	0.26	-----	-----	-----	-----	-----	-----	-----	0.26
2466	0.00	2.21	0.26	0.25	-----	-----	-----	-----	-----	-----	-----	0.25
2472	0.00	2.21	0.26	0.25	-----	-----	-----	-----	-----	-----	-----	0.25
2478	0.00	2.20	0.25	0.25	-----	-----	-----	-----	-----	-----	-----	0.25
2484	0.00	2.20	0.25	0.25	-----	-----	-----	-----	-----	-----	-----	0.25
2490	0.00	2.20	0.25	0.24	-----	-----	-----	-----	-----	-----	-----	0.24
2496	0.00	2.20	0.24	0.24	-----	-----	-----	-----	-----	-----	-----	0.24
2502	0.00	2.20	0.24	0.24	-----	-----	-----	-----	-----	-----	-----	0.24
2508	0.00	2.20	0.24	0.24	-----	-----	-----	-----	-----	-----	-----	0.24
2514	0.00	2.20	0.23	0.23	-----	-----	-----	-----	-----	-----	-----	0.23
2520	0.00	2.20	0.23	0.23	-----	-----	-----	-----	-----	-----	-----	0.23
2526	0.00	2.20	0.23	0.23	-----	-----	-----	-----	-----	-----	-----	0.23
2532	0.00	2.20	0.23	0.23	-----	-----	-----	-----	-----	-----	-----	0.23
2538	0.00	2.19	0.23	0.23	-----	-----	-----	-----	-----	-----	-----	0.23
2544	0.00	2.19	0.23	0.23	-----	-----	-----	-----	-----	-----	-----	0.23
2550	0.00	2.19	0.22	0.22	-----	-----	-----	-----	-----	-----	-----	0.22
2556	0.00	2.19	0.22	0.22	-----	-----	-----	-----	-----	-----	-----	0.22
2562	0.00	2.19	0.22	0.22	-----	-----	-----	-----	-----	-----	-----	0.22

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
2568	0.00	2.19	0.22	0.22	-----	-----	-----	-----	-----	-----	-----	0.22
2574	0.00	2.19	0.22	0.22	-----	-----	-----	-----	-----	-----	-----	0.22
2580	0.00	2.19	0.21	0.21	-----	-----	-----	-----	-----	-----	-----	0.21
2586	0.00	2.19	0.21	0.21	-----	-----	-----	-----	-----	-----	-----	0.21
2592	0.00	2.19	0.21	0.21	-----	-----	-----	-----	-----	-----	-----	0.21
2598	0.00	2.19	0.21	0.21	-----	-----	-----	-----	-----	-----	-----	0.21
2604	0.00	2.18	0.21	0.21	-----	-----	-----	-----	-----	-----	-----	0.21
2610	0.00	2.18	0.21	0.21	-----	-----	-----	-----	-----	-----	-----	0.21
2616	0.00	2.18	0.20	0.20	-----	-----	-----	-----	-----	-----	-----	0.20
2622	0.00	2.18	0.20	0.20	-----	-----	-----	-----	-----	-----	-----	0.20
2628	0.00	2.18	0.20	0.20	-----	-----	-----	-----	-----	-----	-----	0.20
2634	0.00	2.18	0.20	0.20	-----	-----	-----	-----	-----	-----	-----	0.20
2640	0.00	2.18	0.20	0.20	-----	-----	-----	-----	-----	-----	-----	0.20
2646	0.00	2.18	0.20	0.20	-----	-----	-----	-----	-----	-----	-----	0.20
2652	0.00	2.18	0.20	0.20	-----	-----	-----	-----	-----	-----	-----	0.20
2658	0.00	2.18	0.19	0.19	-----	-----	-----	-----	-----	-----	-----	0.19
2664	0.00	2.18	0.19	0.19	-----	-----	-----	-----	-----	-----	-----	0.19
2670	0.00	2.18	0.19	0.19	-----	-----	-----	-----	-----	-----	-----	0.19
2676	0.00	2.17	0.19	0.19	-----	-----	-----	-----	-----	-----	-----	0.19
2682	0.00	2.17	0.19	0.19	-----	-----	-----	-----	-----	-----	-----	0.19
2688	0.00	2.17	0.19	0.19	-----	-----	-----	-----	-----	-----	-----	0.19
2694	0.00	2.17	0.18	0.18	-----	-----	-----	-----	-----	-----	-----	0.18
2700	0.00	2.17	0.18	0.18	-----	-----	-----	-----	-----	-----	-----	0.18
2706	0.00	2.17	0.18	0.18	-----	-----	-----	-----	-----	-----	-----	0.18
2712	0.00	2.17	0.18	0.18	-----	-----	-----	-----	-----	-----	-----	0.18
2718	0.00	2.17	0.18	0.18	-----	-----	-----	-----	-----	-----	-----	0.18
2724	0.00	2.17	0.18	0.18	-----	-----	-----	-----	-----	-----	-----	0.18
2730	0.00	2.17	0.18	0.18	-----	-----	-----	-----	-----	-----	-----	0.18
2736	0.00	2.17	0.17	0.17	-----	-----	-----	-----	-----	-----	-----	0.17
2742	0.00	2.17	0.17	0.17	-----	-----	-----	-----	-----	-----	-----	0.17
2748	0.00	2.17	0.17	0.17	-----	-----	-----	-----	-----	-----	-----	0.17
2754	0.00	2.16	0.17	0.17	-----	-----	-----	-----	-----	-----	-----	0.17
2760	0.00	2.16	0.17	0.17	-----	-----	-----	-----	-----	-----	-----	0.17
2766	0.00	2.16	0.17	0.17	-----	-----	-----	-----	-----	-----	-----	0.17
2772	0.00	2.16	0.17	0.17	-----	-----	-----	-----	-----	-----	-----	0.17
2778	0.00	2.16	0.17	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2784	0.00	2.16	0.16	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2790	0.00	2.16	0.16	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2796	0.00	2.16	0.16	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2802	0.00	2.16	0.16	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2808	0.00	2.16	0.16	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2814	0.00	2.16	0.16	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2820	0.00	2.16	0.16	0.16	-----	-----	-----	-----	-----	-----	-----	0.16
2826	0.00	2.16	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15
2832	0.00	2.16	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15
2838	0.00	2.15	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15
2844	0.00	2.15	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15
2850	0.00	2.15	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15
2856	0.00	2.15	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15
2862	0.00	2.15	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15
2868	0.00	2.15	0.15	0.15	-----	-----	-----	-----	-----	-----	-----	0.15

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
2874	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2880	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2886	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2892	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2898	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2904	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2910	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2916	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2922	0.00	2.15	0.14	0.14	-----	-----	-----	-----	-----	-----	-----	0.14
2928	0.00	2.15	0.13	0.13	-----	-----	-----	-----	-----	-----	-----	0.13
2934	0.00	2.15	0.13	0.13	-----	-----	-----	-----	-----	-----	-----	0.13
2940	0.00	2.14	0.13	0.13	-----	-----	-----	-----	-----	-----	-----	0.13
2946	0.00	2.14	0.13	0.13	-----	-----	-----	-----	-----	-----	-----	0.13

...End

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	114.90	6	480	40.103	---	-----	-----	GOLF COURSE
2	SCS Runoff	45.19	6	480	14.674	---	-----	-----	COMMERCIAL AREA
3	Combine	160.09	6	480	54.777	1, 2	-----	-----	Total Q
4	Reservoir	62.11	6	534	51.090	3	6.35	12.665	Pond Design

Hyd. No.	Hydrograph type	Peak flow	Time interval	Time to peak	Volume	Inflow hyd(s)	Maximum elevation	Maximum storage	Hydrograph description
	(origin)	(cfs)	(min)	(min)	(acft)		(ft)	(acft)	
1	SCS Runoff	114.90	6	480.00	40.103				GOLF COURSE
2	SCS Runoff	45.19	6	480.00	14.674				COMMERCIAL AREA
3	Combine	160.09	6	480.00	54.777	1, 2			Total Q
4	Reservoir	62.11	6	534.00	51.090	3	6.35	12.665	Pond Design
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Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 1

GOLF COURSE

Hydrograph type	= SCS Runoff	Peak discharge	= 114.90 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 116.10 ac	Curve number	= 70
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18 min
Total precip.	= 7.95 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 40.103 acft

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
258	1.46	462	72.46	666	28.73	870	23.12
264	1.90	468	94.10	672	28.30	876	23.05
270	2.36	474	109.24	678	27.86	882	22.98
276	2.84	480	114.90 <<	684	27.42	888	22.91
282	3.34	486	108.55	690	26.97	894	22.83
288	3.86	492	90.79	696	26.43	900	22.76
294	4.41	498	74.40	702	25.83	906	22.69
300	4.99	504	61.90	708	25.34	912	22.61
306	5.63	510	54.78	714	25.00	918	22.54
312	6.32	516	51.13	720	24.81	924	22.46
318	7.03	522	50.41	726	24.73	930	22.38
324	7.74	528	49.17	732	24.75	936	22.31
330	8.45	534	47.34	738	24.87	942	22.23
336	9.11	540	44.69	744	25.10	948	22.15
342	9.73	546	42.06	750	25.44	954	22.07
348	10.41	552	39.53	756	25.45	960	21.99
354	11.19	558	37.70	762	24.97	966	21.91
360	12.08	564	36.19	768	24.51	972	21.83
366	13.17	570	35.04	774	24.18	978	21.75
372	14.47	576	33.96	780	24.10	984	21.67
378	15.74	582	33.40	786	24.29	990	21.58
384	16.88	588	33.39	792	24.63	996	21.50
390	17.86	594	33.23	798	24.68	1002	21.42
396	18.42	600	32.88	804	24.49	1008	21.33
402	18.59	606	32.57	810	24.14	1014	21.25
408	19.01	612	32.20	816	23.84	1020	21.16
414	19.86	618	31.30	822	23.59	1026	21.07
420	21.23	624	30.52	828	23.39	1032	20.99
426	22.98	630	29.89	834	23.25	1038	20.90
432	25.13	636	29.79	840	23.16	1044	20.81
438	27.72	642	29.90	846	23.16	1050	20.73
444	30.78	648	29.83	852	23.21	1056	20.64
450	34.35	654	29.57	858	23.22	1062	20.55
456	47.66	660	29.15	864	23.19	1068	20.46

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Hydrograph Discharge Table

Time (min)	Outflow cfs)	Time (min)	Outflow cfs)
1074	20.37	1380	15.34
1080	20.28	1386	15.23
1086	20.19	1392	15.13
1092	20.10	1398	15.02
1098	20.01	1404	14.91
1104	19.91	1410	14.81
1110	19.82	1416	14.70
1116	19.73	1422	14.59
1122	19.64	1428	14.49
1128	19.54	1434	14.38
1134	19.45	1440	14.27
1140	19.36	1446	11.36
1146	19.26	1452	5.67
1152	19.17	1458	1.88
1158	19.07		
1164	18.98		
1170	18.88	*...End*	
1176	18.78		
1182	18.69		
1188	18.59		
1194	18.49		
1200	18.39		
1206	18.30		
1212	18.20		
1218	18.10		
1224	18.00		
1230	17.90		
1236	17.80		
1242	17.70		
1248	17.60		
1254	17.50		
1260	17.40		
1266	17.30		
1272	17.20		
1278	17.10		
1284	17.00		
1290	16.90		
1296	16.79		
1302	16.69		
1308	16.59		
1314	16.48		
1320	16.38		
1326	16.28		
1332	16.17		
1338	16.07		
1344	15.97		
1350	15.86		
1356	15.76		
1362	15.65		
1368	15.55		
1374	15.44		

Hydrograph Report

Hyd. No. 2

COMMERCIAL AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 45.19 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 27.80 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 12 min
Total precip.	= 7.95 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 14.674 acft

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
102	0.62	306	6.60	510	19.41	714	7.68
108	0.84	312	6.90	516	17.92	720	7.61
114	1.05	318	7.18	522	17.51	726	7.57
120	1.25	324	7.45	528	16.94	732	7.56
126	1.47	330	7.69	534	16.18	738	7.59
132	1.68	336	7.87	540	15.17	744	7.64
138	1.89	342	8.01	546	14.19	750	7.73
144	2.09	348	8.20	552	13.26	756	7.72
150	2.27	354	8.45	558	12.57	762	7.56
156	2.44	360	8.77	564	12.01	768	7.41
162	2.59	366	9.20	570	11.57	774	7.30
168	2.72	372	9.74	576	11.17	780	7.26
174	2.86	378	10.23	582	10.94	786	7.31
180	2.99	384	10.61	588	10.89	792	7.40
186	3.10	390	10.86	594	10.80	798	7.40
192	3.19	396	10.87	600	10.64	804	7.33
198	3.30	402	10.67	606	10.51	810	7.22
204	3.42	408	10.63	612	10.35	816	7.12
210	3.57	414	10.82	618	10.02	822	7.03
216	3.75	420	11.29	624	9.75	828	6.96
222	3.97	426	11.94	630	9.52	834	6.91
228	4.19	432	12.75	636	9.46	840	6.87
234	4.39	438	13.73	642	9.46	846	6.87
240	4.57	444	14.89	648	9.41	852	6.87
246	4.72	450	16.22	654	9.30	858	6.87
252	4.84	456	21.73	660	9.15	864	6.85
258	4.97	462	31.86	666	8.99	870	6.82
264	5.12	468	39.89	672	8.83	876	6.79
270	5.29	474	44.63	678	8.68	882	6.76
276	5.47	480	45.19 <<	684	8.52	888	6.73
282	5.67	486	41.42	690	8.36	894	6.70
288	5.88	492	33.81	696	8.18	900	6.67
294	6.10	498	27.13	702	7.97	906	6.64
300	6.33	504	22.20	708	7.81	912	6.61

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Hydrograph Discharge Table

Time (min)	Outflow cfs)	Time (min)	Outflow cfs)
918	6.58	1224	5.03
924	6.55	1230	5.00
930	6.52	1236	4.97
936	6.49	1242	4.94
942	6.46	1248	4.91
948	6.43	1254	4.88
954	6.40	1260	4.85
960	6.37	1266	4.82
966	6.34	1272	4.79
972	6.31	1278	4.76
978	6.28	1284	4.73
984	6.25	1290	4.70
990	6.22	1296	4.67
996	6.19	1302	4.63
1002	6.16	1308	4.60
1008	6.13	1314	4.57
1014	6.10	1320	4.54
1020	6.07	1326	4.51
1026	6.04	1332	4.48
1032	6.01	1338	4.45
1038	5.98	1344	4.42
1044	5.95	1350	4.39
1050	5.92	1356	4.36
1056	5.89	1362	4.33
1062	5.86	1368	4.29
1068	5.83	1374	4.26
1074	5.80	1380	4.23
1080	5.77	1386	4.20
1086	5.74	1392	4.17
1092	5.71	1398	4.14
1098	5.68	1404	4.11
1104	5.65	1410	4.08
1110	5.62	1416	4.05
1116	5.59	1422	4.02
1122	5.56	1428	3.98
1128	5.52	1434	3.95
1134	5.49	1440	3.92
1140	5.46	1446	3.12
1146	5.43	1452	1.56
1152	5.40	1458	0.52
1158	5.37		
1164	5.34		
1170	5.31	*...End*	
1176	5.28		
1182	5.25		
1188	5.22		
1194	5.19		
1200	5.16		
1206	5.13		
1212	5.10		
1218	5.07		

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 3

Total Q

Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 1, 2

Peak discharge = 160.09 cfs
Time interval = 6 min

Hydrograph Volume = 54.777 acft

Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
132	0.00	1.68	1.68
138	0.00	1.89	1.89
144	0.00	2.09	2.09
150	0.00	2.27	2.27
156	0.00	2.44	2.44
162	0.00	2.59	2.59
168	0.00	2.72	2.72
174	0.00	2.86	2.86
180	0.00	2.99	2.99
186	0.00	3.10	3.10
192	0.00	3.19	3.19
198	0.00	3.30	3.30
204	0.00	3.42	3.42
210	0.00	3.57	3.57
216	0.00	3.75	3.75
222	0.00	3.97	3.97
228	0.00	4.19	4.19
234	0.06	4.39	4.45
240	0.28	4.57	4.84
246	0.62	4.72	5.33
252	1.03	4.84	5.87
258	1.46	4.97	6.43
264	1.90	5.12	7.02
270	2.36	5.29	7.65
276	2.84	5.47	8.31
282	3.34	5.67	9.01
288	3.86	5.88	9.74
294	4.41	6.10	10.51
300	4.99	6.33	11.33
306	5.63	6.60	12.23
312	6.32	6.90	13.22
318	7.03	7.18	14.21
324	7.74	7.45	15.18
330	8.45	7.69	16.13
336	9.11	7.87	16.98
342	9.73	8.01	17.74
348	10.41	8.20	18.61
354	11.19	8.45	19.64

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Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
360	12.08	8.77	20.84
366	13.17	9.20	22.37
372	14.47	9.74	24.21
378	15.74	10.23	25.97
384	16.88	10.61	27.49
390	17.86	10.86	28.72
396	18.42	10.87	29.29
402	18.59	10.67	29.27
408	19.01	10.63	29.64
414	19.86	10.82	30.68
420	21.23	11.29	32.53
426	22.98	11.94	34.93
432	25.13	12.75	37.89
438	27.72	13.73	41.45
444	30.78	14.89	45.66
450	34.35	16.22	50.56
456	47.66	21.73	69.40
462	72.46	31.86	104.32
468	94.10	39.89	133.98
474	109.24	44.63	153.87
480	114.90 <<	45.19 <<	160.09 <<
486	108.55	41.42	149.97
492	90.79	33.81	124.59
498	74.40	27.13	101.53
504	61.90	22.20	84.10
510	54.78	19.41	74.19
516	51.13	17.92	69.05
522	50.41	17.51	67.92
528	49.17	16.94	66.10
534	47.34	16.18	63.52
540	44.69	15.17	59.86
546	42.06	14.19	56.24
552	39.53	13.26	52.79
558	37.70	12.57	50.27
564	36.19	12.01	48.20
570	35.04	11.57	46.62
576	33.96	11.17	45.13
582	33.40	10.94	44.33
588	33.39	10.89	44.28
594	33.23	10.80	44.03
600	32.88	10.64	43.52
606	32.57	10.51	43.08
612	32.20	10.35	42.55
618	31.30	10.02	41.32
624	30.52	9.75	40.27
630	29.89	9.52	39.41
636	29.79	9.46	39.25
642	29.90	9.46	39.36
648	29.83	9.41	39.24
654	29.57	9.30	38.87
660	29.15	9.15	38.30

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Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
666	28.73	8.99	37.72
672	28.30	8.83	37.13
678	27.86	8.68	36.54
684	27.42	8.52	35.94
690	26.97	8.36	35.34
696	26.43	8.18	34.61
702	25.83	7.97	33.80
708	25.34	7.81	33.14
714	25.00	7.68	32.68
720	24.81	7.61	32.42
726	24.73	7.57	32.30
732	24.75	7.56	32.31
738	24.87	7.59	32.46
744	25.10	7.64	32.74
750	25.44	7.73	33.17
756	25.45	7.72	33.18
762	24.97	7.56	32.53
768	24.51	7.41	31.92
774	24.18	7.30	31.48
780	24.10	7.26	31.36
786	24.29	7.31	31.59
792	24.63	7.40	32.03
798	24.68	7.40	32.08
804	24.49	7.33	31.83
810	24.14	7.22	31.36
816	23.84	7.12	30.96
822	23.59	7.03	30.62
828	23.39	6.96	30.36
834	23.25	6.91	30.16
840	23.16	6.87	30.03
846	23.16	6.87	30.02
852	23.21	6.87	30.09
858	23.22	6.87	30.09
864	23.19	6.85	30.04
870	23.12	6.82	29.94
876	23.05	6.79	29.84
882	22.98	6.76	29.74
888	22.91	6.73	29.64
894	22.83	6.70	29.53
900	22.76	6.67	29.43
906	22.69	6.64	29.33
912	22.61	6.61	29.22
918	22.54	6.58	29.12
924	22.46	6.55	29.01
930	22.38	6.52	28.90
936	22.31	6.49	28.80
942	22.23	6.46	28.69
948	22.15	6.43	28.58
954	22.07	6.40	28.47
960	21.99	6.37	28.36
966	21.91	6.34	28.25

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Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
972	21.83	6.31	28.14
978	21.75	6.28	28.03
984	21.67	6.25	27.92
990	21.58	6.22	27.80
996	21.50	6.19	27.69
1002	21.42	6.16	27.58
1008	21.33	6.13	27.46
1014	21.25	6.10	27.35
1020	21.16	6.07	27.23
1026	21.07	6.04	27.12
1032	20.99	6.01	27.00
1038	20.90	5.98	26.88
1044	20.81	5.95	26.76
1050	20.73	5.92	26.65
1056	20.64	5.89	26.53
1062	20.55	5.86	26.41
1068	20.46	5.83	26.29
1074	20.37	5.80	26.17
1080	20.28	5.77	26.05
1086	20.19	5.74	25.93
1092	20.10	5.71	25.81
1098	20.01	5.68	25.68
1104	19.91	5.65	25.56
1110	19.82	5.62	25.44
1116	19.73	5.59	25.32
1122	19.64	5.56	25.19
1128	19.54	5.52	25.07
1134	19.45	5.49	24.94
1140	19.36	5.46	24.82
1146	19.26	5.43	24.69
1152	19.17	5.40	24.57
1158	19.07	5.37	24.44
1164	18.98	5.34	24.32
1170	18.88	5.31	24.19
1176	18.78	5.28	24.06
1182	18.69	5.25	23.94
1188	18.59	5.22	23.81
1194	18.49	5.19	23.68
1200	18.39	5.16	23.55
1206	18.30	5.13	23.42
1212	18.20	5.10	23.29
1218	18.10	5.07	23.17
1224	18.00	5.03	23.04
1230	17.90	5.00	22.91
1236	17.80	4.97	22.78
1242	17.70	4.94	22.65
1248	17.60	4.91	22.51
1254	17.50	4.88	22.38
1260	17.40	4.85	22.25
1266	17.30	4.82	22.12
1272	17.20	4.79	21.99

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Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 = (cfs)	Outflow (cfs)
1278	17.10	4.76	21.86
1284	17.00	4.73	21.72
1290	16.90	4.70	21.59
1296	16.79	4.67	21.46
1302	16.69	4.63	21.33
1308	16.59	4.60	21.19
1314	16.48	4.57	21.06
1320	16.38	4.54	20.92
1326	16.28	4.51	20.79
1332	16.17	4.48	20.65
1338	16.07	4.45	20.52
1344	15.97	4.42	20.38
1350	15.86	4.39	20.25
1356	15.76	4.36	20.11
1362	15.65	4.33	19.98
1368	15.55	4.29	19.84
1374	15.44	4.26	19.71
1380	15.34	4.23	19.57
1386	15.23	4.20	19.43
1392	15.13	4.17	19.30
1398	15.02	4.14	19.16
1404	14.91	4.11	19.02
1410	14.81	4.08	18.89
1416	14.70	4.05	18.75
1422	14.59	4.02	18.61
1428	14.49	3.98	18.47
1434	14.38	3.95	18.33
1440	14.27	3.92	18.20
1446	11.36	3.12	14.48
1452	5.67	1.56	7.22
1458	1.88	0.52	2.40

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 4

Pond Design

Hydrograph type	= Reservoir	Peak discharge	= 62.11 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyd. No.	= 3	Reservoir name	= Pond Design
Max. Elevation	= 6.35 ft	Max. Storage	= 12.665 acft

Storage Indication method used.

Outflow hydrograph volume = 51.090 acft

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
414	30.68	2.43	1.11	1.08	-----	-----	-----	-----	-----	-----	-----	1.08
420	32.53	2.56	1.84	1.78	-----	-----	-----	-----	-----	-----	-----	1.78
426	34.93	2.69	2.70	2.70	-----	-----	-----	-----	-----	-----	-----	2.70
432	37.89	2.82	3.85	3.83	-----	-----	-----	-----	-----	-----	-----	3.83
438	41.45	2.97	5.11	5.11	-----	-----	-----	-----	-----	-----	-----	5.11
444	45.66	3.12	6.91	6.85	-----	-----	-----	-----	-----	-----	-----	6.85
450	50.56	3.29	8.88	8.88	-----	-----	-----	-----	-----	-----	-----	8.88
456	69.40	3.49	11.71	11.64	-----	-----	-----	-----	-----	-----	-----	11.64
462	104.32	3.78	16.12	16.12	-----	-----	-----	-----	-----	-----	-----	16.12
468	133.98	4.18	23.34	23.34	-----	-----	-----	-----	-----	-----	-----	23.34
474	153.87	4.64	32.40	32.40	-----	-----	-----	-----	-----	-----	-----	32.40
480	160.09 <<	5.11	42.37	42.36	-----	-----	-----	-----	-----	-----	-----	42.36
486	149.97	5.52	51.04	51.04	-----	-----	-----	-----	-----	-----	-----	51.04
492	124.59	5.84	56.33	55.99	-----	-----	-----	-----	-----	-----	-----	55.99
498	101.53	6.06	58.89	58.89	-----	-----	-----	-----	-----	-----	-----	58.89
504	84.10	6.18	60.22	60.13	-----	-----	-----	-----	-----	-----	-----	60.13
510	74.19	6.25	60.98	60.98	-----	-----	-----	-----	-----	-----	-----	60.98
516	69.05	6.29	61.46	61.46	-----	-----	-----	-----	-----	-----	-----	61.46
522	67.92	6.32	61.76	61.76	-----	-----	-----	-----	-----	-----	-----	61.76
528	66.10	6.34	61.99	61.99	-----	-----	-----	-----	-----	-----	-----	61.99
534	63.52	6.35 <<	62.11	62.11	-----	-----	-----	-----	-----	-----	-----	62.11 <<
540	59.86	6.34	62.09	62.09	-----	-----	-----	-----	-----	-----	-----	62.09
546	56.24	6.33	61.92	61.92	-----	-----	-----	-----	-----	-----	-----	61.92
552	52.79	6.30	61.60	61.60	-----	-----	-----	-----	-----	-----	-----	61.60
558	50.27	6.27	61.16	61.16	-----	-----	-----	-----	-----	-----	-----	61.16
564	48.20	6.22	60.61	60.61	-----	-----	-----	-----	-----	-----	-----	60.61
570	46.62	6.17	60.22	60.04	-----	-----	-----	-----	-----	-----	-----	60.04
576	45.13	6.12	59.76	59.58	-----	-----	-----	-----	-----	-----	-----	59.58
582	44.33	6.07	59.02	59.02	-----	-----	-----	-----	-----	-----	-----	59.02
588	44.28	6.01	58.27	58.27	-----	-----	-----	-----	-----	-----	-----	58.27
594	44.03	5.96	57.51	57.51	-----	-----	-----	-----	-----	-----	-----	57.51
600	43.52	5.91	57.28	56.80	-----	-----	-----	-----	-----	-----	-----	56.80
606	43.08	5.86	56.53	56.17	-----	-----	-----	-----	-----	-----	-----	56.17
612	42.55	5.81	55.77	55.47	-----	-----	-----	-----	-----	-----	-----	55.47
618	41.32	5.76	54.98	54.78	-----	-----	-----	-----	-----	-----	-----	54.78
624	40.27	5.71	54.15	53.97	-----	-----	-----	-----	-----	-----	-----	53.97
630	39.41	5.65	53.27	53.18	-----	-----	-----	-----	-----	-----	-----	53.18
636	39.25	5.60	52.40	52.35	-----	-----	-----	-----	-----	-----	-----	52.35

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
642	39.36	5.55	51.56	51.53	-----	-----	-----	-----	-----	-----	-----	51.53
648	39.24	5.51	50.76	50.76	-----	-----	-----	-----	-----	-----	-----	50.76
654	38.87	5.46	49.86	49.86	-----	-----	-----	-----	-----	-----	-----	49.86
660	38.30	5.42	48.92	48.92	-----	-----	-----	-----	-----	-----	-----	48.92
666	37.72	5.38	47.98	47.96	-----	-----	-----	-----	-----	-----	-----	47.96
672	37.13	5.34	47.59	47.35	-----	-----	-----	-----	-----	-----	-----	47.35
678	36.54	5.31	46.60	46.54	-----	-----	-----	-----	-----	-----	-----	46.54
684	35.94	5.27	45.69	45.69	-----	-----	-----	-----	-----	-----	-----	45.69
690	35.34	5.23	44.79	44.79	-----	-----	-----	-----	-----	-----	-----	44.79
696	34.61	5.19	43.92	43.92	-----	-----	-----	-----	-----	-----	-----	43.92
702	33.80	5.16	43.34	43.16	-----	-----	-----	-----	-----	-----	-----	43.16
708	33.14	5.12	42.74	42.58	-----	-----	-----	-----	-----	-----	-----	42.58
714	32.68	5.08	41.83	41.83	-----	-----	-----	-----	-----	-----	-----	41.83
720	32.42	5.05	41.00	41.00	-----	-----	-----	-----	-----	-----	-----	41.00
726	32.30	5.02	40.27	40.26	-----	-----	-----	-----	-----	-----	-----	40.26
732	32.31	4.99	39.77	39.63	-----	-----	-----	-----	-----	-----	-----	39.63
738	32.46	4.96	39.53	39.10	-----	-----	-----	-----	-----	-----	-----	39.10
744	32.74	4.94	38.91	38.50	-----	-----	-----	-----	-----	-----	-----	38.50
750	33.17	4.92	38.38	38.12	-----	-----	-----	-----	-----	-----	-----	38.12
756	33.18	4.90	37.90	37.86	-----	-----	-----	-----	-----	-----	-----	37.86
762	32.53	4.88	37.46	37.45	-----	-----	-----	-----	-----	-----	-----	37.45
768	31.92	4.86	37.01	37.01	-----	-----	-----	-----	-----	-----	-----	37.01
774	31.48	4.84	36.55	36.55	-----	-----	-----	-----	-----	-----	-----	36.55
780	31.36	4.82	36.10	36.10	-----	-----	-----	-----	-----	-----	-----	36.10
786	31.59	4.80	35.67	35.67	-----	-----	-----	-----	-----	-----	-----	35.67
792	32.03	4.79	35.31	35.31	-----	-----	-----	-----	-----	-----	-----	35.31
798	32.08	4.78	35.03	35.03	-----	-----	-----	-----	-----	-----	-----	35.03
804	31.83	4.76	34.77	34.77	-----	-----	-----	-----	-----	-----	-----	34.77
810	31.36	4.75	34.53	34.51	-----	-----	-----	-----	-----	-----	-----	34.51
816	30.96	4.74	34.44	34.32	-----	-----	-----	-----	-----	-----	-----	34.32
822	30.62	4.73	34.35	34.11	-----	-----	-----	-----	-----	-----	-----	34.11
828	30.36	4.71	34.14	33.90	-----	-----	-----	-----	-----	-----	-----	33.90
834	30.16	4.70	33.80	33.67	-----	-----	-----	-----	-----	-----	-----	33.67
840	30.03	4.69	33.47	33.46	-----	-----	-----	-----	-----	-----	-----	33.46
846	30.02	4.67	33.18	33.17	-----	-----	-----	-----	-----	-----	-----	33.17
852	30.09	4.66	32.91	32.91	-----	-----	-----	-----	-----	-----	-----	32.91
858	30.09	4.65	32.68	32.67	-----	-----	-----	-----	-----	-----	-----	32.67
864	30.04	4.64	32.43	32.43	-----	-----	-----	-----	-----	-----	-----	32.43
870	29.94	4.63	32.20	32.20	-----	-----	-----	-----	-----	-----	-----	32.20
876	29.84	4.62	31.99	31.99	-----	-----	-----	-----	-----	-----	-----	31.99
882	29.74	4.61	31.78	31.78	-----	-----	-----	-----	-----	-----	-----	31.78
888	29.64	4.61	31.61	31.60	-----	-----	-----	-----	-----	-----	-----	31.60
894	29.53	4.60	31.44	31.43	-----	-----	-----	-----	-----	-----	-----	31.43
900	29.43	4.59	31.27	31.27	-----	-----	-----	-----	-----	-----	-----	31.27
906	29.33	4.58	31.11	31.11	-----	-----	-----	-----	-----	-----	-----	31.11
912	29.22	4.58	30.96	30.96	-----	-----	-----	-----	-----	-----	-----	30.96
918	29.12	4.57	30.81	30.81	-----	-----	-----	-----	-----	-----	-----	30.81
924	29.01	4.56	30.66	30.66	-----	-----	-----	-----	-----	-----	-----	30.66
930	28.90	4.56	30.52	30.52	-----	-----	-----	-----	-----	-----	-----	30.52
936	28.80	4.55	30.38	30.38	-----	-----	-----	-----	-----	-----	-----	30.38
942	28.69	4.55	30.25	30.24	-----	-----	-----	-----	-----	-----	-----	30.24

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
948	28.58	4.54	30.20	30.14	-----	-----	-----	-----	-----	-----	-----	30.14
954	28.47	4.53	30.16	30.04	-----	-----	-----	-----	-----	-----	-----	30.04
960	28.36	4.53	30.12	29.93	-----	-----	-----	-----	-----	-----	-----	29.93
966	28.25	4.52	30.08	29.83	-----	-----	-----	-----	-----	-----	-----	29.83
972	28.14	4.51	30.04	29.73	-----	-----	-----	-----	-----	-----	-----	29.73
978	28.03	4.51	29.97	29.63	-----	-----	-----	-----	-----	-----	-----	29.63
984	27.92	4.50	29.82	29.53	-----	-----	-----	-----	-----	-----	-----	29.53
990	27.80	4.50	29.67	29.44	-----	-----	-----	-----	-----	-----	-----	29.44
996	27.69	4.49	29.51	29.34	-----	-----	-----	-----	-----	-----	-----	29.34
1002	27.58	4.48	29.36	29.25	-----	-----	-----	-----	-----	-----	-----	29.25
1008	27.46	4.48	29.20	29.15	-----	-----	-----	-----	-----	-----	-----	29.15
1014	27.35	4.47	29.05	29.02	-----	-----	-----	-----	-----	-----	-----	29.02
1020	27.23	4.46	28.91	28.88	-----	-----	-----	-----	-----	-----	-----	28.88
1026	27.12	4.46	28.77	28.75	-----	-----	-----	-----	-----	-----	-----	28.75
1032	27.00	4.45	28.63	28.61	-----	-----	-----	-----	-----	-----	-----	28.61
1038	26.88	4.44	28.49	28.48	-----	-----	-----	-----	-----	-----	-----	28.48
1044	26.76	4.44	28.34	28.34	-----	-----	-----	-----	-----	-----	-----	28.34
1050	26.65	4.43	28.20	28.19	-----	-----	-----	-----	-----	-----	-----	28.19
1056	26.53	4.43	28.05	28.05	-----	-----	-----	-----	-----	-----	-----	28.05
1062	26.41	4.42	27.91	27.90	-----	-----	-----	-----	-----	-----	-----	27.90
1068	26.29	4.41	27.76	27.76	-----	-----	-----	-----	-----	-----	-----	27.76
1074	26.17	4.41	27.63	27.62	-----	-----	-----	-----	-----	-----	-----	27.62
1080	26.05	4.40	27.50	27.49	-----	-----	-----	-----	-----	-----	-----	27.49
1086	25.93	4.40	27.37	27.37	-----	-----	-----	-----	-----	-----	-----	27.37
1092	25.81	4.39	27.25	27.25	-----	-----	-----	-----	-----	-----	-----	27.25
1098	25.68	4.38	27.13	27.13	-----	-----	-----	-----	-----	-----	-----	27.13
1104	25.56	4.38	27.01	27.01	-----	-----	-----	-----	-----	-----	-----	27.01
1110	25.44	4.37	26.89	26.89	-----	-----	-----	-----	-----	-----	-----	26.89
1116	25.32	4.37	26.77	26.77	-----	-----	-----	-----	-----	-----	-----	26.77
1122	25.19	4.36	26.65	26.64	-----	-----	-----	-----	-----	-----	-----	26.64
1128	25.07	4.36	26.52	26.52	-----	-----	-----	-----	-----	-----	-----	26.52
1134	24.94	4.35	26.40	26.40	-----	-----	-----	-----	-----	-----	-----	26.40
1140	24.82	4.34	26.28	26.28	-----	-----	-----	-----	-----	-----	-----	26.28
1146	24.69	4.34	26.16	26.16	-----	-----	-----	-----	-----	-----	-----	26.16
1152	24.57	4.33	26.04	26.04	-----	-----	-----	-----	-----	-----	-----	26.04
1158	24.44	4.33	25.92	25.91	-----	-----	-----	-----	-----	-----	-----	25.91
1164	24.32	4.32	25.79	25.79	-----	-----	-----	-----	-----	-----	-----	25.79
1170	24.19	4.32	25.67	25.67	-----	-----	-----	-----	-----	-----	-----	25.67
1176	24.06	4.31	25.55	25.55	-----	-----	-----	-----	-----	-----	-----	25.55
1182	23.94	4.30	25.43	25.43	-----	-----	-----	-----	-----	-----	-----	25.43
1188	23.81	4.30	25.33	25.31	-----	-----	-----	-----	-----	-----	-----	25.31
1194	23.68	4.29	25.30	25.22	-----	-----	-----	-----	-----	-----	-----	25.22
1200	23.55	4.29	25.26	25.13	-----	-----	-----	-----	-----	-----	-----	25.13
1206	23.42	4.28	25.22	25.03	-----	-----	-----	-----	-----	-----	-----	25.03
1212	23.29	4.27	25.18	24.94	-----	-----	-----	-----	-----	-----	-----	24.94
1218	23.17	4.27	25.14	24.84	-----	-----	-----	-----	-----	-----	-----	24.84
1224	23.04	4.26	25.01	24.74	-----	-----	-----	-----	-----	-----	-----	24.74
1230	22.91	4.25	24.85	24.64	-----	-----	-----	-----	-----	-----	-----	24.64
1236	22.78	4.25	24.70	24.54	-----	-----	-----	-----	-----	-----	-----	24.54
1242	22.65	4.24	24.54	24.44	-----	-----	-----	-----	-----	-----	-----	24.44
1248	22.51	4.23	24.38	24.33	-----	-----	-----	-----	-----	-----	-----	24.33

Continues on next page...

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1254	22.38	4.22	24.23	24.20	-----	-----	-----	-----	-----	-----	-----	24.20
1260	22.25	4.22	24.08	24.06	-----	-----	-----	-----	-----	-----	-----	24.06
1266	22.12	4.21	23.93	23.92	-----	-----	-----	-----	-----	-----	-----	23.92
1272	21.99	4.20	23.79	23.78	-----	-----	-----	-----	-----	-----	-----	23.78
1278	21.86	4.20	23.64	23.64	-----	-----	-----	-----	-----	-----	-----	23.64
1284	21.72	4.19	23.50	23.49	-----	-----	-----	-----	-----	-----	-----	23.49
1290	21.59	4.18	23.35	23.35	-----	-----	-----	-----	-----	-----	-----	23.35
1296	21.46	4.17	23.21	23.21	-----	-----	-----	-----	-----	-----	-----	23.21
1302	21.33	4.17	23.07	23.07	-----	-----	-----	-----	-----	-----	-----	23.07
1308	21.19	4.16	22.93	22.93	-----	-----	-----	-----	-----	-----	-----	22.93
1314	21.06	4.15	22.78	22.78	-----	-----	-----	-----	-----	-----	-----	22.78
1320	20.92	4.15	22.63	22.63	-----	-----	-----	-----	-----	-----	-----	22.63
1326	20.79	4.14	22.47	22.47	-----	-----	-----	-----	-----	-----	-----	22.47
1332	20.65	4.13	22.33	22.32	-----	-----	-----	-----	-----	-----	-----	22.32
1338	20.52	4.13	22.18	22.18	-----	-----	-----	-----	-----	-----	-----	22.18
1344	20.38	4.12	22.04	22.04	-----	-----	-----	-----	-----	-----	-----	22.04
1350	20.25	4.11	21.91	21.91	-----	-----	-----	-----	-----	-----	-----	21.91
1356	20.11	4.11	21.78	21.78	-----	-----	-----	-----	-----	-----	-----	21.78
1362	19.98	4.10	21.65	21.65	-----	-----	-----	-----	-----	-----	-----	21.65
1368	19.84	4.09	21.52	21.52	-----	-----	-----	-----	-----	-----	-----	21.52
1374	19.71	4.09	21.39	21.39	-----	-----	-----	-----	-----	-----	-----	21.39
1380	19.57	4.08	21.26	21.26	-----	-----	-----	-----	-----	-----	-----	21.26
1386	19.43	4.07	21.13	21.13	-----	-----	-----	-----	-----	-----	-----	21.13
1392	19.30	4.07	21.00	21.00	-----	-----	-----	-----	-----	-----	-----	21.00
1398	19.16	4.06	20.87	20.86	-----	-----	-----	-----	-----	-----	-----	20.86
1404	19.02	4.05	20.76	20.74	-----	-----	-----	-----	-----	-----	-----	20.74
1410	18.89	4.05	20.73	20.61	-----	-----	-----	-----	-----	-----	-----	20.61
1416	18.75	4.04	20.70	20.49	-----	-----	-----	-----	-----	-----	-----	20.49
1422	18.61	4.03	20.66	20.36	-----	-----	-----	-----	-----	-----	-----	20.36
1428	18.47	4.03	20.63	20.23	-----	-----	-----	-----	-----	-----	-----	20.23
1434	18.33	4.02	20.58	20.11	-----	-----	-----	-----	-----	-----	-----	20.11
1440	18.20	4.01	20.43	20.01	-----	-----	-----	-----	-----	-----	-----	20.01
1446	14.48	4.00	20.14	19.81	-----	-----	-----	-----	-----	-----	-----	19.81
1452	7.22	3.96	19.44	19.32	-----	-----	-----	-----	-----	-----	-----	19.32
1458	2.40	3.91	18.37	18.37	-----	-----	-----	-----	-----	-----	-----	18.37
1464	0.00	3.84	17.16	17.16	-----	-----	-----	-----	-----	-----	-----	17.16
1470	0.00	3.77	15.94	15.94	-----	-----	-----	-----	-----	-----	-----	15.94
1476	0.00	3.71	14.90	14.90	-----	-----	-----	-----	-----	-----	-----	14.90
1482	0.00	3.65	14.35	14.07	-----	-----	-----	-----	-----	-----	-----	14.07
1488	0.00	3.60	13.42	13.35	-----	-----	-----	-----	-----	-----	-----	13.35
1494	0.00	3.55	12.58	12.48	-----	-----	-----	-----	-----	-----	-----	12.48
1500	0.00	3.50	11.81	11.73	-----	-----	-----	-----	-----	-----	-----	11.73
1506	0.00	3.45	11.13	11.12	-----	-----	-----	-----	-----	-----	-----	11.12
1512	0.00	3.41	10.51	10.51	-----	-----	-----	-----	-----	-----	-----	10.51
1518	0.00	3.36	9.95	9.95	-----	-----	-----	-----	-----	-----	-----	9.95
1524	0.00	3.33	9.38	9.38	-----	-----	-----	-----	-----	-----	-----	9.38
1530	0.00	3.29	8.89	8.89	-----	-----	-----	-----	-----	-----	-----	8.89
1536	0.00	3.25	8.46	8.46	-----	-----	-----	-----	-----	-----	-----	8.46
1542	0.00	3.22	8.05	8.05	-----	-----	-----	-----	-----	-----	-----	8.05
1548	0.00	3.19	7.67	7.67	-----	-----	-----	-----	-----	-----	-----	7.67
1554	0.00	3.16	7.30	7.25	-----	-----	-----	-----	-----	-----	-----	7.25

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Hydrograph Discharge Table

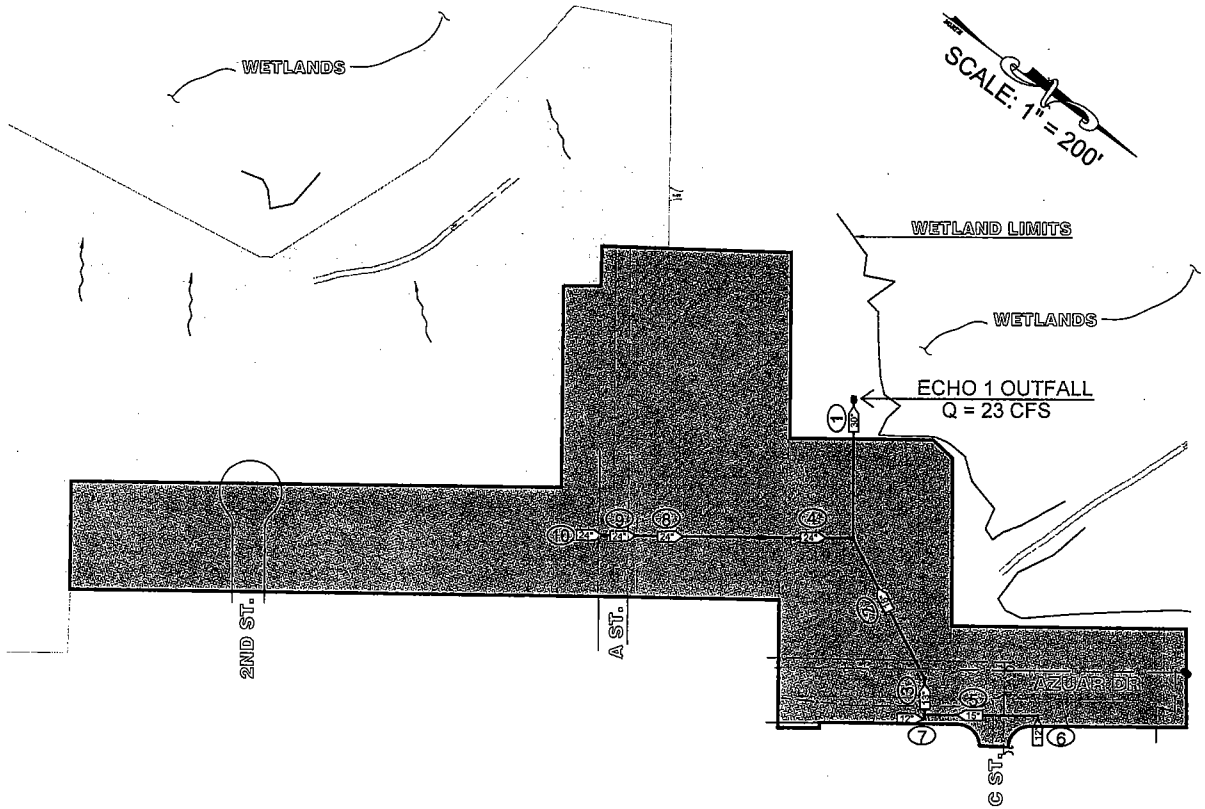
Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1560	0.00	3.13	6.96	6.90	-----	-----	-----	-----	-----	-----	-----	6.90
1566	0.00	3.10	6.66	6.61	-----	-----	-----	-----	-----	-----	-----	6.61
1572	0.00	3.07	6.38	6.34	-----	-----	-----	-----	-----	-----	-----	6.34
1578	0.00	3.05	6.12	6.08	-----	-----	-----	-----	-----	-----	-----	6.08
1584	0.00	3.02	5.76	5.74	-----	-----	-----	-----	-----	-----	-----	5.74
1590	0.00	3.00	5.40	5.40	-----	-----	-----	-----	-----	-----	-----	5.40
1596	0.00	2.98	5.20	5.20	-----	-----	-----	-----	-----	-----	-----	5.20
1602	0.00	2.96	5.01	5.01	-----	-----	-----	-----	-----	-----	-----	5.01
1608	0.00	2.94	4.83	4.83	-----	-----	-----	-----	-----	-----	-----	4.83
1614	0.00	2.92	4.64	4.64	-----	-----	-----	-----	-----	-----	-----	4.64
1620	0.00	2.90	4.46	4.46	-----	-----	-----	-----	-----	-----	-----	4.46
1626	0.00	2.88	4.31	4.31	-----	-----	-----	-----	-----	-----	-----	4.31
1632	0.00	2.86	4.17	4.17	-----	-----	-----	-----	-----	-----	-----	4.17
1638	0.00	2.85	4.03	4.03	-----	-----	-----	-----	-----	-----	-----	4.03
1644	0.00	2.83	3.90	3.90	-----	-----	-----	-----	-----	-----	-----	3.90
1650	0.00	2.82	3.78	3.73	-----	-----	-----	-----	-----	-----	-----	3.73
1656	0.00	2.80	3.67	3.55	-----	-----	-----	-----	-----	-----	-----	3.55
1662	0.00	2.79	3.56	3.41	-----	-----	-----	-----	-----	-----	-----	3.41
1668	0.00	2.77	3.46	3.30	-----	-----	-----	-----	-----	-----	-----	3.30
1674	0.00	2.76	3.36	3.20	-----	-----	-----	-----	-----	-----	-----	3.20
1680	0.00	2.75	3.20	3.10	-----	-----	-----	-----	-----	-----	-----	3.10
1686	0.00	2.73	3.04	3.00	-----	-----	-----	-----	-----	-----	-----	3.00
1692	0.00	2.72	2.91	2.91	-----	-----	-----	-----	-----	-----	-----	2.91
1698	0.00	2.71	2.84	2.84	-----	-----	-----	-----	-----	-----	-----	2.84
1704	0.00	2.70	2.76	2.76	-----	-----	-----	-----	-----	-----	-----	2.76
1710	0.00	2.69	2.69	2.69	-----	-----	-----	-----	-----	-----	-----	2.69
1716	0.00	2.68	2.63	2.62	-----	-----	-----	-----	-----	-----	-----	2.62
1722	0.00	2.66	2.56	2.55	-----	-----	-----	-----	-----	-----	-----	2.55
1728	0.00	2.65	2.50	2.48	-----	-----	-----	-----	-----	-----	-----	2.48
1734	0.00	2.64	2.40	2.39	-----	-----	-----	-----	-----	-----	-----	2.39
1740	0.00	2.63	2.31	2.30	-----	-----	-----	-----	-----	-----	-----	2.30
1746	0.00	2.63	2.22	2.22	-----	-----	-----	-----	-----	-----	-----	2.22
1752	0.00	2.62	2.15	2.15	-----	-----	-----	-----	-----	-----	-----	2.15
1758	0.00	2.61	2.10	2.09	-----	-----	-----	-----	-----	-----	-----	2.09
1764	0.00	2.60	2.05	2.04	-----	-----	-----	-----	-----	-----	-----	2.04
1770	0.00	2.59	2.00	1.99	-----	-----	-----	-----	-----	-----	-----	1.99
1776	0.00	2.58	1.95	1.94	-----	-----	-----	-----	-----	-----	-----	1.94
1782	0.00	2.57	1.92	1.89	-----	-----	-----	-----	-----	-----	-----	1.89
1788	0.00	2.57	1.88	1.84	-----	-----	-----	-----	-----	-----	-----	1.84
1794	0.00	2.56	1.85	1.79	-----	-----	-----	-----	-----	-----	-----	1.79
1800	0.00	2.55	1.82	1.74	-----	-----	-----	-----	-----	-----	-----	1.74
1806	0.00	2.55	1.77	1.70	-----	-----	-----	-----	-----	-----	-----	1.70
1812	0.00	2.54	1.71	1.66	-----	-----	-----	-----	-----	-----	-----	1.66
1818	0.00	2.53	1.65	1.62	-----	-----	-----	-----	-----	-----	-----	1.62
1824	0.00	2.52	1.60	1.58	-----	-----	-----	-----	-----	-----	-----	1.58
1830	0.00	2.52	1.55	1.54	-----	-----	-----	-----	-----	-----	-----	1.54
1836	0.00	2.51	1.51	1.51	-----	-----	-----	-----	-----	-----	-----	1.51
1842	0.00	2.51	1.48	1.48	-----	-----	-----	-----	-----	-----	-----	1.48
1848	0.00	2.50	1.46	1.45	-----	-----	-----	-----	-----	-----	-----	1.45
1854	0.00	2.49	1.43	1.43	-----	-----	-----	-----	-----	-----	-----	1.43
1860	0.00	2.49	1.41	1.40	-----	-----	-----	-----	-----	-----	-----	1.40

Continues on next page...

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1866	0.00	2.48	1.39	1.37	-----	-----	-----	-----	-----	-----	-----	1.37
1872	0.00	2.48	1.35	1.34	-----	-----	-----	-----	-----	-----	-----	1.34
1878	0.00	2.47	1.32	1.31	-----	-----	-----	-----	-----	-----	-----	1.31
1884	0.00	2.47	1.28	1.28	-----	-----	-----	-----	-----	-----	-----	1.28
1890	0.00	2.46	1.25	1.24	-----	-----	-----	-----	-----	-----	-----	1.24
1896	0.00	2.45	1.22	1.21	-----	-----	-----	-----	-----	-----	-----	1.21
1902	0.00	2.45	1.18	1.18	-----	-----	-----	-----	-----	-----	-----	1.18
1908	0.00	2.44	1.15	1.15	-----	-----	-----	-----	-----	-----	-----	1.15
1914	0.00	2.44	1.14	1.13	-----	-----	-----	-----	-----	-----	-----	1.13
1920	0.00	2.44	1.12	1.10	-----	-----	-----	-----	-----	-----	-----	1.10
1926	0.00	2.43	1.10	1.08	-----	-----	-----	-----	-----	-----	-----	1.08
1932	0.00	2.43	1.09	1.05	-----	-----	-----	-----	-----	-----	-----	1.05
1938	0.00	2.42	1.07	1.03	-----	-----	-----	-----	-----	-----	-----	1.03
1944	0.00	2.42	1.06	1.01	-----	-----	-----	-----	-----	-----	-----	1.01
1950	0.00	2.41	1.04	0.98	-----	-----	-----	-----	-----	-----	-----	0.98
1956	0.00	2.41	1.03	0.96	-----	-----	-----	-----	-----	-----	-----	0.96
1962	0.00	2.41	1.01	0.95	-----	-----	-----	-----	-----	-----	-----	0.95
1968	0.00	2.40	0.98	0.93	-----	-----	-----	-----	-----	-----	-----	0.93
1974	0.00	2.40	0.96	0.92	-----	-----	-----	-----	-----	-----	-----	0.92
1980	0.00	2.39	0.94	0.90	-----	-----	-----	-----	-----	-----	-----	0.90
1986	0.00	2.39	0.92	0.89	-----	-----	-----	-----	-----	-----	-----	0.89
1992	0.00	2.39	0.90	0.88	-----	-----	-----	-----	-----	-----	-----	0.88
1998	0.00	2.38	0.88	0.86	-----	-----	-----	-----	-----	-----	-----	0.86
2004	0.00	2.38	0.86	0.85	-----	-----	-----	-----	-----	-----	-----	0.85
2010	0.00	2.38	0.84	0.84	-----	-----	-----	-----	-----	-----	-----	0.84
2016	0.00	2.37	0.82	0.82	-----	-----	-----	-----	-----	-----	-----	0.82
2022	0.00	2.37	0.81	0.81	-----	-----	-----	-----	-----	-----	-----	0.81
2028	0.00	2.37	0.79	0.79	-----	-----	-----	-----	-----	-----	-----	0.79
2034	0.00	2.36	0.78	0.78	-----	-----	-----	-----	-----	-----	-----	0.78
2040	0.00	2.36	0.76	0.76	-----	-----	-----	-----	-----	-----	-----	0.76
2046	0.00	2.36	0.75	0.75	-----	-----	-----	-----	-----	-----	-----	0.75
2052	0.00	2.35	0.74	0.73	-----	-----	-----	-----	-----	-----	-----	0.73
2058	0.00	2.35	0.72	0.72	-----	-----	-----	-----	-----	-----	-----	0.72
2064	0.00	2.35	0.71	0.71	-----	-----	-----	-----	-----	-----	-----	0.71
2070	0.00	2.34	0.70	0.70	-----	-----	-----	-----	-----	-----	-----	0.70
2076	0.00	2.34	0.68	0.68	-----	-----	-----	-----	-----	-----	-----	0.68
2082	0.00	2.34	0.67	0.67	-----	-----	-----	-----	-----	-----	-----	0.67
2088	0.00	2.34	0.66	0.66	-----	-----	-----	-----	-----	-----	-----	0.66
2094	0.00	2.33	0.65	0.65	-----	-----	-----	-----	-----	-----	-----	0.65
2100	0.00	2.33	0.64	0.64	-----	-----	-----	-----	-----	-----	-----	0.64
2106	0.00	2.33	0.63	0.63	-----	-----	-----	-----	-----	-----	-----	0.63

...End



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **12.11** Acres

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.
ENGINEERS SURVEYORS INSPECTORS
NAPA: (MAIN OFFICE) 651 NAPA VALLEY CORPORATE WAY, SUITE G, NAPA CA 94558-7651 PHONE: (707) 255-2728 FAX: (707) 255-9021
VALLEJO: 590 WALNUT AVENUE, SUITE 120, MARE ISLAND, VALLEJO CA 94592-1133 PHONE: (707) 562-3585 FAX: (707) 538-5909
WWW.CHAUDHARY.COM

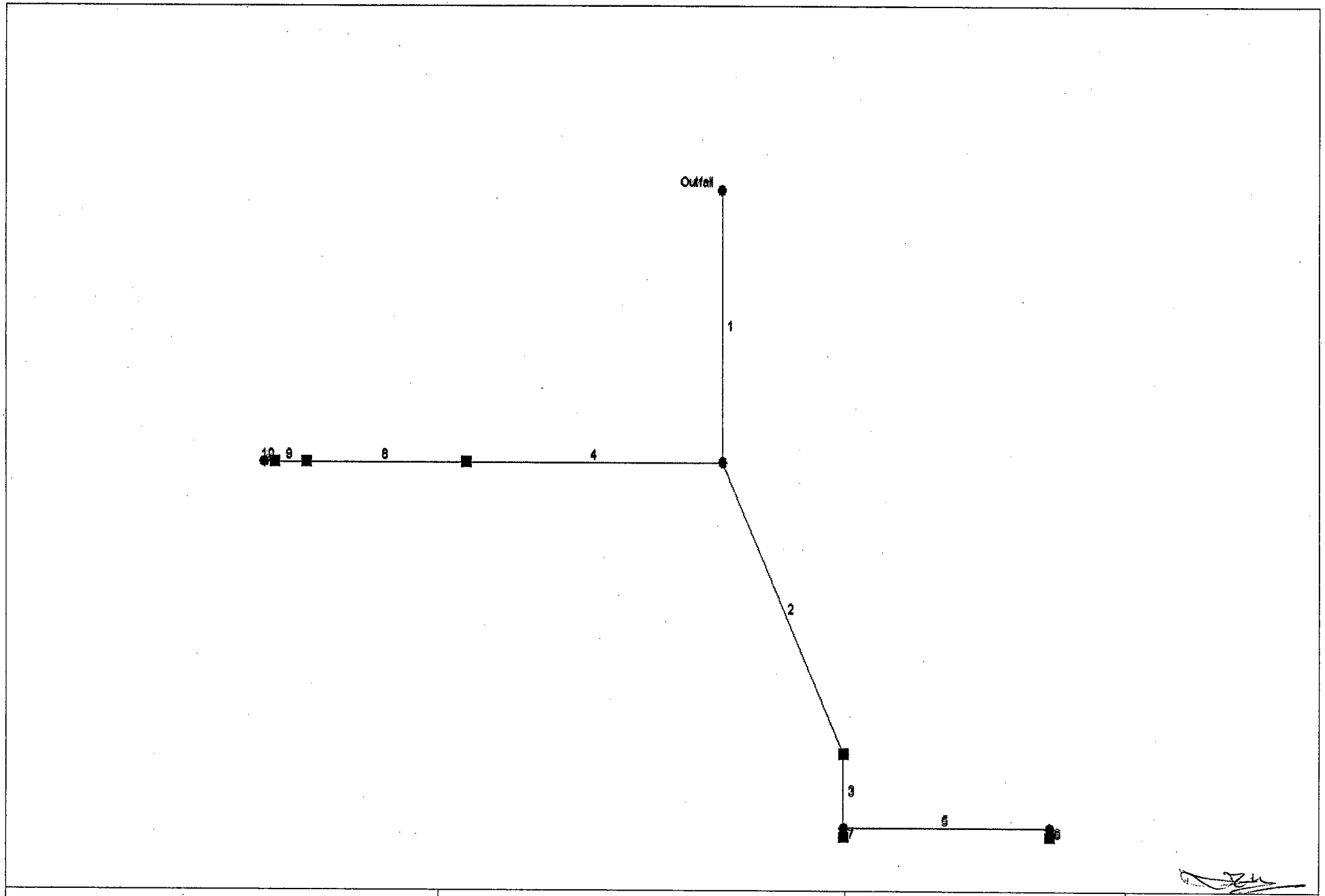
\0008077\HYDROLOGY\SPEXHIBITS\ECHOBASIN

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

ECHO 1 BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



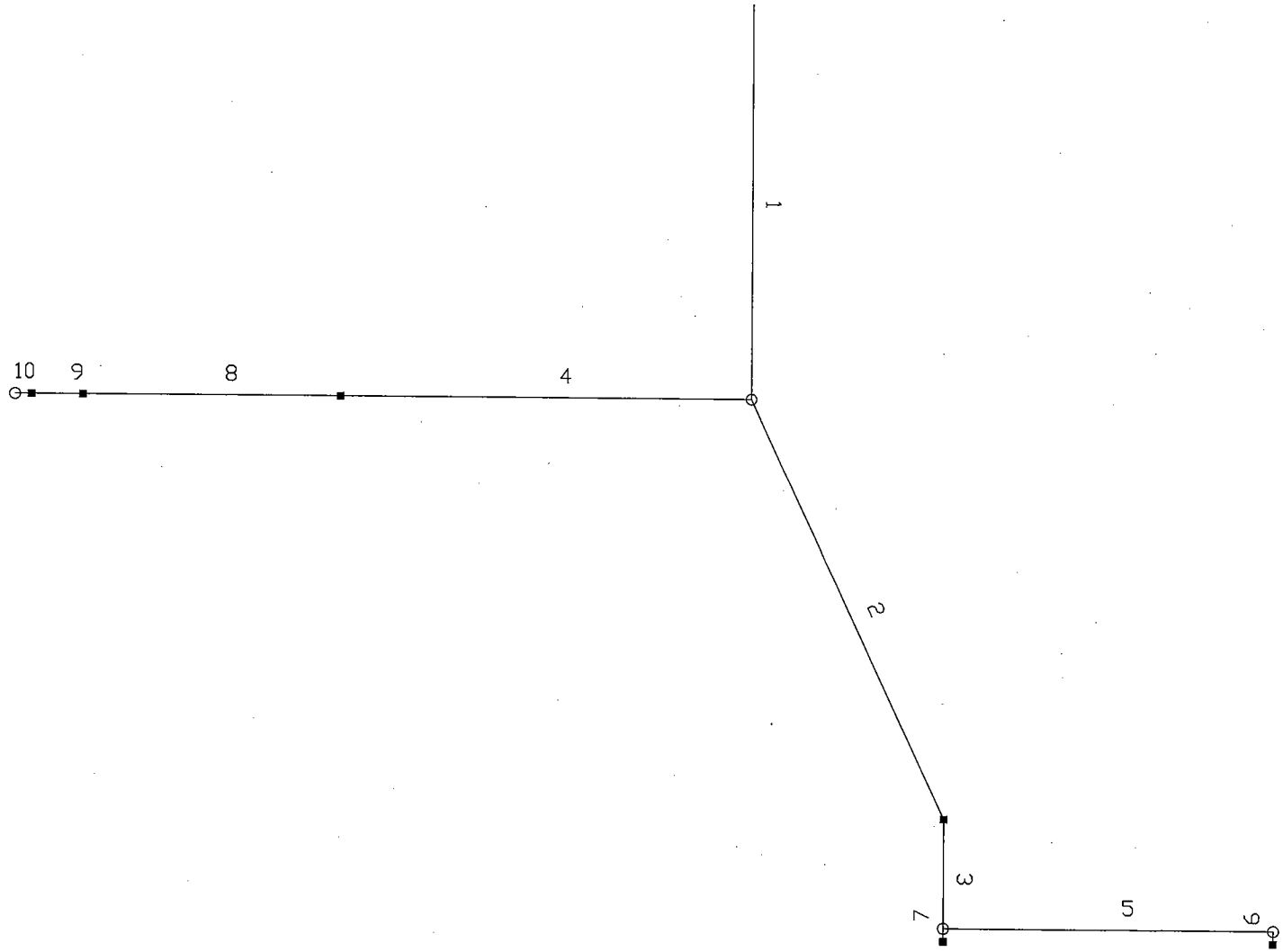
Project file: ECHO-OUTFALL1.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 10	11-17-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	217.0	2.31	12.11	0.90	2.08	10.90	10.0	17.3	2.1	22.81	22.45	5.20	30	0.30	6.95	6.30	9.04	8.39	11.50	10.50	
2	1	255.0	1.32	2.02	0.90	1.19	1.82	10.0	15.7	2.2	4.02	6.64	2.28	18	0.40	7.97	6.95	9.83	9.46	12.30	11.50	CB 7
3	2	60.0	0.00	0.70	0.90	0.00	0.63	10.0	14.6	2.3	1.45	5.75	0.82	18	0.30	8.15	7.97	9.90	9.89	11.33	12.30	
4	1	228.0	3.31	7.78	0.90	2.98	7.00	10.0	16.1	2.2	15.27	13.31	4.86	24	0.35	7.86	7.07	10.50	9.46	13.30	11.50	
5	3	183.0	0.00	0.33	0.90	0.00	0.30	10.0	10.1	2.8	0.83	3.54	0.68	15	0.30	8.70	8.15	9.94	9.91	12.29	11.33	
6	5	7.0	0.33	0.33	0.90	0.30	0.30	10.0	10.0	2.8	0.83	1.90	1.06	12	0.29	8.72	8.70	9.95	9.95	12.29	12.29	CB 5
7	3	7.0	0.37	0.37	0.90	0.33	0.33	10.0	10.0	2.8	0.93	1.90	1.19	12	0.29	8.17	8.15	9.92	9.91	11.16	11.33	CB 6
8	4	142.0	0.31	4.47	0.90	0.28	4.02	10.0	15.2	2.2	9.04	12.59	2.88	24	0.31	8.30	7.86	10.91	10.68	11.60	13.30	
9	8	28.0	0.76	4.16	0.90	0.68	3.74	10.0	15.1	2.3	8.46	12.09	2.69	24	0.29	8.38	8.30	11.01	10.97	11.60	11.60	
10	9	9.0	3.40	3.40	0.90	3.06	3.06	15.0	15.0	2.3	6.94	13.06	2.21	24	0.33	8.41	8.38	11.08	11.07	11.60	11.60	

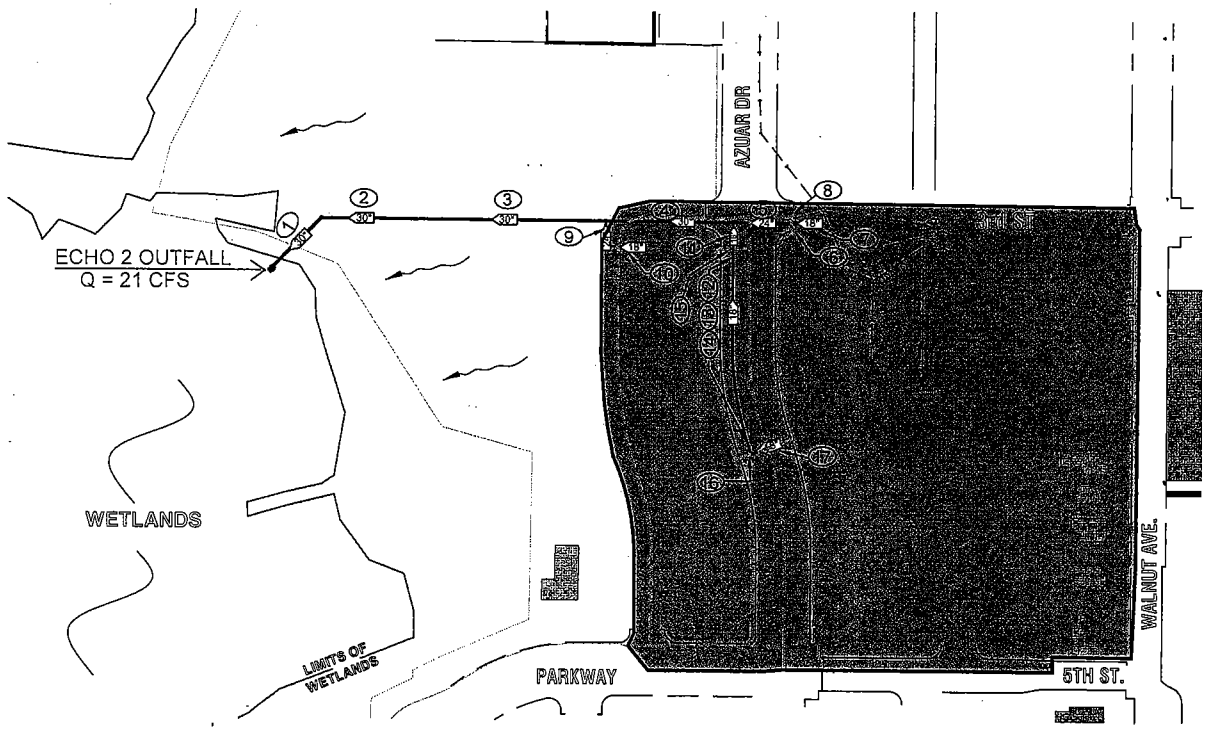
Project File: ECHO-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 10 | Run Date: 11-17-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.39 (ft)



LINE DIAGRAM

ECHO 1 BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **15.61** Acres

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.
ENGINEERS SURVEYORS INSPECTORS
NAPA: 851 NAPA VALLEY CORPORATE WAY, SUITE Q, NAPA CA 94558-7551
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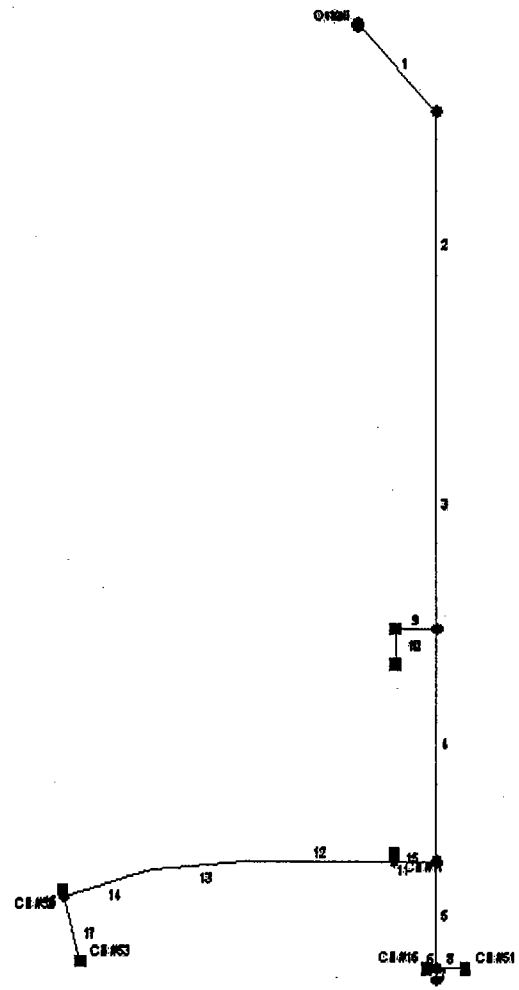
\0008077\HYDROLOGY\SPEXHIBITS\ECHOBASIN2

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

ECHO 2 BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



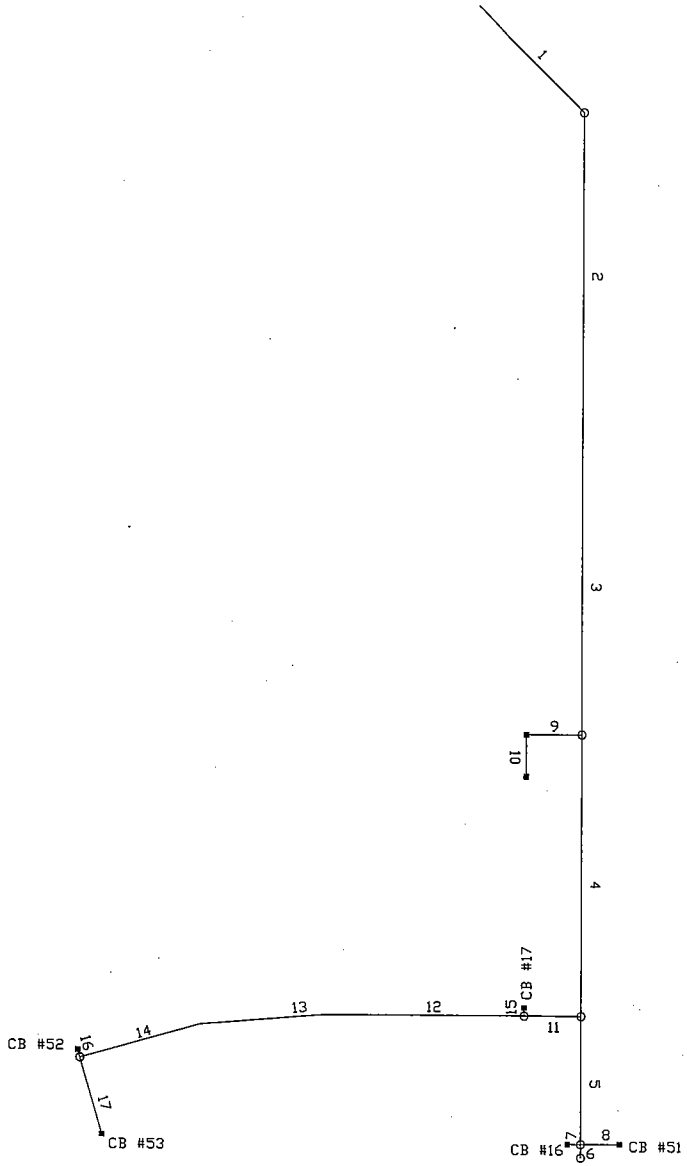
Project file: ECHO-OUTFALL2.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 17	12-02-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	110.0	0.00	16.25	0.00	0.00	11.03	10.0	20.0	1.9	21.18	22.46	5.20	30	0.30	10.33	10.00	12.26	11.93	13.80	13.40	
2	1	236.0	0.00	16.25	0.00	0.00	11.03	10.0	19.1	2.0	21.75	22.49	4.80	30	0.30	11.04	10.33	13.15	12.58	15.50	13.80	
3	2	223.0	0.00	16.25	0.00	0.00	11.03	10.0	18.3	2.0	22.29	22.48	5.00	30	0.30	11.71	11.04	13.80	13.21	16.40	15.50	
4	3	207.0	0.00	10.85	0.00	0.00	6.98	10.0	17.2	2.1	14.62	22.44	3.16	30	0.30	12.33	11.71	14.42	14.20	17.30	16.40	
5	4	95.0	0.00	9.75	0.90	0.00	5.99	10.0	15.0	2.3	13.54	13.92	4.31	24	0.38	12.69	12.33	14.93	14.59	18.60	17.30	
6	5	10.0	0.40	0.40	0.90	0.36	0.36	10.0	10.0	2.8	1.01	6.27	1.29	12	3.10	13.00	12.69	15.23	15.22	17.10	18.60	
7	5	10.0	9.30	9.30	0.60	5.58	5.58	15.0	15.0	2.3	12.65	17.52	4.03	24	0.60	12.75	12.69	15.25	15.22	18.70	18.60	
8	5	29.0	0.05	0.05	0.90	0.05	0.05	10.0	10.0	2.8	0.13	3.68	0.16	12	1.07	13.00	12.69	15.22	15.22	17.10	18.60	
9	3	41.0	2.00	5.40	0.75	1.50	4.05	10.0	10.1	2.8	11.30	22.62	5.14	24	1.00	13.12	12.71	14.31	14.20	16.50	16.40	Future Line -6DS
10	9	31.0	3.40	3.40	0.75	2.55	2.55	10.0	10.0	2.8	7.16	10.33	4.05	18	0.97	13.52	13.22	15.24	15.09	16.50	16.50	Future Line-6DS
11	4	42.0	0.00	1.10	0.00	0.00	0.99	0.0	16.7	2.1	2.11	11.46	1.19	18	1.19	13.00	12.50	14.61	14.59	0.00	17.30	
12	11	148.0	0.00	0.70	0.00	0.00	0.63	0.0	14.1	2.3	1.48	10.78	2.01	18	1.05	14.56	13.00	15.02	14.63	0.00	0.00	
13	12	93.0	0.00	0.70	0.00	0.00	0.63	0.0	12.4	2.5	1.58	10.78	3.21	18	1.05	15.54	14.56	16.02	15.05	0.00	0.00	
14	13	92.0	0.00	0.70	0.00	0.00	0.63	0.0	10.9	2.7	1.70	10.73	3.09	18	1.04	16.50	15.54	17.00	16.09	0.00	0.00	
15	11	6.0	0.40	0.40	0.90	0.36	0.36	10.0	10.0	2.8	1.01	7.27	1.29	12	4.17	13.50	13.25	14.64	14.63	0.00	0.00	
16	14	6.0	0.35	0.35	0.90	0.32	0.32	10.0	10.0	2.8	0.88	7.27	2.93	12	4.17	17.00	16.75	17.40	17.17	0.00	0.00	
17	14	59.0	0.35	0.35	0.90	0.32	0.32	10.0	10.0	2.8	0.88	3.28	2.93	12	0.85	17.25	16.75	17.65	17.17	0.00	0.00	

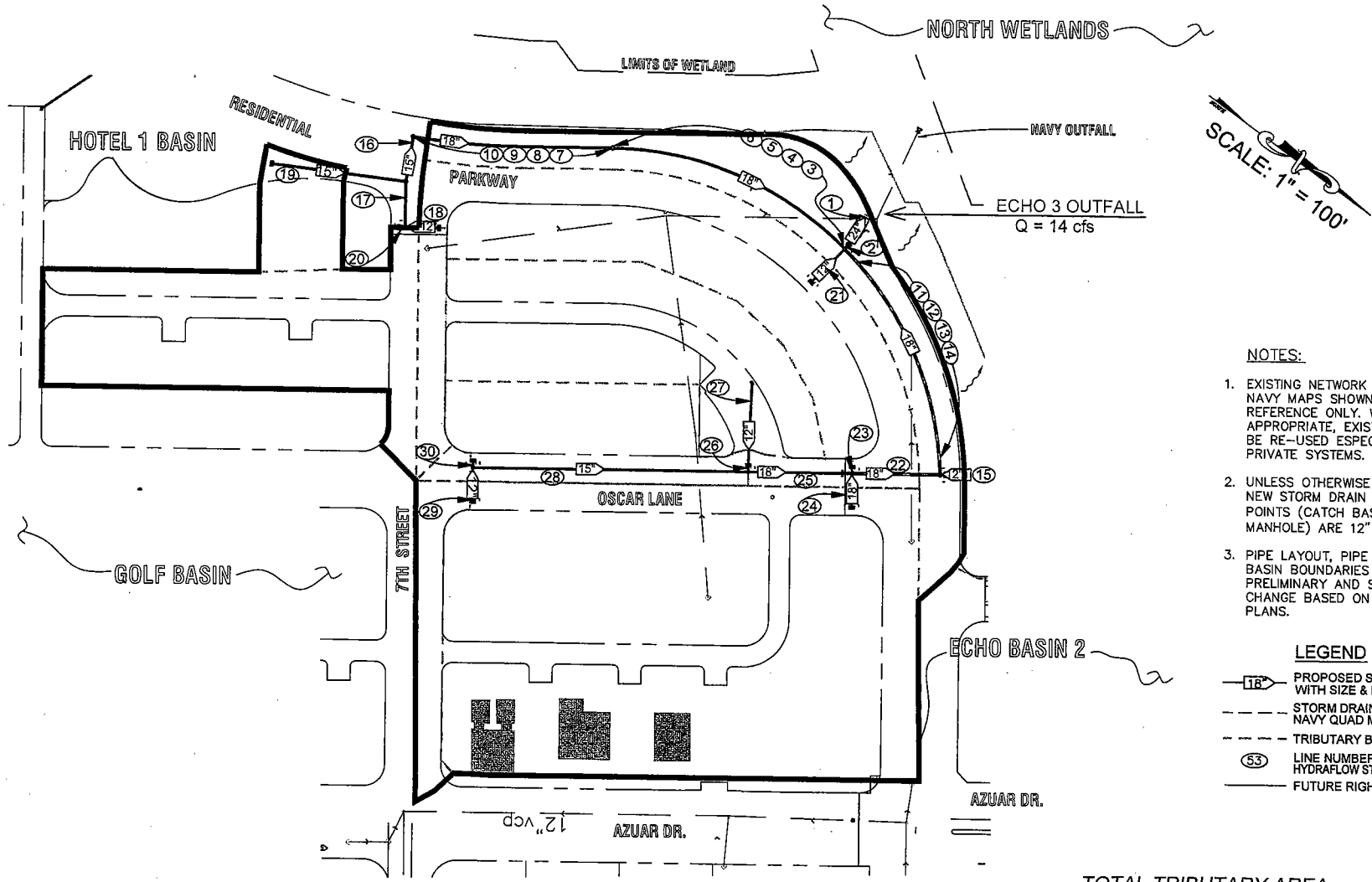
Project File: ECHO-OUTFALL2.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 17 | Run Date: 12-02-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 11.93 (ft)



LINE DIAGRAM

ECHO 2 BASIN



NOTES:

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LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

*TOTAL TRIBUTARY AREA = **6.70** Acres*

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.
ENGINEERS SURVEYORS INSPECTORS
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WWW.CHAUDHARY.COM

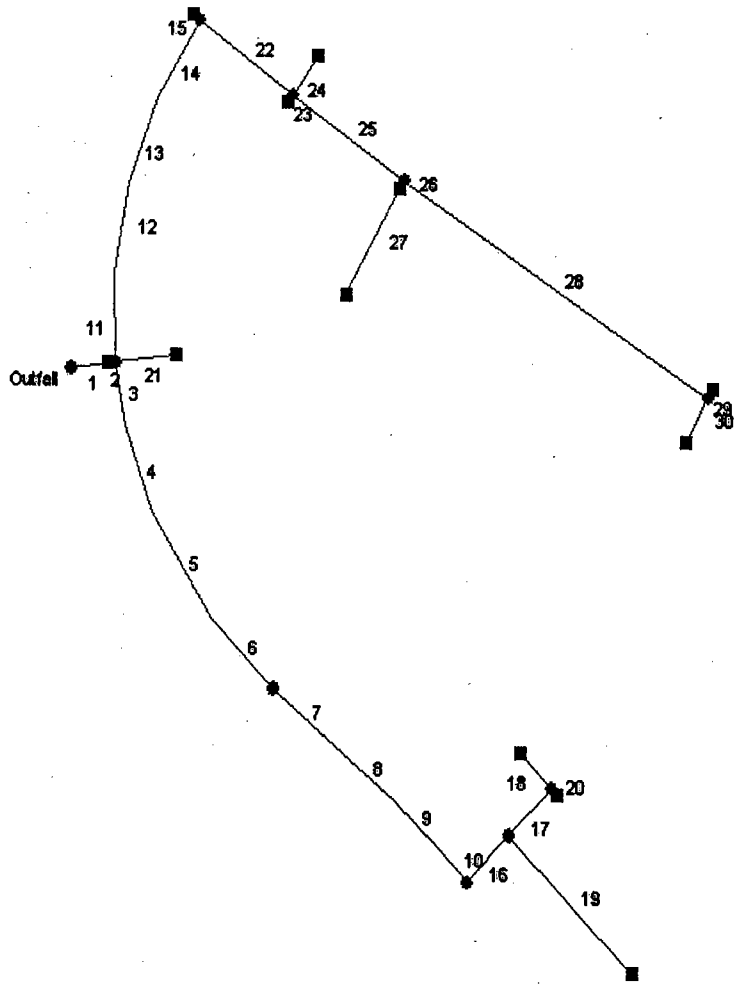
\0008077\HYDROLOGY\SPEXHIBITS\ECHOBASIN3

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

ECHO 3 BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: ECHO-OUTFALL3.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 30	12-01-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	28.0	0.74	8.33	0.75	0.56	5.76	10.0	23.6	1.7	10.01	31.12	5.53	24	1.89	11.18	10.65	12.30	11.77	21.13	0.00	CB 22
2	1	5.0	0.00	7.59	0.00	0.00	5.21	10.0	23.6	1.7	9.05	55.40	4.65	24	6.00	11.48	11.18	12.55	12.54	21.30	21.13	
3	2	43.0	0.00	1.35	0.00	0.00	1.16	10.0	22.1	1.8	2.09	11.55	2.94	18	1.21	12.75	12.23	13.30	12.99	21.49	21.30	
4	3	60.0	0.00	1.35	0.00	0.00	1.16	10.0	21.5	1.8	2.12	11.58	3.46	18	1.22	13.48	12.75	14.04	13.33	21.75	21.49	
5	4	83.0	0.00	1.35	0.00	0.00	1.16	10.0	20.6	1.9	2.18	11.58	3.29	18	1.22	14.49	13.48	15.05	14.12	21.12	21.75	
6	5	64.0	0.00	1.35	0.00	0.00	1.16	10.0	20.0	1.9	2.22	11.59	3.31	18	1.22	15.27	14.49	15.84	15.14	22.40	21.12	
7	6	67.0	0.00	1.35	0.00	0.00	1.16	10.0	19.3	2.0	2.26	11.55	3.54	18	1.21	16.08	15.27	16.65	15.87	22.68	22.40	
8	7	49.0	0.00	1.35	0.00	0.00	1.16	10.0	18.8	2.0	2.30	11.52	3.55	18	1.20	16.67	16.08	17.25	16.68	22.90	22.68	
9	8	46.0	0.00	1.35	0.00	0.00	1.16	10.0	18.4	2.0	2.33	11.59	3.56	18	1.22	17.23	16.67	17.81	17.28	23.10	22.90	
10	9	30.0	0.00	1.35	0.00	0.00	1.16	10.0	18.1	2.0	2.35	11.66	3.57	18	1.23	17.60	17.23	18.19	17.84	23.23	23.10	
11	2	60.0	0.00	5.08	0.00	0.00	3.35	10.0	23.3	1.7	5.87	12.28	4.90	18	1.37	12.80	11.98	13.72	12.99	21.62	21.30	
12	11	60.0	0.00	5.08	0.00	0.00	3.35	10.0	23.1	1.8	5.90	12.28	4.97	18	1.37	13.62	12.80	14.55	13.79	21.95	21.62	
13	12	60.0	0.00	5.08	0.00	0.00	3.35	10.0	22.9	1.8	5.94	12.35	4.98	18	1.38	14.45	13.62	15.38	14.61	22.27	21.95	
14	13	60.0	0.00	5.08	0.00	0.00	3.35	10.0	22.7	1.8	5.97	12.35	4.99	18	1.38	15.28	14.45	16.21	15.44	22.60	22.27	
15	14	5.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	8.72	0.47	12	6.00	16.08	15.78	16.62	16.63	22.42	22.60	CB 18
16	10	43.0	0.00	1.35	0.00	0.00	1.16	10.0	17.8	2.1	2.37	5.83	3.66	15	0.81	18.05	17.70	18.67	18.40	23.20	23.23	
17	16	44.0	0.00	1.15	0.00	0.00	1.04	10.0	11.1	2.7	2.76	6.53	3.62	15	1.02	18.50	18.05	19.16	18.91	22.72	23.20	
18	17	32.0	0.15	0.15	0.90	0.14	0.14	10.0	10.0	2.8	0.38	3.45	2.59	12	0.94	20.00	19.70	20.26	19.93	22.59	22.72	CB 23
19	16	129.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	4.92	1.10	15	0.58	18.80	18.05	19.06	18.91	21.92	23.20	DI 1/0.72 AC
20	17	6.0	1.00	1.00	0.90	0.90	0.90	10.0	10.0	2.8	2.53	14.44	5.42	15	5.00	20.00	19.70	21.34	20.06	23.28	22.72	CB 24
21	2	45.0	1.16	1.16	0.60	0.70	0.70	10.0	10.0	2.8	1.95	6.46	2.75	15	1.00	12.43	11.98	12.99	12.99	21.13	21.30	CB 21

Project File: ECHO-OUTFALL3.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 30 | Run Date: 12-01-2003

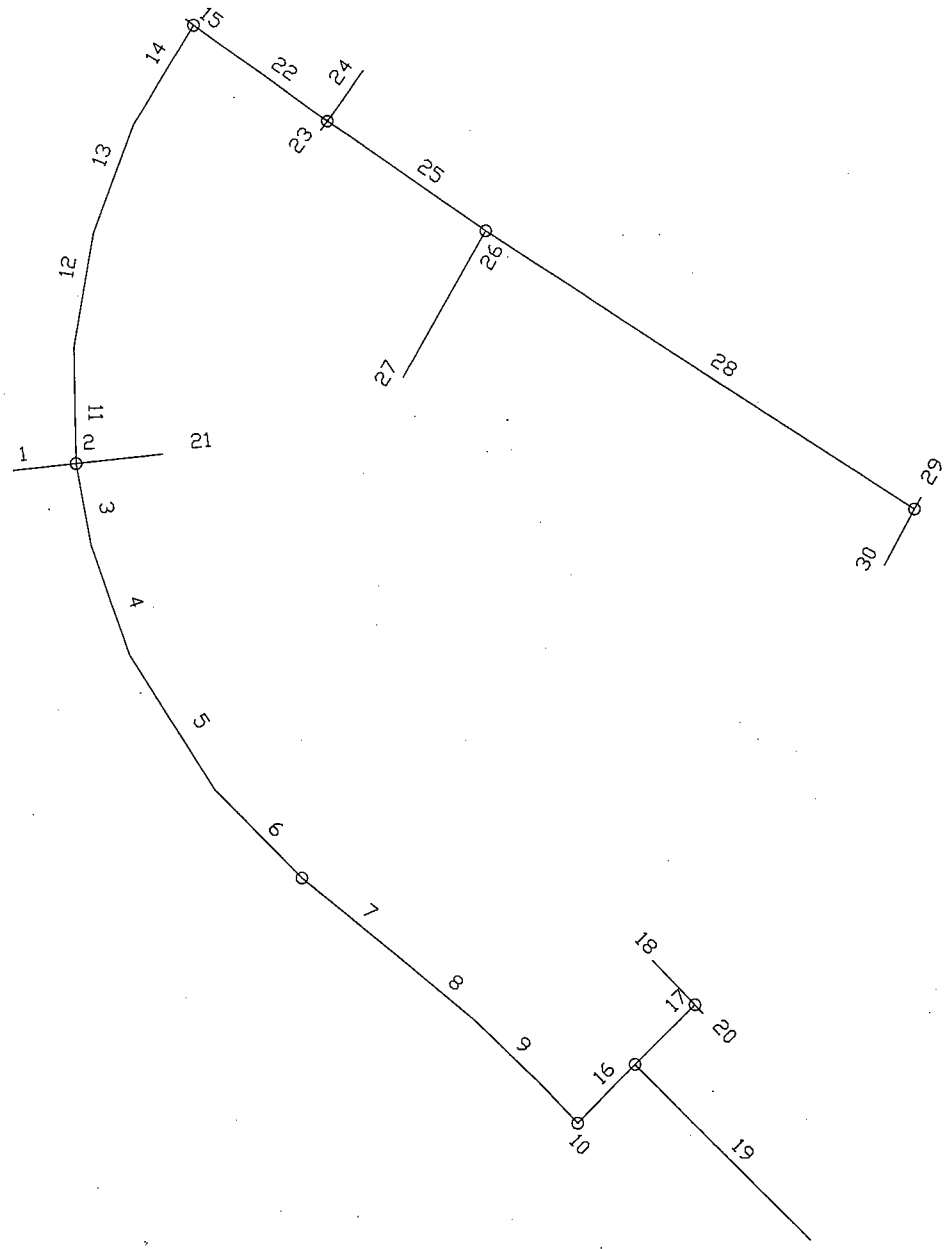
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 11.77 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	14	85.0	0.00	4.98	0.00	0.00	3.26	10.0	22.4	1.8	5.86	9.11	4.43	18	0.75	16.02	15.38	16.94	16.63	24.24	22.60	
23	22	6.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	7.96	0.32	12	5.00	16.36	16.06	17.35	17.35	22.10	24.24	CB 20
24	22	32.0	3.10	3.10	0.60	1.86	1.86	10.0	10.0	2.8	5.22	10.17	3.77	18	0.94	16.36	16.06	17.33	17.35	22.10	24.24	CB 19
25	22	100.0	0.00	1.78	0.00	0.00	1.31	10.0	21.5	1.8	2.42	10.50	2.81	18	1.00	17.34	16.34	17.93	17.35	22.32	24.24	
26	25	7.0	0.55	1.51	0.90	0.50	1.07	10.0	11.5	2.6	2.81	6.46	3.72	15	1.00	17.41	17.34	18.09	18.15	22.32	22.32	
27	26	80.0	0.96	0.96	0.60	0.58	0.58	10.0	10.0	2.8	1.62	10.50	2.46	18	1.00	18.21	17.41	18.70	18.22	22.32	22.32	
28	25	266.0	0.00	0.27	0.90	0.00	0.24	10.0	13.4	2.4	0.59	6.46	1.60	15	1.00	20.00	17.34	20.31	18.15	22.50	22.32	
29	28	7.0	0.22	0.22	0.90	0.20	0.20	10.0	10.0	2.8	0.56	3.56	2.22	12	1.00	20.07	20.00	20.39	20.40	22.50	22.50	
30	28	33.0	0.05	0.05	0.90	0.05	0.05	10.0	10.0	2.8	0.13	3.56	1.05	12	1.00	20.33	20.00	20.48	20.40	22.50	22.50	

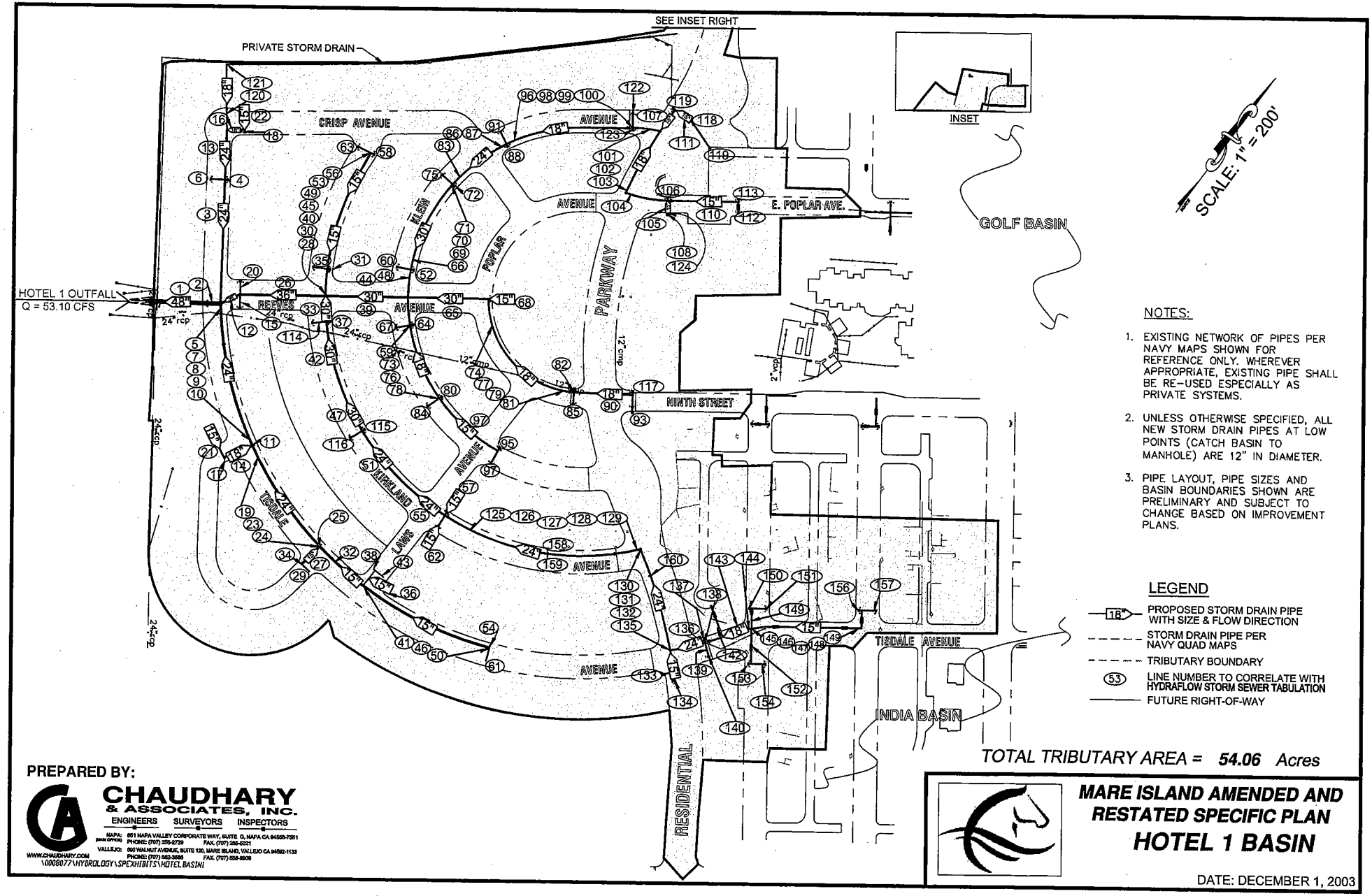
Project File: ECHO-OUTFALL3.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 30 | Run Date: 12-01-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 11.77 (ft)



LINE DIAGRAM

ECHO 3 BASIN


SEE INSET RIGHT
PRIVATE STORM DRAIN
INSET
SCALE: 1" = 200'
CRISP AVENUE
REEVES AVENUE
KLEIN
POPLAR
PARKWAY
E. POPLAR AVE.
GOLF BASIN
HOTEL 1 OUTFALL
Q = 53.10 CFS
NINTH STREET
KIRKLAND AVENUE
TISDALE AVENUE
LAWS AVENUE
INDIA BASIN
RESIDENTIAL
NOTES:
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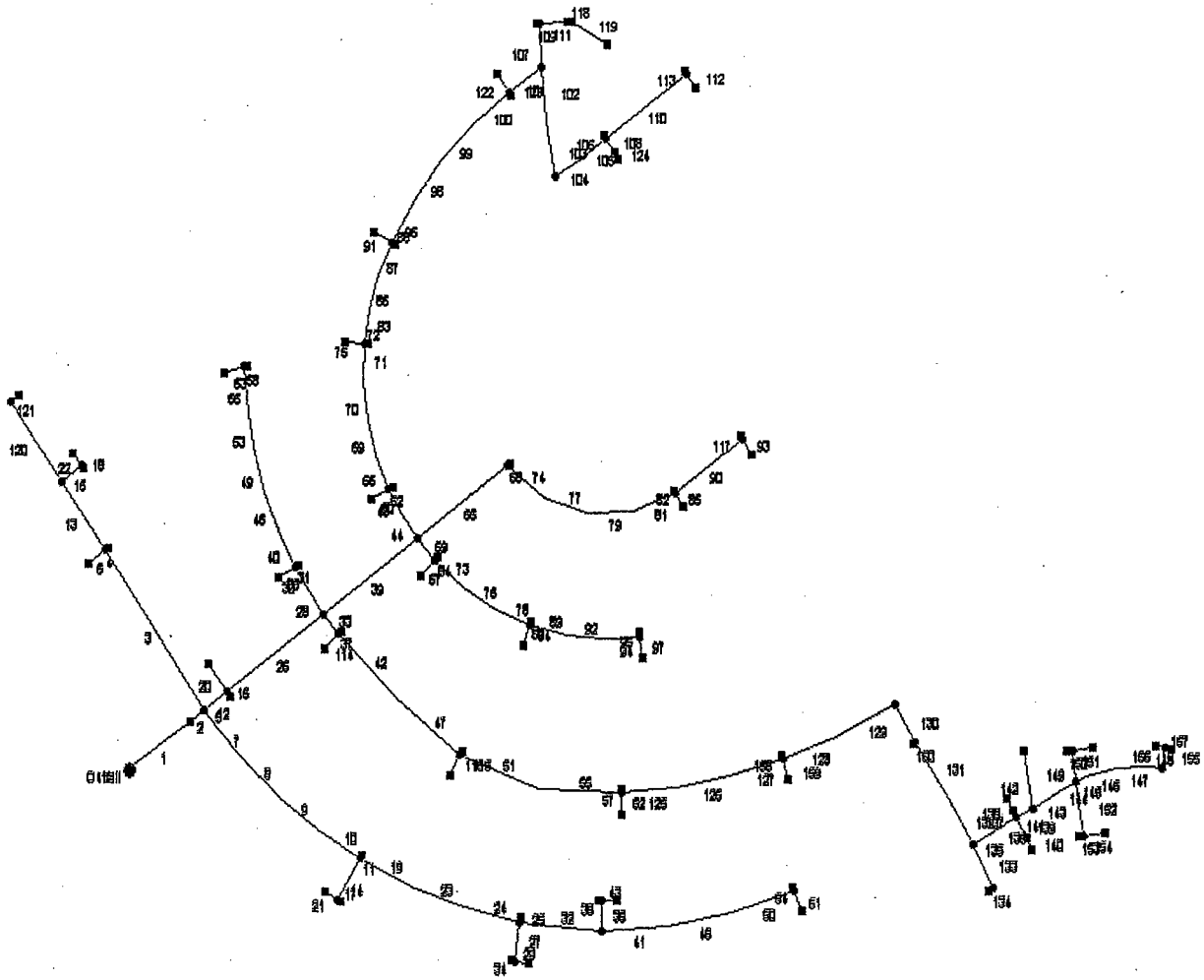
LEGEND
PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
STORM DRAIN PIPE PER NAVY QUAD MAPS
TRIBUTARY BOUNDARY
LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
FUTURE RIGHT-OF-WAY
TOTAL TRIBUTARY AREA = 54.06 Acres
PREPARED BY:
CHAUDHARY & ASSOCIATES, INC.
ENGINEERS SURVEYORS INSPECTORS
WWW.CHAUDHARY.COM
\0008077\HYDROLOGY\SPEXHIBITS\HOTEL BASIN1
MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN
HOTEL 1 BASIN
DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: HOTEL-OUTFALL1.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 160	10-30-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	120.0	1.50	54.06	0.60	0.90	32.54	10.0	26.1	1.6	53.10	77.58	6.63	48	0.29	6.85	6.50	9.28	8.93	12.10	11.00	
2	1	30.0	0.00	52.56	0.00	0.00	31.64	10.0	26.0	1.6	51.77	64.24	5.57	48	0.20	6.91	6.85	9.68	9.62	12.33	12.10	
3	2	285.0	0.00	5.23	0.00	0.00	3.14	10.0	14.0	2.4	7.40	16.63	2.36	24	0.54	8.45	6.91	10.45	10.16	12.20	12.33	
4	3	6.0	0.65	0.65	0.60	0.39	0.39	10.0	10.0	2.8	1.10	4.60	1.39	12	1.67	8.55	8.45	10.54	10.53	12.20	12.20	
5	2	35.0	0.00	9.68	0.00	0.00	5.81	10.0	15.3	2.2	13.02	16.66	4.14	24	0.54	7.10	6.91	10.28	10.16	12.20	12.33	
6	3	32.0	1.28	1.28	0.60	0.77	0.77	10.0	10.0	2.8	2.16	3.45	2.75	12	0.94	8.75	8.45	10.65	10.53	12.20	12.20	
7	5	60.0	0.00	9.68	0.00	0.00	5.81	10.0	15.1	2.3	13.14	16.52	4.18	24	0.53	7.42	7.10	10.52	10.32	12.60	12.20	
8	7	81.0	0.00	9.68	0.00	0.00	5.81	10.0	14.7	2.3	13.31	16.29	4.24	24	0.52	7.84	7.42	10.84	10.56	13.10	12.60	
9	8	81.0	0.00	9.68	0.00	0.00	5.81	10.0	14.4	2.3	13.47	16.48	4.29	24	0.53	8.27	7.84	11.17	10.88	13.60	13.10	
10	9	81.0	0.00	9.68	0.00	0.00	5.81	10.0	14.1	2.3	13.64	16.48	4.34	24	0.53	8.70	8.27	11.51	11.21	14.20	13.60	
11	10	6.0	0.71	0.71	0.60	0.43	0.43	10.0	10.0	2.8	1.20	4.60	1.52	12	1.67	8.80	8.70	11.81	11.80	14.20	14.20	
12	2	45.0	0.00	37.65	0.00	0.00	22.70	10.0	25.9	1.6	37.25	60.48	5.27	36	0.82	7.28	6.91	10.28	10.16	11.44	12.33	
13	3	122.0	0.00	3.30	0.00	0.00	1.98	10.0	12.7	2.5	4.92	16.51	1.77	24	0.53	9.10	8.45	10.58	10.53	12.70	12.20	
14	10	71.0	0.00	3.59	0.00	0.00	2.15	10.0	12.1	2.5	5.48	7.88	3.10	18	0.56	9.10	8.70	12.00	11.80	13.70	14.20	
15	12	8.0	1.10	1.10	0.60	0.66	0.66	10.0	10.0	2.8	1.85	7.22	1.51	15	1.25	7.38	7.28	10.72	10.71	11.44	11.44	
16	13	41.0	0.00	1.83	0.00	0.00	1.10	10.0	12.2	2.5	2.78	7.33	1.61	18	0.49	9.30	9.10	10.66	10.64	12.30	12.70	
17	14	5.0	1.28	1.28	0.60	0.77	0.77	10.0	10.0	2.8	2.16	5.04	2.75	12	2.00	9.20	9.10	12.16	12.15	13.70	13.70	
18	16	4.0	0.47	0.47	0.60	0.28	0.28	10.0	10.0	2.8	0.79	5.63	1.01	12	2.50	9.40	9.30	10.71	10.71	12.30	12.30	
19	10	93.0	0.00	5.38	0.00	0.00	3.23	10.0	13.4	2.4	7.78	16.08	2.48	24	0.51	9.17	8.70	11.91	11.80	15.00	14.20	
20	12	52.0	0.47	0.47	0.60	0.28	0.28	10.0	10.0	2.8	0.79	2.70	1.01	12	0.58	7.58	7.28	10.74	10.71	11.44	11.44	
21	14	24.0	2.31	2.31	0.60	1.39	1.39	12.0	12.0	2.6	3.55	6.59	2.89	15	1.04	9.35	9.10	12.22	12.15	13.70	13.70	

Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	16	24.0	1.36	1.36	0.60	0.82	0.82	12.0	12.0	2.6	2.09	7.22	1.75	15	1.25	9.60	9.30	10.72	10.71	12.30	12.30	
23	19	93.0	0.00	5.38	0.00	0.00	3.23	10.0	12.8	2.5	7.99	16.08	2.54	24	0.51	9.64	9.17	12.04	11.93	15.75	15.00	
24	23	93.0	0.00	5.38	0.00	0.00	3.23	10.0	12.1	2.5	8.20	15.91	2.61	24	0.49	10.10	9.64	12.18	12.06	16.50	15.75	
25	24	6.0	0.34	0.34	0.60	0.20	0.20	10.0	10.0	2.8	0.57	4.60	0.73	12	1.67	10.20	10.10	12.29	12.29	16.50	16.50	
26	12	196.0	0.00	36.08	0.00	0.00	21.76	10.0	25.3	1.7	36.21	47.16	5.12	36	0.50	8.26	7.28	11.26	10.71	13.30	11.44	
27	24	58.0	0.00	1.39	0.00	0.00	0.83	10.0	10.3	2.8	2.31	4.64	1.88	15	0.52	10.40	10.10	12.36	12.29	16.00	16.50	
28	26	42.0	0.00	2.06	0.00	0.00	1.24	10.0	16.7	2.1	2.64	4.98	2.15	15	0.60	8.65	8.40	11.73	11.66	13.15	13.30	
29	27	24.0	1.29	1.29	0.60	0.77	0.77	10.0	10.0	2.8	2.17	3.63	2.77	12	1.04	10.65	10.40	12.50	12.42	16.00	16.00	
30	28	42.0	0.00	2.06	0.00	0.00	1.24	10.0	16.4	2.2	2.66	4.98	2.17	15	0.60	8.90	8.65	11.82	11.74	12.70	13.15	
31	30	6.0	0.64	0.64	0.60	0.38	0.38	10.0	10.0	2.8	1.08	4.60	1.37	12	1.67	9.10	9.00	11.89	11.89	12.70	12.70	
32	24	134.0	0.00	3.65	0.00	0.00	2.19	10.0	11.7	2.6	5.69	6.48	4.64	15	1.01	11.45	10.10	13.33	12.29	17.20	16.50	
33	26	38.0	0.00	14.97	0.60	0.00	8.98	10.0	25.1	1.7	15.02	29.75	3.06	30	0.53	8.60	8.40	11.71	11.66	12.70	13.30	
34	27	4.0	0.10	0.10	0.60	0.06	0.06	10.0	10.0	2.8	0.17	5.63	0.21	12	2.50	10.50	10.40	12.42	12.42	16.00	16.00	
35	30	32.0	0.68	0.68	0.60	0.41	0.41	10.0	10.0	2.8	1.15	3.72	1.46	12	1.09	9.35	9.00	11.92	11.89	12.70	12.70	
36	32	44.0	0.00	0.90	0.00	0.00	0.54	10.0	10.3	2.8	1.49	4.87	1.22	15	0.57	11.70	11.45	13.68	13.66	17.10	17.20	
37	33	6.0	0.77	0.77	0.60	0.46	0.46	10.0	10.0	2.8	1.30	4.60	1.65	12	1.67	8.70	8.60	11.94	11.93	12.70	12.70	
38	36	4.0	0.10	0.10	0.60	0.06	0.06	10.0	10.0	2.8	0.17	5.63	0.21	12	2.50	11.80	11.70	13.71	13.71	17.10	17.10	
39	26	190.0	0.00	19.05	0.00	0.00	11.54	10.0	18.8	2.0	22.95	29.60	4.68	30	0.52	9.25	8.26	12.26	11.66	15.40	13.30	
40	30	60.0	0.00	0.74	0.00	0.00	0.44	10.0	15.3	2.2	0.99	4.57	0.81	15	0.50	9.20	8.90	11.90	11.89	12.95	12.70	
41	32	108.0	0.00	2.75	0.00	0.00	1.65	10.0	11.1	2.7	4.39	4.57	3.58	15	0.50	11.99	11.45	14.16	13.66	18.00	17.20	
42	33	133.0	0.00	13.35	0.00	0.00	8.01	10.0	24.4	1.7	13.63	30.80	2.78	30	0.56	9.35	8.60	12.08	11.93	13.75	12.70	

Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)

Telecommunications System

The existing system consists of two switches in Building 605A and underground copper cable for distribution. Two fiber optic cables connect Building 605A to two distribution buildings or "huts": one at northern end, near Walnut and 'H' Street, and one at southern end of the island, near Touro University.

Service to Mare Island existing units is provided and maintained by SBC up to the main point of entry (MPOE) at the exterior of each residence or building. The interior wire and phone equipment is the responsibility of the tenant.

The existing Mare Island telecommunications system was owned by GST Telecom; Lennar Mare Island purchased the GST structure and cable and currently leases the cable to SBC for communication purposes. SBC is planning the following improvements to the Mare Island telecommunications system:

- A new switch in Building 605A that will allow state-of-the-art communications services, including DSL high-speed Internet subscriber lines.
- A new fiber optic loop around Mare Island that meets SBC requirements and uses both existing structure and new joint trench facilities.
- A backup system to the new fiber optic system, which utilizes the existing fiber optic cable installed by GST.
- Capacity for 10,000 Mare Island service lines.

New facilities will utilize the joint trench locations shown on Exhibit 4 or with existing conduits and sub-structures.

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	36	24.0	0.80	0.80	0.60	0.48	0.48	10.0	10.0	2.8	1.35	3.63	1.72	12	1.04	11.95	11.70	13.74	13.71	17.10	17.10	
44	39	43.0	0.00	10.13	0.00	0.00	6.08	10.0	18.5	2.0	12.20	22.55	2.49	30	0.30	9.38	9.25	12.64	12.60	15.00	15.40	
45	40	60.0	0.00	0.74	0.00	0.00	0.44	10.0	14.3	2.3	1.03	4.57	0.84	15	0.50	9.50	9.20	11.92	11.90	13.20	12.95	
46	41	108.0	0.00	2.75	0.00	0.00	1.65	10.0	10.6	2.7	4.49	4.57	3.66	15	0.50	12.53	11.99	14.71	14.19	18.90	18.00	
47	42	134.0	0.00	13.35	0.00	0.00	8.01	10.0	23.7	1.7	13.88	30.68	2.98	30	0.56	10.10	9.35	12.22	12.10	14.80	13.75	
48	44	43.0	0.00	10.13	0.00	0.00	6.08	10.0	18.3	2.0	12.31	22.55	2.51	30	0.30	9.51	9.38	12.69	12.65	14.60	15.00	
49	45	60.0	0.00	0.74	0.00	0.00	0.44	10.0	13.2	2.4	1.08	4.57	0.88	15	0.50	9.80	9.50	11.94	11.92	13.45	13.20	
50	46	108.0	0.00	2.75	0.00	0.00	1.65	10.0	10.2	2.8	4.60	4.69	3.75	15	0.53	13.10	12.53	15.29	14.74	19.70	18.90	
51	47	137.0	0.00	12.05	0.00	0.00	7.23	10.0	23.2	1.8	12.69	17.60	4.13	24	0.61	10.93	10.10	12.75	12.37	15.60	14.80	
52	48	6.0	1.07	1.07	0.60	0.64	0.64	10.0	10.0	2.8	1.80	4.60	2.30	12	1.67	9.61	9.51	12.80	12.79	14.60	14.60	
53	49	60.0	0.00	0.74	0.00	0.00	0.44	10.0	12.2	2.5	1.13	4.57	0.92	15	0.50	10.10	9.80	11.96	11.94	13.70	13.45	
54	50	6.0	1.15	1.15	0.60	0.69	0.69	10.0	10.0	2.8	1.94	4.60	2.47	12	1.67	13.20	13.10	15.53	15.51	19.70	19.70	
55	51	137.0	0.00	12.05	0.00	0.00	7.23	10.0	22.7	1.8	12.85	17.50	4.71	24	0.60	11.75	10.93	13.19	12.88	16.40	15.60	
56	53	68.0	0.00	0.74	0.00	0.00	0.44	10.0	11.1	2.7	1.18	4.63	0.96	15	0.51	10.45	10.10	11.98	11.96	14.00	13.70	
57	55	6.0	1.15	1.15	0.60	0.69	0.69	10.0	10.0	2.8	1.94	14.44	1.58	15	5.00	12.05	11.75	13.63	13.63	16.40	16.40	
58	56	6.0	0.49	0.49	0.60	0.29	0.29	10.0	10.0	2.8	0.83	4.60	1.05	12	1.67	10.55	10.45	12.00	12.00	14.00	14.00	
59	39	43.0	0.00	3.80	0.00	0.00	2.28	10.0	13.2	2.4	5.55	7.68	3.14	18	0.53	9.48	9.25	12.72	12.60	14.60	15.40	
60	48	32.0	0.65	0.65	0.60	0.39	0.39	10.0	10.0	2.8	1.10	3.51	1.39	12	0.97	9.82	9.51	12.82	12.79	14.60	14.60	
61	50	32.0	1.60	1.60	0.60	0.96	0.96	10.0	10.0	2.8	2.70	3.45	3.43	12	0.94	13.40	13.10	15.69	15.51	19.70	19.70	
62	55	32.0	1.68	1.68	0.60	1.01	1.01	10.0	10.0	2.8	2.83	5.71	4.40	15	0.78	13.85	13.60	14.53	14.22	16.40	16.40	
63	56	35.0	0.25	0.25	0.60	0.15	0.15	10.0	10.0	2.8	0.42	3.30	0.54	12	0.86	10.75	10.45	12.00	12.00	14.00	14.00	

Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	59	6.0	0.96	0.96	0.60	0.58	0.58	10.0	10.0	2.8	1.62	4.60	2.06	12	1.67	9.58	9.48	12.88	12.87	14.60	14.60	
65	39	184.0	0.00	5.12	0.00	0.00	3.18	10.0	13.1	2.4	7.78	12.84	4.40	18	1.49	12.00	9.25	13.61	12.60	16.90	15.40	
66	48	55.0	0.00	8.41	0.00	0.00	5.05	10.0	17.8	2.1	10.36	22.80	2.11	30	0.31	9.68	9.51	12.82	12.79	15.00	14.60	
67	59	32.0	0.50	0.50	0.60	0.30	0.30	10.0	10.0	2.8	0.84	3.45	1.07	12	0.94	9.78	9.48	12.89	12.87	14.60	14.60	
68	65	4.0	2.26	2.26	0.60	1.36	1.36	12.0	12.0	2.6	3.47	10.21	2.83	15	2.50	12.10	12.00	13.88	13.86	16.90	16.90	
69	66	55.0	0.00	8.41	0.00	0.00	5.05	10.0	17.4	2.1	10.51	22.12	2.14	30	0.29	9.84	9.68	12.87	12.83	15.35	15.00	
70	69	55.0	0.00	8.41	0.00	0.00	5.05	10.0	17.0	2.1	10.66	22.12	2.17	30	0.29	10.00	9.84	12.92	12.88	15.70	15.35	
71	70	55.0	0.00	8.41	0.00	0.00	5.05	10.0	16.7	2.1	10.75	13.64	3.42	24	0.36	10.20	10.00	13.05	12.93	16.10	15.70	
72	71	6.0	0.27	0.27	0.60	0.16	0.16	10.0	10.0	2.8	0.45	4.60	0.58	12	1.67	10.30	10.20	13.24	13.24	16.10	16.10	
73	59	61.0	0.00	2.34	0.00	0.00	1.40	10.0	12.7	2.5	3.49	7.72	1.98	18	0.54	9.81	9.48	12.94	12.87	15.14	14.60	
74	65	75.0	0.00	2.86	0.00	0.00	1.82	10.0	12.6	2.5	4.55	10.50	2.76	18	1.00	12.75	12.00	13.98	13.86	18.10	16.90	
75	71	32.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	3.45	0.43	12	0.94	10.50	10.20	13.24	13.24	16.10	16.10	
76	73	61.0	0.00	2.34	0.00	0.00	1.40	10.0	12.2	2.5	3.56	7.61	2.02	18	0.52	10.13	9.81	13.02	12.95	15.75	15.14	
77	74	75.0	0.00	2.86	0.00	0.00	1.82	10.0	12.1	2.5	4.65	10.50	3.78	18	1.00	13.50	12.75	14.32	14.04	19.30	18.10	
78	76	61.0	0.00	2.34	0.00	0.00	1.40	10.0	11.7	2.6	3.64	7.72	2.06	18	0.54	10.46	10.13	13.10	13.03	16.30	15.75	
79	77	75.0	0.00	2.86	0.00	0.00	1.82	10.0	11.6	2.6	4.74	10.50	4.31	18	1.00	14.25	13.50	15.08	14.48	20.50	19.30	
80	78	6.0	0.38	0.38	0.60	0.23	0.23	10.0	10.0	2.8	0.64	4.60	0.82	12	1.67	10.56	10.46	13.17	13.17	16.30	16.30	
81	79	75.0	0.00	2.86	0.00	0.00	1.82	10.0	11.2	2.7	4.84	10.50	4.34	18	1.00	15.00	14.25	15.84	15.24	21.70	20.50	
82	81	4.0	0.21	0.21	0.90	0.19	0.19	10.0	10.0	2.8	0.53	5.63	0.68	12	2.50	15.10	15.00	16.19	16.19	21.70	21.70	CB 51
83	71	52.0	0.00	7.94	0.00	0.00	4.76	10.0	16.5	2.2	10.25	15.99	3.26	24	0.50	10.46	10.20	13.34	13.24	16.20	16.10	
84	78	32.0	0.27	0.27	0.60	0.16	0.16	10.0	10.0	2.8	0.45	3.45	0.58	12	0.94	10.76	10.46	13.17	13.17	16.30	16.30	

Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
85	81	24.0	0.15	0.15	0.90	0.14	0.14	10.0	10.0	2.8	0.38	3.98	0.50	12	1.25	15.30	15.00	16.19	16.19	21.70	21.70	CB 52
86	83	52.0	0.00	7.94	0.00	0.00	4.76	10.0	16.2	2.2	10.34	15.99	3.29	24	0.50	10.72	10.46	13.48	13.37	16.10	16.20	
87	86	52.0	0.00	7.94	0.00	0.00	4.76	10.0	15.9	2.2	10.43	16.60	3.32	24	0.54	11.00	10.72	13.61	13.50	16.30	16.10	
88	87	6.0	1.47	1.47	0.60	0.88	0.88	10.0	10.0	2.8	2.48	4.60	3.15	12	1.67	11.10	11.00	13.81	13.78	16.30	16.30	
89	78	61.0	0.00	1.69	0.00	0.00	1.01	10.0	11.2	2.6	2.69	4.75	2.19	15	0.54	10.79	10.46	13.27	13.17	16.63	16.30	
90	81	136.0	0.00	2.50	0.00	0.00	1.50	10.0	10.2	2.8	4.17	10.46	3.63	18	0.99	16.35	15.00	17.13	16.19	22.50	21.70	
91	87	32.0	1.28	1.28	0.60	0.77	0.77	10.0	10.0	2.8	2.16	3.72	2.75	12	1.09	11.35	11.00	13.90	13.78	16.30	16.30	
92	89	61.0	0.00	1.69	0.00	0.00	1.01	10.0	10.8	2.7	2.74	4.75	2.24	15	0.54	11.12	10.79	13.39	13.28	16.95	16.63	
93	90	27.0	0.97	0.97	0.60	0.58	0.58	10.0	10.0	2.8	1.63	4.33	2.41	12	1.48	16.75	16.35	17.46	17.44	22.50	22.50	CB 30
94	92	61.0	0.00	1.69	0.00	0.00	1.01	10.0	10.3	2.8	2.80	4.75	2.28	15	0.54	11.45	11.12	13.52	13.41	16.95	16.95	
95	94	7.0	0.93	0.93	0.60	0.56	0.56	10.0	10.0	2.8	1.57	4.26	1.99	12	1.43	11.55	11.45	13.62	13.60	17.30	16.95	
96	87	74.0	0.00	5.19	0.00	0.00	3.11	10.0	15.6	2.2	6.89	7.43	3.90	18	0.50	11.37	11.00	14.10	13.78	17.20	16.30	
97	94	32.0	0.76	0.76	0.60	0.46	0.46	10.0	10.0	2.8	1.28	3.45	1.63	12	0.94	11.75	11.45	13.64	13.60	17.30	16.95	
98	96	74.0	0.00	5.19	0.00	0.00	3.11	10.0	15.3	2.2	6.97	7.43	3.94	18	0.50	11.74	11.37	14.46	14.14	18.10	17.20	
99	98	74.0	0.00	5.19	0.00	0.00	3.11	10.0	15.0	2.3	7.05	7.43	3.99	18	0.50	12.11	11.74	14.83	14.50	19.00	18.10	
100	99	74.0	0.00	5.19	0.00	0.00	3.11	10.0	14.8	2.3	7.12	7.43	4.03	18	0.50	12.48	12.11	15.21	14.87	20.11	19.00	
101	100	65.0	0.00	4.89	0.00	0.00	2.93	10.0	14.5	2.3	6.78	7.37	3.84	18	0.49	12.80	12.48	15.74	15.46	22.00	20.11	
102	101	81.0	0.00	3.40	0.00	0.00	2.04	10.0	11.9	2.6	5.24	8.65	2.96	18	0.68	13.60	13.05	16.17	15.96	22.50	22.00	
103	102	81.0	0.00	3.40	0.00	0.00	2.04	10.0	11.5	2.6	5.34	8.65	3.02	18	0.68	14.15	13.60	16.40	16.19	22.90	22.50	
104	103	49.0	0.00	3.40	0.00	0.00	2.04	10.0	11.3	2.6	5.39	6.52	4.39	15	1.02	14.90	14.40	16.88	16.54	22.50	22.90	
105	104	49.0	0.00	3.40	0.00	0.00	2.04	10.0	11.1	2.7	5.43	6.52	4.43	15	1.02	15.40	14.90	17.27	16.92	22.00	22.50	

Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
106	105	6.0	0.36	0.36	0.60	0.22	0.22	10.0	10.0	2.8	0.61	7.96	0.77	12	5.00	16.20	15.90	17.58	17.58	22.14	22.00	CB 27
107	101	61.0	0.00	1.49	0.00	0.00	0.89	10.0	14.0	2.4	2.11	6.67	1.72	15	1.07	13.65	13.00	16.03	15.96	21.90	22.00	
108	105	24.0	0.00	0.99	0.60	0.00	0.59	10.0	10.1	2.8	1.66	3.98	2.11	12	1.25	16.20	15.90	17.63	17.58	22.00	22.00	CB 28
109	107	5.0	0.30	0.30	0.60	0.18	0.18	10.0	10.0	2.8	0.51	8.72	0.64	12	6.00	14.30	14.00	16.08	16.07	21.80	21.90	CB 25
110	105	164.0	0.00	2.05	0.00	0.00	1.23	10.0	10.1	2.8	3.43	9.43	3.66	15	2.13	19.00	15.50	19.74	17.58	25.70	22.00	
111	107	45.0	0.28	1.19	0.60	0.17	0.71	10.0	13.5	2.4	1.72	6.46	1.40	15	1.00	14.20	13.75	16.11	16.07	21.80	21.90	CB 26
112	110	24.0	1.60	1.60	0.60	0.96	0.96	10.0	10.0	2.8	2.70	3.49	4.74	12	0.96	21.50	21.27	22.20	21.93	25.70	25.70	
113	110	6.0	0.45	0.45	0.60	0.27	0.27	10.0	10.0	2.8	0.76	4.60	3.28	12	1.67	21.37	21.27	21.81	21.55	25.70	25.70	
114	33	32.0	0.85	0.85	0.60	0.51	0.51	10.0	10.0	2.8	1.43	3.45	1.82	12	0.94	8.90	8.60	11.98	11.93	12.70	12.70	
115	47	32.0	0.73	0.73	0.60	0.44	0.44	10.0	10.0	2.8	1.23	3.45	1.57	12	0.94	10.40	10.10	12.41	12.37	14.80	14.80	
116	47	6.0	0.57	0.57	0.60	0.34	0.34	10.0	10.0	2.8	0.96	4.60	1.22	12	1.67	10.20	10.10	12.38	12.37	14.80	14.80	
117	90	6.0	1.53	1.53	0.60	0.92	0.92	10.0	10.0	2.8	2.58	7.96	3.85	12	5.00	16.65	16.35	17.34	17.44	22.50	22.50	CB 29
118	111	9.0	0.76	0.91	0.60	0.46	0.55	10.0	13.4	2.4	1.32	6.50	1.68	12	3.33	14.75	14.45	16.13	16.12	20.00	21.80	DI 2
119	118	66.0	0.15	0.15	0.60	0.09	0.09	10.0	10.0	2.8	0.25	9.30	1.19	12	6.82	19.50	15.00	19.71	16.16	25.00	20.00	
120	13	145.0	0.00	1.47	0.00	0.00	0.88	10.0	10.2	2.8	2.45	5.16	1.47	18	0.24	9.45	9.10	10.71	10.64	13.50	12.70	
121	120	15.0	1.47	1.47	0.60	0.88	0.88	10.0	10.0	2.8	2.48	6.06	1.55	18	0.33	9.50	9.45	10.75	10.75	14.50	13.50	
122	100	32.0	0.10	0.10	0.60	0.06	0.06	10.0	10.0	2.8	0.17	3.45	0.21	12	0.94	12.78	12.48	15.46	15.46	19.85	20.11	CB 49
123	100	6.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	7.96	0.43	12	5.00	12.78	12.48	15.46	15.46	19.85	20.11	CB 50
124	108	12.0	0.99	0.99	0.60	0.59	0.59	10.0	10.0	2.8	1.67	5.63	2.12	12	2.50	16.50	16.20	17.69	17.66	22.34	22.00	
125	55	90.0	0.00	9.22	0.00	0.00	5.53	10.0	22.3	1.8	9.94	18.47	3.82	24	0.67	12.35	11.75	13.70	13.63	0.00	16.40	
126	125	90.0	0.00	9.22	0.00	0.00	5.53	10.0	21.9	1.8	10.04	18.62	4.91	24	0.68	12.96	12.35	14.08	13.75	0.00	0.00	

Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
127	126	90.0	0.00	9.22	0.00	0.00	5.53	10.0	21.6	1.8	10.15	18.47	5.37	24	0.67	13.56	12.96	14.69	14.15	0.00	0.00	
128	127	100.0	0.00	8.09	0.00	0.00	4.85	10.0	21.1	1.9	9.03	18.51	4.32	24	0.67	14.23	13.56	15.29	15.17	0.00	0.00	
129	128	100.0	0.00	8.09	0.00	0.00	4.85	10.0	20.6	1.9	9.15	18.51	5.17	24	0.67	14.90	14.23	15.97	15.36	0.00	0.00	
130	129	65.0	0.00	8.09	0.60	0.00	4.85	10.0	20.3	1.9	9.23	19.44	4.62	24	0.74	15.48	15.00	16.56	16.41	0.00	0.00	
131	130	100.0	0.00	7.99	0.00	0.00	4.79	10.0	19.9	1.9	9.23	19.46	4.48	24	0.74	16.22	15.48	17.30	17.00	0.00	0.00	
132	131	78.0	0.00	7.99	0.00	0.00	4.79	10.0	19.5	1.9	9.33	19.50	5.20	24	0.74	16.80	16.22	17.88	17.36	0.00	0.00	
133	132	72.0	0.00	0.10	0.00	0.00	0.06	10.0	10.8	2.7	0.16	5.89	0.16	15	0.83	17.50	16.90	18.33	18.33	0.00	0.00	
134	133	10.0	0.10	0.10	0.60	0.06	0.06	10.0	10.0	2.8	0.17	5.04	0.28	12	2.00	17.70	17.50	18.33	18.33	0.00	0.00	
135	132	42.0	0.00	7.89	0.00	0.00	4.73	10.0	11.7	2.6	12.29	26.12	5.55	24	1.33	17.46	16.90	18.70	18.33	0.00	0.00	
136	135	40.0	0.00	7.89	0.00	0.00	4.73	10.0	11.5	2.6	12.38	26.28	5.81	24	1.35	18.00	17.46	19.25	18.79	0.00	0.00	
137	136	12.0	0.17	0.77	0.60	0.10	0.46	10.0	10.3	2.8	1.28	3.25	1.63	12	0.83	17.60	17.50	19.82	19.81	0.00	0.00	
138	137	20.0	0.60	0.60	0.60	0.36	0.36	10.0	10.0	2.8	1.01	3.56	1.29	12	1.00	17.80	17.60	19.86	19.85	0.00	0.00	
139	136	33.0	0.52	1.10	0.60	0.31	0.66	10.0	10.3	2.8	1.83	4.38	2.33	12	1.52	18.00	17.50	19.90	19.81	0.00	0.00	
140	139	20.0	0.58	0.58	0.60	0.35	0.35	10.0	10.0	2.8	0.98	3.56	1.24	12	1.00	18.20	18.00	19.95	19.94	0.00	0.00	
141	136	30.0	0.00	6.02	0.00	0.00	3.61	10.0	11.3	2.6	9.52	22.62	3.72	24	1.00	18.40	18.10	19.78	19.81	0.00	0.00	
142	141	85.0	0.55	0.55	0.60	0.33	0.33	10.0	10.0	2.8	0.93	10.28	2.13	12	8.33	26.08	19.00	26.49	20.01	0.00	0.00	
143	141	50.0	0.00	5.47	0.00	0.00	3.28	10.0	11.2	2.7	8.72	10.50	5.00	18	1.00	18.90	18.40	20.31	20.01	0.00	0.00	
144	143	32.0	0.00	5.47	0.00	0.00	3.28	10.0	11.0	2.7	8.76	10.50	5.24	18	1.00	19.22	18.90	20.49	20.37	0.00	0.00	
145	144	18.0	0.00	2.47	0.00	0.00	1.48	10.0	11.0	2.7	3.97	8.74	3.24	15	1.83	19.55	19.22	21.03	20.96	0.00	0.00	
146	145	50.0	0.00	2.47	0.00	0.00	1.48	10.0	10.7	2.7	4.02	8.71	4.05	15	1.82	20.46	19.55	21.26	21.10	0.00	0.00	
147	146	50.0	0.00	2.47	0.00	0.00	1.48	10.0	10.4	2.7	4.07	8.71	4.70	15	1.82	21.37	20.46	22.18	21.32	0.00	0.00	

Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

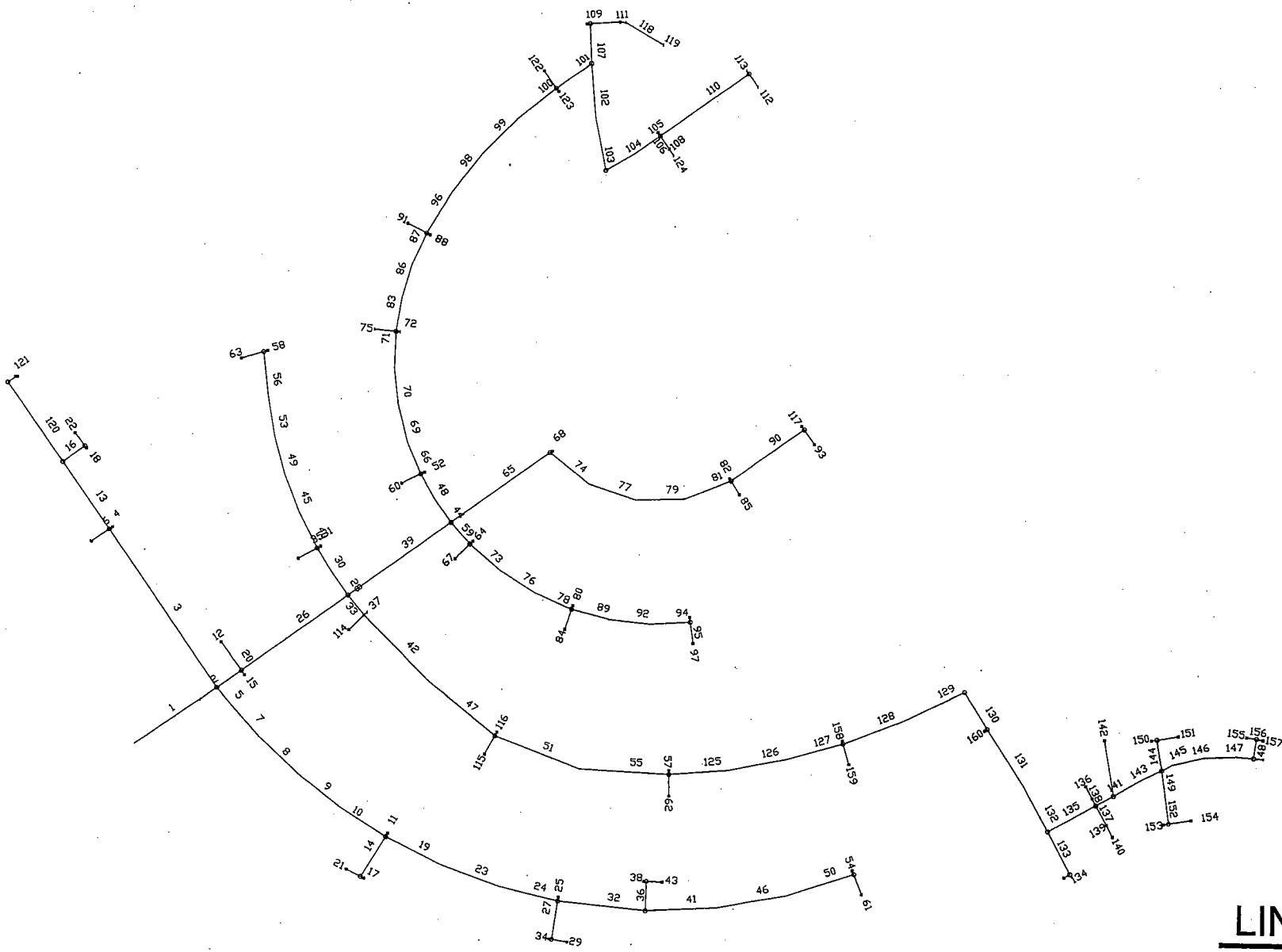
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
148	147	25.0	0.00	2.47	0.00	0.00	1.48	10.0	10.3	2.8	4.10	8.66	4.70	15	1.80	21.82	21.37	22.63	22.23	0.00	0.00	
149	144	47.0	0.00	1.70	0.00	0.00	1.02	10.0	10.3	2.8	2.83	4.28	3.60	12	1.45	20.00	19.32	21.25	20.96	0.00	0.00	
150	149	8.0	0.75	0.75	0.60	0.45	0.45	10.0	10.0	2.8	1.26	5.04	1.61	12	2.00	20.16	20.00	21.47	21.46	0.00	0.00	
151	149	33.0	0.95	0.95	0.60	0.57	0.57	10.0	10.0	2.8	1.60	5.04	2.48	12	2.00	20.82	20.16	21.48	21.46	0.00	0.00	
152	144	80.0	0.00	1.30	0.00	0.00	0.78	10.0	10.3	2.8	2.16	3.28	2.75	12	0.85	20.00	19.32	21.25	20.96	0.00	0.00	
153	152	8.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	5.04	0.43	12	2.00	20.16	20.00	21.37	21.37	0.00	0.00	
154	152	35.0	1.10	1.10	0.60	0.66	0.66	10.0	10.0	2.8	1.85	5.04	3.15	12	2.00	20.86	20.16	21.44	21.37	0.00	0.00	
155	148	30.0	0.00	2.47	0.00	0.00	1.48	10.0	10.2	2.8	4.13	7.55	4.16	15	1.37	22.23	21.82	23.04	23.00	0.00	0.00	
156	155	15.0	0.67	0.67	0.60	0.40	0.40	10.0	10.0	2.8	1.13	5.04	1.48	12	2.00	22.53	22.23	23.42	23.41	0.00	0.00	
157	155	10.0	1.80	1.80	0.60	1.08	1.08	10.0	10.0	2.8	3.03	6.17	3.91	12	3.00	22.53	22.23	23.47	23.41	0.00	0.00	
158	127	5.0	0.45	0.45	0.60	0.27	0.27	10.0	10.0	2.8	0.76	8.72	0.97	12	6.00	13.96	13.66	15.17	15.17	0.00	0.00	
159	127	32.0	0.68	0.68	0.60	0.41	0.41	10.0	10.0	2.8	1.15	3.45	1.46	12	0.94	13.96	13.66	15.20	15.17	0.00	0.00	
160	130	5.0	0.10	0.10	0.60	0.06	0.06	10.0	10.0	2.8	0.17	8.72	0.21	12	6.00	15.88	15.58	17.00	17.00	0.00	0.00	

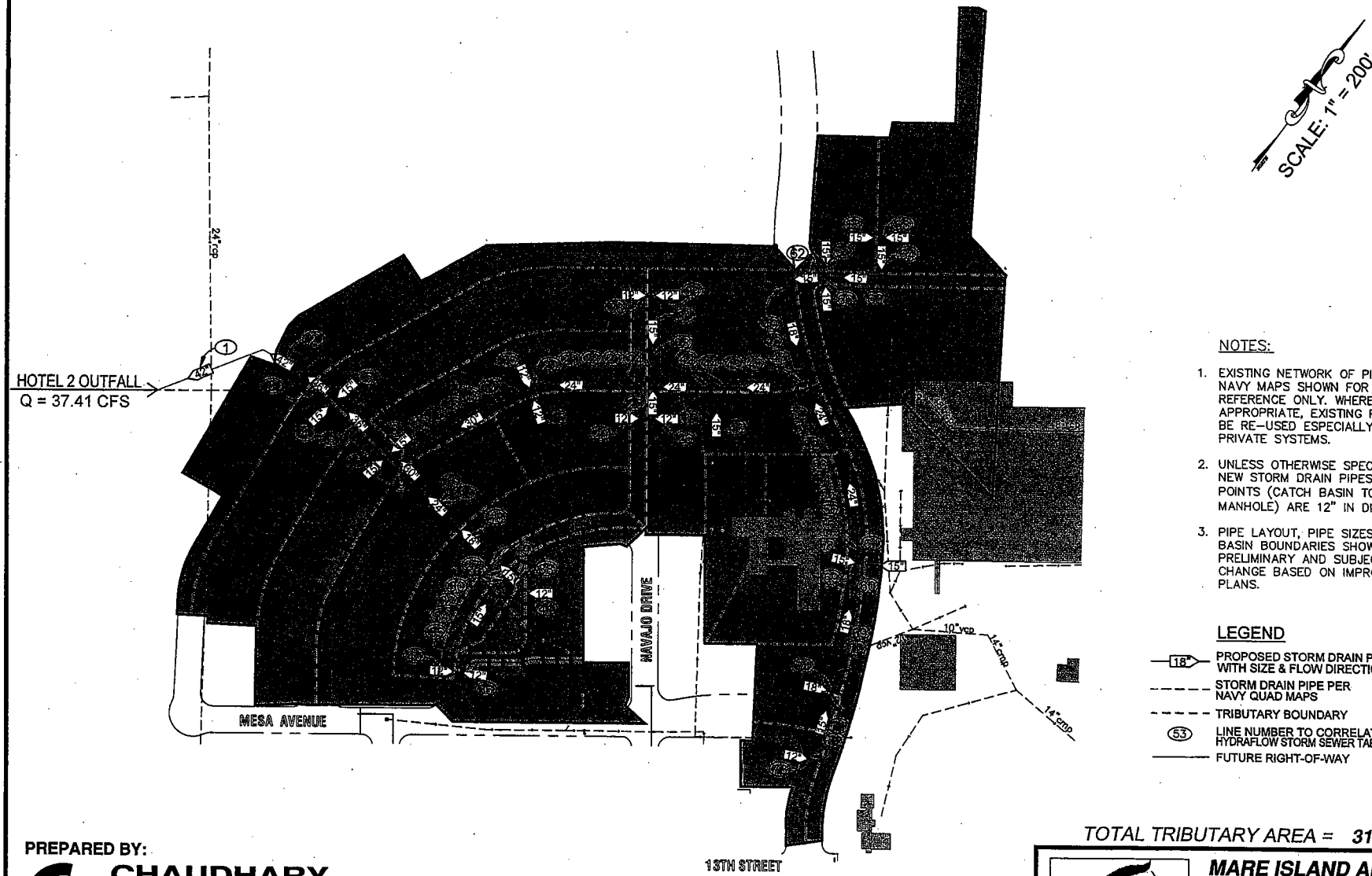
Project File: HOTEL-OUTFALL1.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 160 | Run Date: 10-31-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 8.93 (ft)



LINE DIAGRAM

HOTEL 1 BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **31.17** Acres

PREPARED BY:

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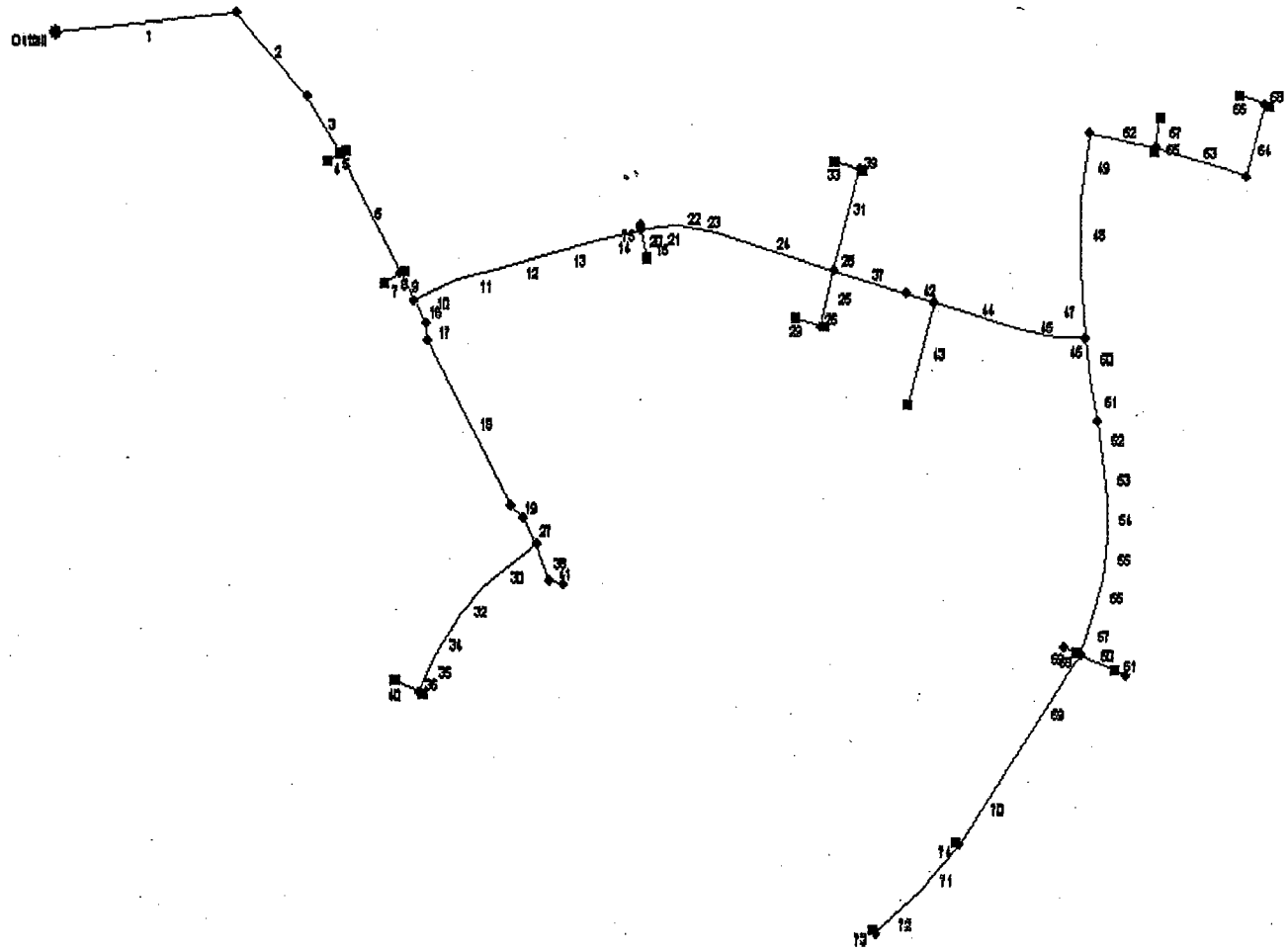
\\0008077\HYDROLOGY\SPECHBITS\HOTELBASIN2

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

HOTEL 2 BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: HOTEL-OUTFALL2.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 75	10-27-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	230.0	0.00	31.17	0.60	0.00	19.74	10.0	20.4	1.9	37.41	55.11	6.14	42	0.30	8.91	8.22	11.03	10.34	13.20	0.00	
2	1	130.0	2.23	31.17	0.60	1.34	19.74	10.0	19.8	1.9	38.08	55.11	5.29	42	0.30	9.30	8.91	11.66	11.47	0.00	13.20	Inserted Line
3	2	77.0	0.00	28.94	0.60	0.00	18.40	10.0	19.6	1.9	35.79	42.32	5.99	36	0.40	9.61	9.30	11.91	11.73	12.65	0.00	
4	3	19.0	1.50	1.50	0.60	0.90	0.90	10.0	10.0	2.8	2.53	4.68	2.06	15	0.53	9.80	9.70	12.82	12.79	12.27	12.65	
5	3	8.0	2.00	2.00	0.60	1.20	1.20	10.0	10.0	2.8	3.37	7.22	2.75	15	1.25	9.80	9.70	12.82	12.79	12.49	12.65	
6	3	155.0	0.00	25.44	0.60	0.00	16.30	10.0	19.0	2.0	32.30	51.94	4.83	36	0.61	10.55	9.61	13.07	12.79	12.64	12.65	
7	6	24.0	1.55	1.55	0.60	0.93	0.93	10.0	10.0	2.8	2.61	6.59	2.13	15	1.04	10.90	10.65	13.51	13.47	0.00	12.64	
8	6	5.0	0.90	0.90	0.60	0.54	0.54	10.0	10.0	2.8	1.52	13.23	1.24	15	4.20	10.86	10.65	13.48	13.47	0.00	12.64	
9	6	36.0	0.00	22.99	0.60	0.00	14.83	10.0	18.8	2.0	29.53	49.71	4.27	36	0.56	10.75	10.55	13.52	13.47	16.12	12.64	
10	9	60.0	0.00	16.08	0.60	0.00	10.68	10.0	18.6	2.0	21.44	37.06	4.37	30	0.82	11.34	10.85	13.98	13.81	17.34	16.12	
11	10	60.0	0.00	16.08	0.60	0.00	10.68	10.0	18.3	2.0	21.60	37.44	4.48	30	0.83	11.84	11.34	14.16	14.02	17.86	17.34	
12	11	61.0	0.00	16.08	0.60	0.00	10.68	10.0	18.1	2.0	21.77	37.13	4.99	30	0.82	12.34	11.84	14.24	14.20	18.38	17.86	
13	12	60.0	0.00	16.08	0.60	0.00	10.68	10.0	17.8	2.1	21.94	37.06	6.04	30	0.82	12.83	12.34	14.40	14.31	18.89	18.38	
14	13	60.0	0.00	16.08	0.60	0.00	10.68	10.0	17.6	2.1	22.11	37.44	6.57	30	0.83	13.33	12.83	14.90	14.50	19.00	18.89	
15	14	33.0	0.65	0.65	0.60	0.39	0.39	10.0	10.0	2.8	1.10	3.51	1.39	12	0.97	13.65	13.33	15.65	15.62	16.65	19.00	
16	9	29.0	2.50	6.91	0.60	1.50	4.15	10.0	14.7	2.3	9.50	16.27	3.03	24	0.52	10.90	10.75	13.86	13.81	21.59	16.12	
17	16	21.0	0.00	4.41	0.60	0.00	2.65	10.0	14.5	2.3	6.10	15.61	1.94	24	0.48	11.00	10.90	13.94	13.93	0.00	21.59	Inserted Line
18	17	215.0	0.00	4.41	0.60	0.00	2.65	10.0	13.6	2.4	6.33	16.01	4.44	18	2.33	16.00	11.00	16.96	13.97	0.00	0.00	Inserted Line
19	18	21.0	1.90	4.41	0.60	1.14	2.65	10.0	13.5	2.4	6.36	10.25	4.81	18	0.95	16.20	16.00	17.17	17.16	0.00	0.00	Inserted Line
20	14	24.0	0.00	14.78	0.60	0.00	9.90	10.0	17.5	2.1	20.54	24.43	6.54	24	1.17	13.61	13.33	15.82	15.62	19.00	19.00	
21	20	24.0	0.00	14.78	0.60	0.00	9.90	10.0	17.5	2.1	20.58	24.43	6.55	24	1.17	13.89	13.61	16.12	15.92	19.35	19.00	

Project File: HOTEL-OUTFALL2.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 75 | Run Date: 10-27-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 10.34 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	21	24.0	0.00	14.78	0.60	0.00	9.90	10.0	17.4	2.1	20.62	24.43	6.56	24	1.17	14.17	13.89	16.42	16.22	20.32	19.35	
23	22	24.0	0.00	14.78	0.60	0.00	9.90	10.0	17.3	2.1	20.67	24.43	6.58	24	1.17	14.45	14.17	16.72	16.52	21.32	20.32	
24	23	156.0	0.00	14.78	0.60	0.00	9.90	10.0	17.0	2.1	20.94	24.30	6.97	24	1.15	16.25	14.45	17.97	16.82	25.75	21.32	
25	24	65.0	0.00	1.98	0.60	0.00	1.19	10.0	11.3	2.6	3.14	6.46	4.79	15	1.00	20.65	20.00	21.36	20.62	0.00	25.75	
26	25	5.0	1.78	1.78	0.60	1.07	1.07	10.0	10.0	2.8	3.00	5.04	3.89	12	2.00	20.75	20.65	21.67	21.66	0.00	0.00	
27	19	33.0	0.00	2.51	0.60	0.00	1.51	10.0	13.3	2.4	3.64	6.16	3.49	15	0.91	16.50	16.20	17.39	17.36	22.00	0.00	
28	24	48.0	0.00	2.05	0.60	0.00	1.23	10.0	11.7	2.6	3.19	4.66	2.60	15	0.52	16.50	16.25	18.91	18.80	26.92	25.75	
29	25	33.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	3.67	0.52	12	1.06	21.00	20.65	21.66	21.66	27.20	0.00	
30	27	82.0	0.00	1.25	0.60	0.00	0.75	10.0	12.5	2.5	1.88	6.88	2.62	15	1.13	17.43	16.50	17.98	17.63	22.31	22.00	
31	28	72.0	0.00	2.05	0.60	0.00	1.23	10.0	11.3	2.6	3.25	6.14	2.65	15	0.90	17.15	16.50	19.11	18.93	0.00	26.92	
32	30	43.0	0.00	1.25	0.60	0.00	0.75	10.0	12.0	2.6	1.91	6.68	3.54	15	1.07	17.89	17.43	18.44	18.01	22.82	22.31	
33	31	33.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	3.10	0.43	12	0.76	17.50	17.25	19.22	19.22	0.00	0.00	
34	32	54.0	0.00	1.25	0.60	0.00	0.75	10.0	11.5	2.6	1.96	6.69	3.58	15	1.07	18.47	17.89	19.03	18.47	23.46	22.82	
35	34	49.0	0.00	1.25	0.60	0.00	0.75	10.0	11.0	2.7	2.00	6.72	3.60	15	1.08	19.00	18.47	19.57	19.06	24.00	23.46	
36	35	5.0	1.00	1.00	0.60	0.60	0.60	10.0	10.0	2.8	1.68	8.72	3.38	12	6.00	19.40	19.10	19.95	19.78	0.00	24.00	
37	24	95.0	0.00	10.75	0.60	0.00	7.49	10.0	16.6	2.1	16.00	16.08	5.09	24	0.51	16.73	16.25	19.27	18.80	27.31	25.75	
38	27	43.0	0.40	1.26	0.60	0.24	0.76	10.0	10.2	2.8	2.10	4.40	1.95	15	0.47	16.70	16.50	17.65	17.63	0.00	22.00	
39	31	5.0	1.85	1.85	0.60	1.11	1.11	10.0	10.0	2.8	3.12	5.04	3.97	12	2.00	17.35	17.25	19.26	19.22	0.00	0.00	
40	35	33.0	0.25	0.25	0.60	0.15	0.15	10.0	10.0	2.8	0.42	3.40	1.14	12	0.91	19.40	19.10	19.78	19.78	0.00	24.00	
41	38	19.0	0.86	0.86	0.60	0.52	0.52	10.0	10.0	2.8	1.45	5.17	2.54	12	2.11	17.10	16.70	17.66	17.70	0.00	0.00	
42	37	37.0	0.00	10.75	0.60	0.00	7.49	10.0	16.5	2.1	16.07	16.21	5.11	24	0.51	16.92	16.73	19.52	19.33	27.99	27.31	

Project File: HOTEL-OUTFALL2.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 75 | Run Date: 10-27-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 10.34 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	42	120.0	0.80	0.80	0.90	0.72	0.72	10.0	10.0	2.8	2.02	4.57	1.65	15	0.50	17.52	16.92	20.04	19.93	31.00	27.99	
44	42	117.0	0.00	9.95	0.60	0.00	6.77	10.0	16.1	2.2	14.73	15.92	4.69	24	0.50	17.50	16.92	20.42	19.93	30.14	27.99	
45	44	43.0	0.00	9.95	0.60	0.00	6.77	10.0	16.0	2.2	14.81	16.18	4.71	24	0.51	17.72	17.50	20.66	20.47	30.93	30.14	
46	45	37.0	0.00	9.95	0.60	0.00	6.77	10.0	15.8	2.2	14.88	15.78	4.74	24	0.49	17.90	17.72	20.87	20.71	31.30	30.93	SDMH 23
47	46	78.0	0.00	2.34	0.60	0.00	1.55	10.0	13.5	2.4	3.74	7.52	2.11	18	0.51	18.80	18.40	21.32	21.22	31.30	31.30	
48	47	78.0	0.00	2.34	0.60	0.00	1.55	10.0	12.9	2.5	3.83	7.52	2.17	18	0.51	19.20	18.80	21.43	21.33	26.29	31.30	
49	48	78.0	0.00	2.34	0.60	0.00	1.55	10.0	12.3	2.5	3.92	7.52	2.22	18	0.51	19.60	19.20	21.55	21.44	28.10	26.29	SDMH 21
50	46	48.0	0.00	7.61	0.60	0.00	5.21	10.0	15.6	2.2	11.55	21.90	3.68	24	0.94	18.85	18.40	21.34	21.22	31.30	31.30	
51	50	48.0	0.00	7.61	0.60	0.00	5.21	10.0	15.4	2.2	11.63	21.90	3.70	24	0.94	19.30	18.85	21.50	21.38	31.53	31.30	SDMH 25
52	51	45.0	0.00	7.61	0.60	0.00	5.21	10.0	15.2	2.2	11.72	21.85	3.75	24	0.93	19.72	19.30	21.64	21.53	31.10	31.53	
53	52	45.0	0.00	7.61	0.60	0.00	5.21	10.0	15.0	2.3	11.80	21.59	4.10	24	0.91	20.13	19.72	21.71	21.68	31.23	31.10	
54	53	45.0	0.00	7.61	0.60	0.00	5.21	10.0	14.8	2.3	11.88	21.85	5.13	24	0.93	20.55	20.13	21.77	21.76	30.91	31.23	
55	54	45.0	0.00	7.61	0.60	0.00	5.21	10.0	14.6	2.3	11.97	21.85	5.73	24	0.93	20.97	20.55	22.20	21.85	30.58	30.91	
56	55	45.0	0.00	7.61	0.60	0.00	5.21	10.0	14.5	2.3	12.05	21.59	5.74	24	0.91	21.38	20.97	22.61	22.28	30.26	30.58	
57	56	45.0	0.00	7.61	0.60	0.00	5.21	10.0	14.3	2.3	12.14	21.85	5.76	24	0.93	21.80	21.38	23.03	22.69	29.50	30.26	
58	57	5.0	0.65	2.38	0.90	0.59	1.62	10.0	10.1	2.8	4.53	9.13	3.71	15	2.00	22.40	22.30	23.61	23.59	28.63	29.50	CB 36
59	58	18.0	1.73	1.73	0.60	1.04	1.04	10.0	10.0	2.8	2.91	6.81	2.55	15	1.11	22.70	22.50	23.72	23.71	0.00	28.63	Inserted Line
60	57	46.0	1.00	2.73	0.90	0.90	1.94	10.0	10.1	2.8	5.41	7.74	3.06	18	0.54	22.15	21.90	23.71	23.59	28.63	29.50	CB 35
61	60	15.0	1.73	1.73	0.60	1.04	1.04	10.0	10.0	2.8	2.91	5.27	2.38	15	0.67	22.35	22.25	23.81	23.78	0.00	28.63	
62	49	85.0	0.00	2.34	0.60	0.00	1.55	10.0	11.9	2.6	4.00	6.46	3.26	15	1.00	20.70	19.85	21.95	21.63	27.61	28.10	
63	62	119.0	0.00	1.84	0.60	0.00	1.10	10.0	11.1	2.7	2.95	4.59	3.97	15	0.50	22.47	21.87	23.20	22.60	28.50	27.61	

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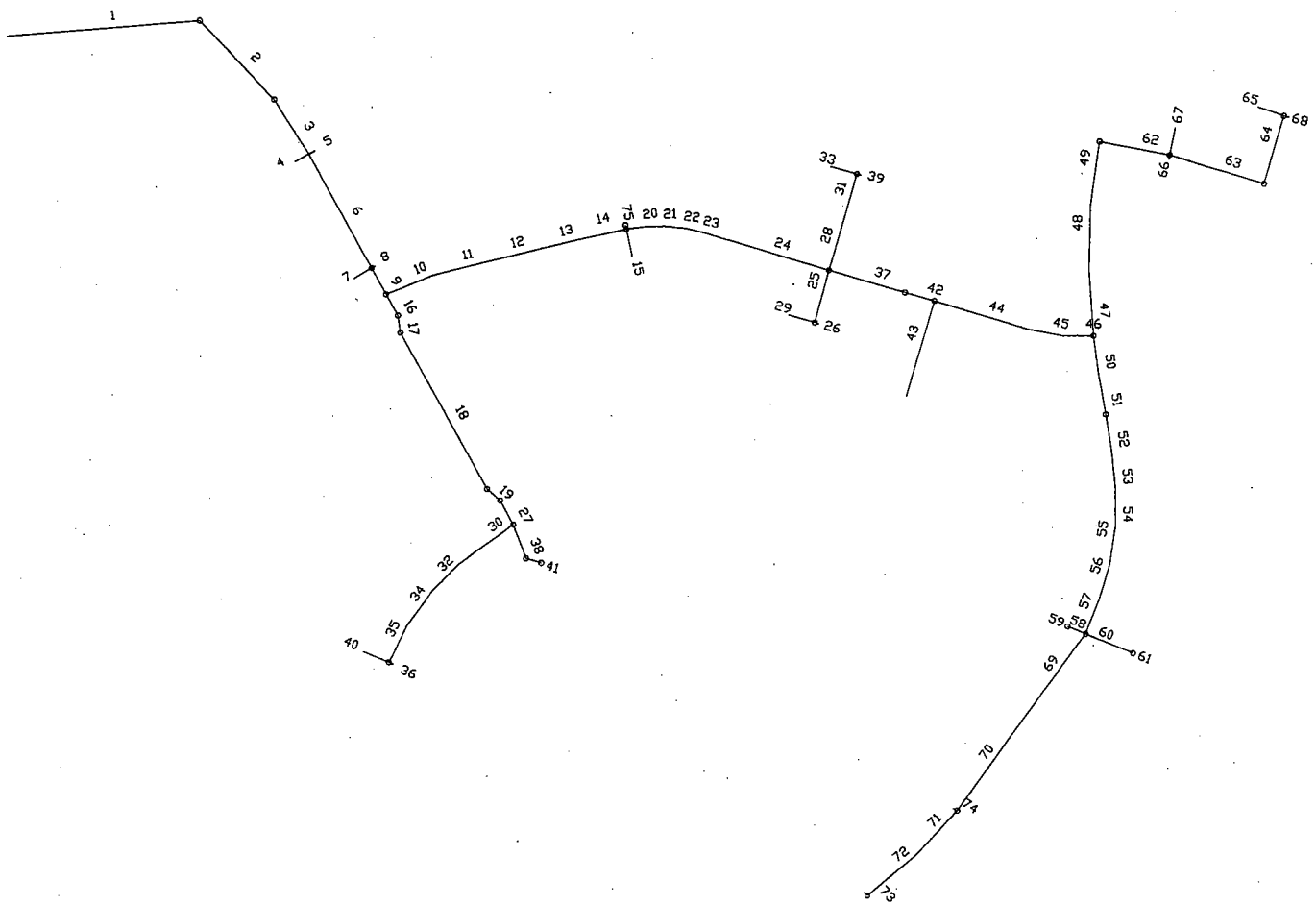
Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	63	85.0	0.00	1.84	0.60	0.00	1.10	10.0	10.5	2.7	3.03	4.59	3.73	15	0.51	23.00	22.57	23.72	23.44	30.00	28.50	
65	64	33.0	0.82	0.82	0.60	0.49	0.49	10.0	10.0	2.8	1.38	4.50	1.55	15	0.48	23.21	23.05	24.00	23.99	29.74	30.00	
66	62	5.0	0.30	0.30	0.90	0.27	0.27	10.0	10.0	2.8	0.76	11.55	3.53	15	3.20	22.03	21.87	22.40	22.11	27.40	27.61	CB 34
67	62	33.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	3.73	2.12	15	0.33	21.98	21.87	22.29	22.18	26.89	27.61	CB 33
68	64	6.0	1.02	1.02	0.60	0.61	0.61	10.0	10.0	2.8	1.72	4.57	1.77	15	0.50	23.08	23.05	23.99	23.99	29.74	30.00	
69	57	132.0	0.00	2.50	0.00	0.00	1.65	10.0	13.4	2.4	3.99	7.14	2.57	18	0.46	22.66	22.05	23.75	23.59	29.74	29.50	
70	69	132.0	0.00	2.50	0.00	0.00	1.65	10.0	12.5	2.5	4.13	7.02	3.57	18	0.45	23.25	22.66	24.07	23.77	30.80	29.74	Inserted Line
71	70	74.0	0.00	0.50	0.00	0.00	0.45	10.0	11.3	2.6	1.19	4.44	1.28	15	0.47	23.60	23.25	24.36	24.34	29.74	30.80	
72	71	74.0	0.00	0.50	0.00	0.00	0.45	10.0	10.1	2.8	1.26	4.44	2.19	15	0.47	23.95	23.60	24.44	24.37	32.00	29.74	
73	72	5.0	0.50	0.50	0.90	0.45	0.45	10.0	10.0	2.8	1.26	8.72	4.14	12	6.00	24.50	24.20	24.98	24.57	31.83	32.00	CB 37
74	70	5.0	2.00	2.00	0.60	1.20	1.20	10.0	10.0	2.8	3.37	25.72	3.73	18	6.00	23.80	23.50	24.50	24.34	30.58	30.80	CB 55
75	14	5.0	0.65	0.65	0.60	0.39	0.39	10.0	10.0	2.8	1.10	5.52	1.39	12	2.40	13.45	13.33	15.63	15.62	0.00	19.00	

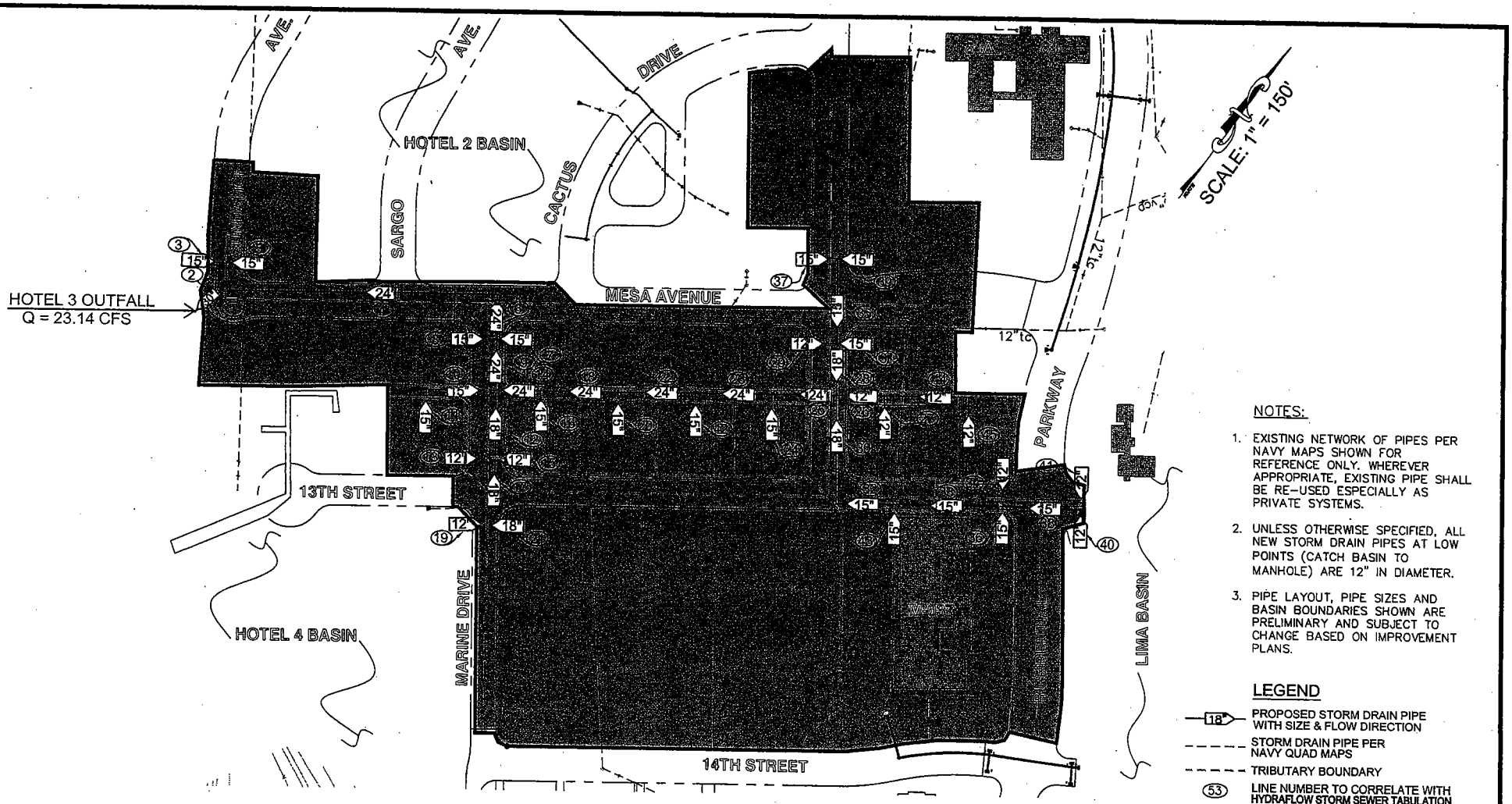
Project File: HOTEL-OUTFALL2.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 75 | Run Date: 10-27-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 10.34 (ft)



LINE DIAGRAM

HOTEL 2 BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

*TOTAL TRIBUTARY AREA = **18.74** Acres*

PREPARED BY:

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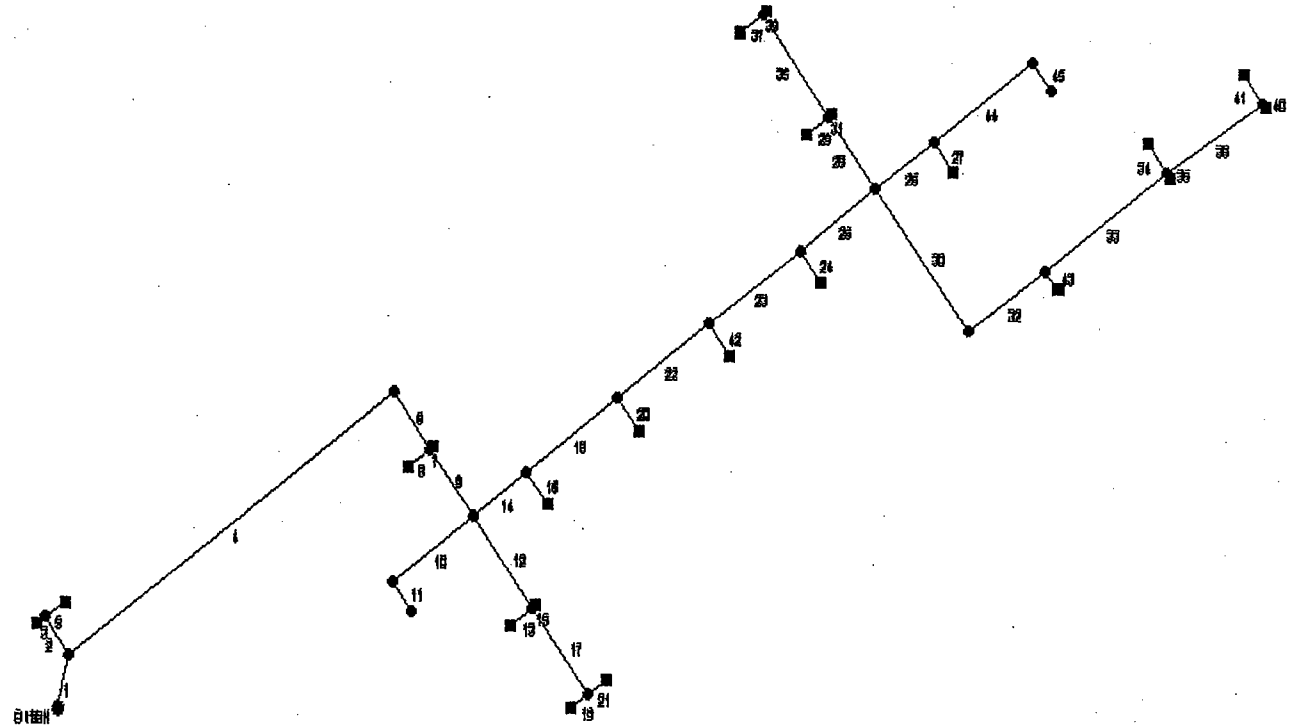
\0008077\HYDROLOGY\SPEXHIBITS\HOTELBASIN3

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

HOTEL 3 BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: HOTEL-OUTFALL3.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 45	10-27-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	50.0	0.00	18.74	0.60	0.00	11.28	10.0	19.0	2.0	23.14	29.00	6.55	30	0.50	7.95	7.70	9.64	9.39	14.80	0.00	
2	1	43.0	0.00	2.10	0.60	0.00	1.26	10.0	10.5	2.7	3.46	4.62	2.82	15	0.51	8.27	8.05	10.26	10.14	15.20	14.80	
3	2	10.0	1.40	1.40	0.60	0.84	0.84	10.0	10.0	2.8	2.36	4.57	1.92	15	0.50	8.42	8.37	10.40	10.39	15.40	15.20	
4	1	427.0	0.00	16.64	0.60	0.00	10.02	10.0	17.9	2.0	21.32	35.30	7.27	24	2.44	18.45	8.05	20.09	10.14	24.85	14.80	
5	2	26.0	0.70	0.70	0.60	0.42	0.42	10.0	10.0	2.8	1.18	4.57	0.96	15	0.50	8.50	8.37	10.40	10.39	15.70	15.20	
6	4	66.0	0.00	16.64	0.60	0.00	10.02	10.0	17.8	2.1	21.43	22.27	6.82	24	0.97	19.19	18.55	21.61	21.02	25.00	24.85	
7	6	4.0	1.75	1.75	0.60	1.05	1.05	10.0	10.0	2.8	2.95	4.57	2.40	15	0.50	19.26	19.24	22.35	22.34	25.08	25.00	
8	6	30.0	0.25	0.25	0.60	0.15	0.15	10.0	10.0	2.8	0.42	4.57	0.34	15	0.50	19.39	19.24	22.34	22.34	25.60	25.00	
9	6	78.0	0.00	14.64	0.60	0.00	8.82	10.0	17.6	2.1	19.09	22.33	6.08	24	0.97	19.95	19.19	22.89	22.34	26.45	25.00	
10	9	107.0	0.00	0.30	0.60	0.00	0.23	10.0	11.1	2.7	0.60	4.59	0.49	15	0.50	20.49	19.95	23.48	23.47	27.00	26.45	
11	10	35.0	0.30	0.30	0.75	0.23	0.23	10.0	10.0	2.8	0.63	4.63	0.51	15	0.51	20.77	20.59	23.48	23.48	28.00	27.00	
12	9	108.0	0.00	5.74	0.60	0.00	2.19	10.0	12.8	2.5	5.43	17.73	4.02	18	2.85	23.13	20.05	24.02	23.47	28.00	26.45	
13	12	30.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	2.52	0.43	12	0.50	23.38	23.23	24.41	24.40	28.60	28.00	
14	9	70.0	0.00	8.60	0.60	0.00	6.40	10.0	17.3	2.1	14.19	19.49	4.52	24	0.74	20.57	20.05	23.74	23.47	26.95	26.45	
15	12	4.0	0.34	0.34	0.60	0.20	0.20	10.0	10.0	2.8	0.57	2.52	0.73	12	0.50	23.25	23.23	24.41	24.40	28.04	28.00	
16	14	38.0	0.30	0.30	0.75	0.23	0.23	10.0	10.0	2.8	0.63	4.68	0.51	15	0.53	20.87	20.67	24.06	24.06	27.00	26.95	
17	12	101.0	0.00	5.20	0.60	0.00	1.87	10.0	12.2	2.5	4.75	17.70	3.85	18	2.84	26.00	23.13	26.83	24.40	30.10	28.00	
18	14	120.0	0.00	8.30	0.60	0.00	6.18	10.0	16.9	2.1	13.91	19.37	4.43	24	0.73	21.45	20.57	24.51	24.06	27.81	26.95	
19	17	23.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	2.57	0.43	12	0.52	26.22	26.10	27.18	27.18	30.56	30.10	
20	18	38.0	0.35	0.35	0.75	0.26	0.26	10.0	10.0	2.8	0.74	4.68	0.60	15	0.53	21.75	21.55	24.82	24.82	28.57	27.81	
21	17	23.0	5.00	5.00	0.35	1.75	1.75	12.0	12.0	2.6	4.48	7.59	3.47	18	0.52	26.22	26.10	27.20	27.18	30.56	30.10	

Project File: HOTEL-OUTFALL3.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 45 | Run Date: 10-27-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.39 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(In/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	18	120.0	0.00	7.95	0.60	0.00	5.92	10.0	16.4	2.2	13.55	19.37	4.31	24	0.73	22.33	21.45	25.25	24.82	28.65	27.81	
23	22	120.0	0.00	7.60	0.60	0.00	5.66	10.0	16.0	2.2	13.18	19.37	4.20	24	0.73	23.21	22.33	25.95	25.54	29.50	28.65	
24	23	38.0	0.35	0.35	0.75	0.26	0.26	10.0	10.0	2.8	0.74	4.57	0.60	15	0.50	23.49	23.30	26.23	26.22	30.26	29.50	
25	23	100.0	0.00	7.25	0.60	0.00	5.39	10.0	15.6	2.2	12.77	19.46	4.07	24	0.74	23.95	23.21	26.54	26.22	31.00	29.50	
26	25	76.0	0.00	0.85	0.60	0.00	0.64	10.0	12.3	2.5	1.61	5.63	2.05	12	2.50	25.95	24.05	26.95	26.80	30.00	31.00	
27	26	35.0	0.40	0.40	0.75	0.30	0.30	10.0	10.0	2.8	0.84	8.62	2.03	12	5.86	28.00	25.95	28.39	27.01	29.00	30.00	
28	25	85.0	0.00	3.35	0.60	0.00	2.01	10.0	11.2	2.7	6.14	7.20	3.47	18	0.47	24.40	24.00	27.09	26.80	28.00	31.00	
29	28	30.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	2.52	0.43	12	0.50	24.61	24.46	27.28	27.27	32.00	28.00	
30	25	168.0	0.00	3.05	0.60	0.00	2.75	10.0	14.8	2.3	6.26	11.17	3.60	18	1.13	25.95	24.05	27.34	26.80	34.00	31.00	
31	28	4.0	0.85	0.85	0.60	0.51	0.51	10.0	10.0	2.8	1.43	4.57	1.17	15	0.50	24.48	24.46	27.28	27.27	34.50	28.00	
32	30	100.0	0.00	3.05	0.60	0.00	2.75	10.0	14.5	2.3	6.33	10.21	5.57	15	2.50	28.55	26.05	29.56	27.55	34.70	34.00	
33	32	159.0	0.00	1.80	0.00	0.00	1.62	10.0	13.8	2.4	3.85	4.99	3.22	15	0.60	29.50	28.55	30.63	30.11	33.00	34.70	
34	33	35.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	3.30	0.64	12	0.86	29.35	29.05	30.80	30.80	31.00	33.00	CB 38
35	28	120.0	0.00	2.30	0.60	0.00	1.38	10.0	10.3	2.8	4.62	4.37	3.77	15	0.46	24.95	24.40	27.89	27.27	29.00	28.00	
36	33	5.0	1.10	1.10	0.90	0.99	0.99	10.0	10.0	2.8	2.78	6.46	2.27	15	1.00	29.10	29.05	30.80	30.80	35.00	33.00	CB 41
37	35	30.0	0.80	0.80	0.60	0.48	0.48	10.0	10.0	2.8	2.15	4.57	1.75	15	0.50	25.20	25.05	28.14	28.11	29.60	29.00	
38	33	121.0	0.00	0.50	0.60	0.00	0.45	10.0	11.8	2.6	1.16	6.43	1.14	15	0.99	30.00	28.80	30.83	30.80	34.90	33.00	
39	35	4.0	1.50	1.50	0.60	0.90	0.90	10.0	10.0	2.8	2.53	4.57	2.06	15	0.50	25.07	25.05	28.12	28.11	29.08	29.00	
40	38	5.0	0.40	0.40	0.90	0.36	0.36	10.0	10.0	2.8	1.01	8.72	2.59	12	6.00	30.55	30.25	30.98	30.86	35.38	34.90	CB 40
41	38	35.0	0.10	0.10	0.90	0.09	0.09	10.0	10.0	2.8	0.25	3.30	0.85	12	0.86	30.55	30.25	30.86	30.86	36.00	34.90	CB 39
42	22	38.0	0.35	0.35	0.75	0.26	0.26	10.0	10.0	2.8	0.74	4.57	0.60	15	0.50	22.59	22.40	25.54	25.54	28.65	28.65	

Project File: HOTEL-OUTFALL3.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 45 | Run Date: 10-27-2003

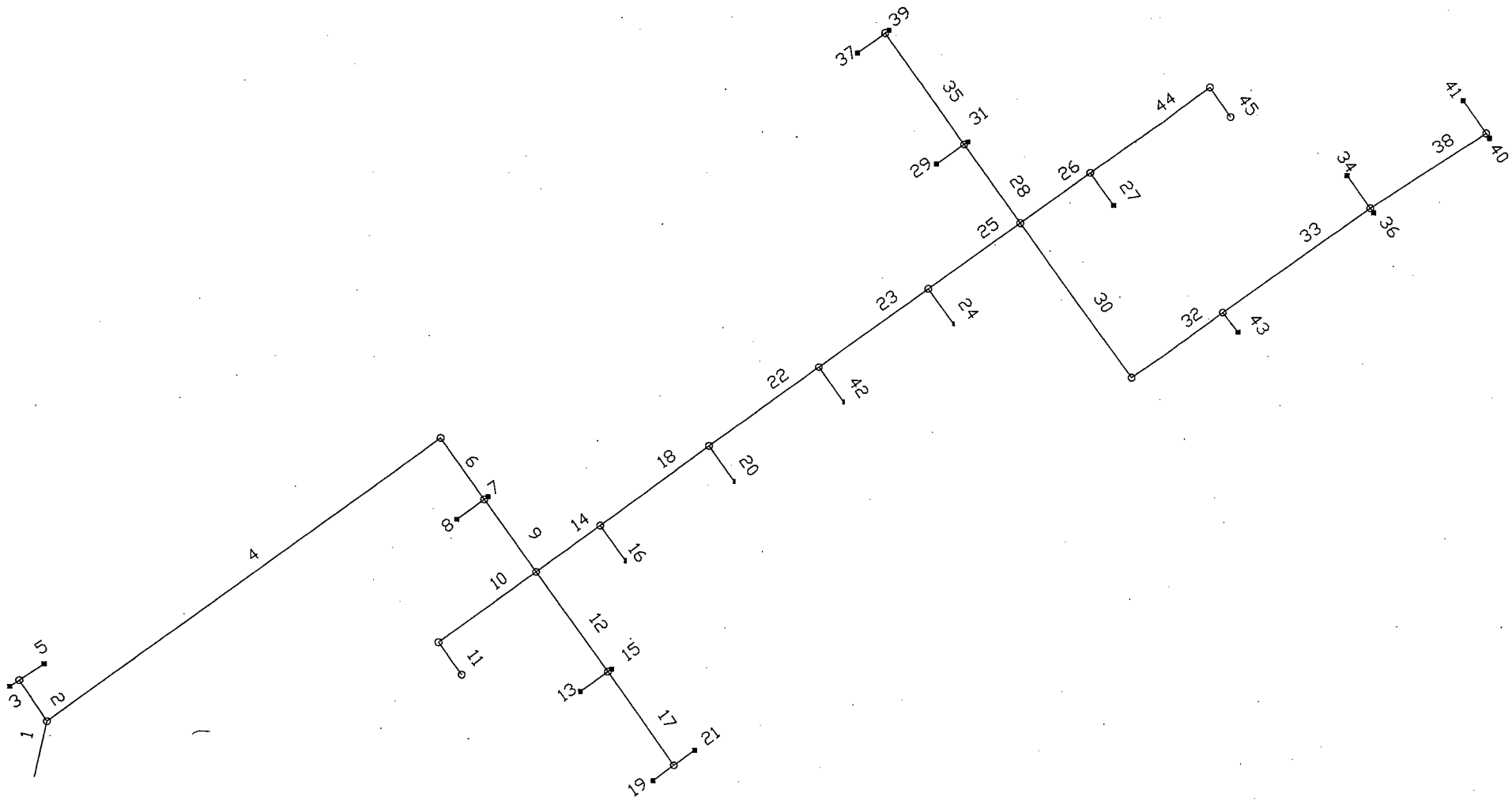
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.39 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	32	22.0	1.25	1.25	0.90	1.13	1.13	10.0	10.0	2.8	3.16	5.33	2.57	15	0.68	28.70	28.55	30.16	30.11	34.70	34.70	
44	26	130.0	0.00	0.45	0.60	0.00	0.34	10.0	10.4	2.7	0.93	5.63	2.13	12	2.50	29.20	25.95	29.61	27.01	34.50	30.00	
45	44	32.0	0.45	0.45	0.75	0.34	0.34	10.0	10.0	2.8	0.95	6.30	2.91	12	3.13	30.30	29.30	30.71	29.76	35.50	34.50	

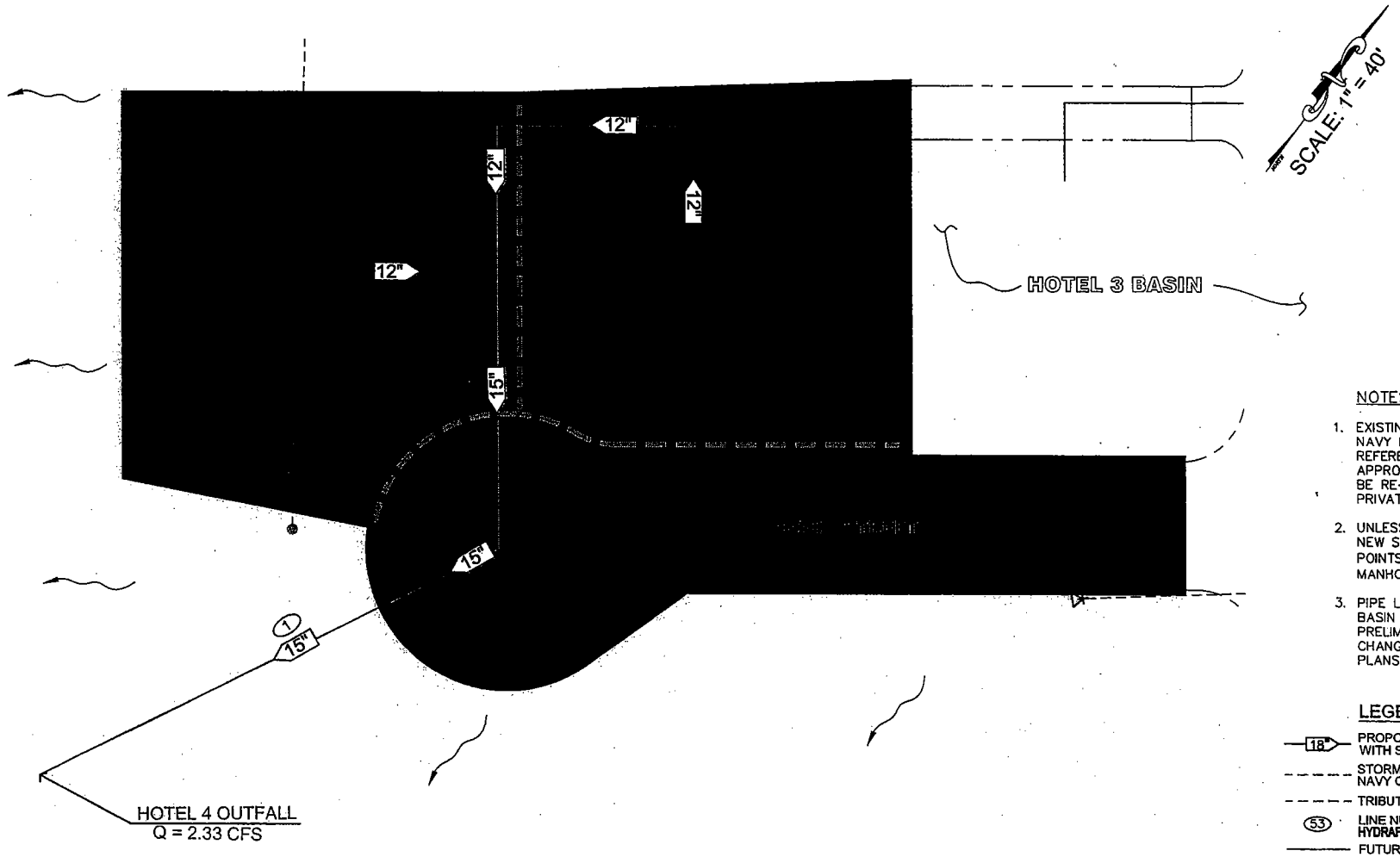
Project File: HOTEL-OUTFALL3.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 45 | Run Date: 10-27-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.39 (ft)



LINE DIAGRAM

HOTEL 3 BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) — LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

*TOTAL TRIBUTARY AREA = **1.25** Acres*

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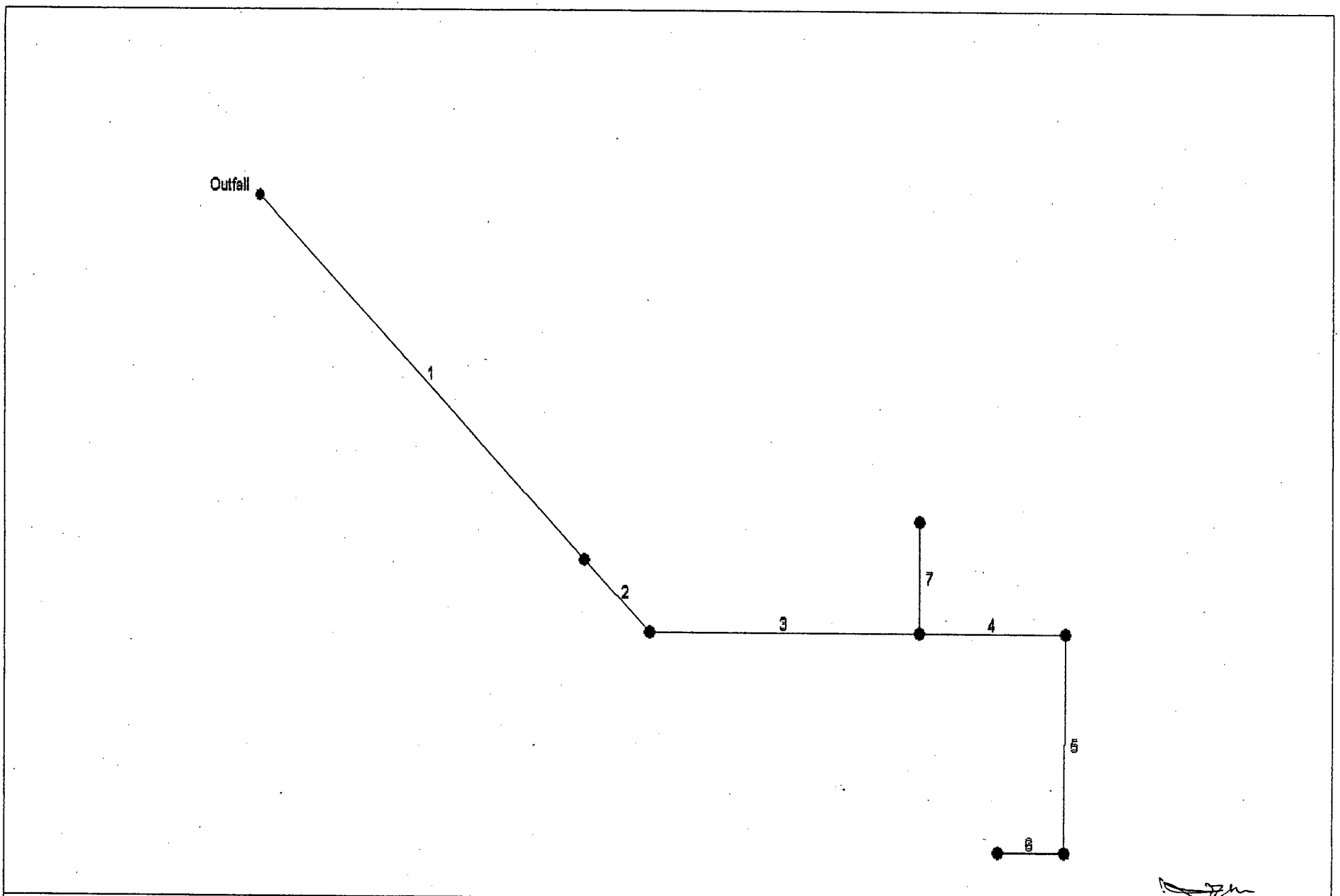
\\0008077\HYDROLOGY\SPEXHIBITS\HOTEL BASIN4

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

HOTEL 4 BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



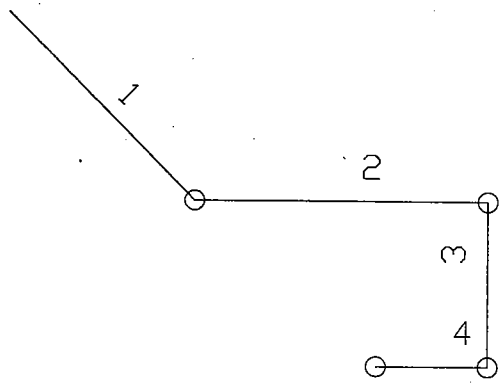
Project file: HOTEL-OUTFALL4.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 7	10-27-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	175.0	0.65	1.25	0.90	0.59	1.04	10.0	15.1	2.3	2.33	8.45	3.91	15	1.71	10.00	7.00	10.61	7.61	0.00	0.00	
2	1	35.0	0.00	0.60	0.00	0.00	0.45	10.0	14.5	2.3	1.04	6.46	2.30	15	1.00	10.35	10.00	10.76	10.65	0.00	0.00	Inserted Line
3	2	103.0	0.00	0.60	0.00	0.00	0.45	10.0	12.8	2.5	1.11	9.11	3.11	15	1.99	12.50	10.45	12.92	10.86	0.00	0.00	
4	3	55.0	0.00	0.35	0.00	0.00	0.26	10.0	11.8	2.6	0.68	5.04	2.13	12	2.00	13.60	12.50	13.95	13.07	0.00	0.00	Inserted Line
5	4	74.0	0.00	0.35	0.00	0.00	0.26	10.0	10.4	2.7	0.72	5.07	2.78	12	2.03	15.20	13.70	15.56	14.07	0.00	0.00	
6	5	25.0	0.35	0.35	0.75	0.26	0.26	10.0	10.0	2.8	0.74	5.96	2.75	12	2.80	16.00	15.30	16.36	15.68	0.00	0.00	
7	3	38.0	0.25	0.25	0.75	0.19	0.19	10.0	10.0	2.8	0.53	5.17	2.01	12	2.11	13.40	12.60	13.71	13.07	0.00	0.00	

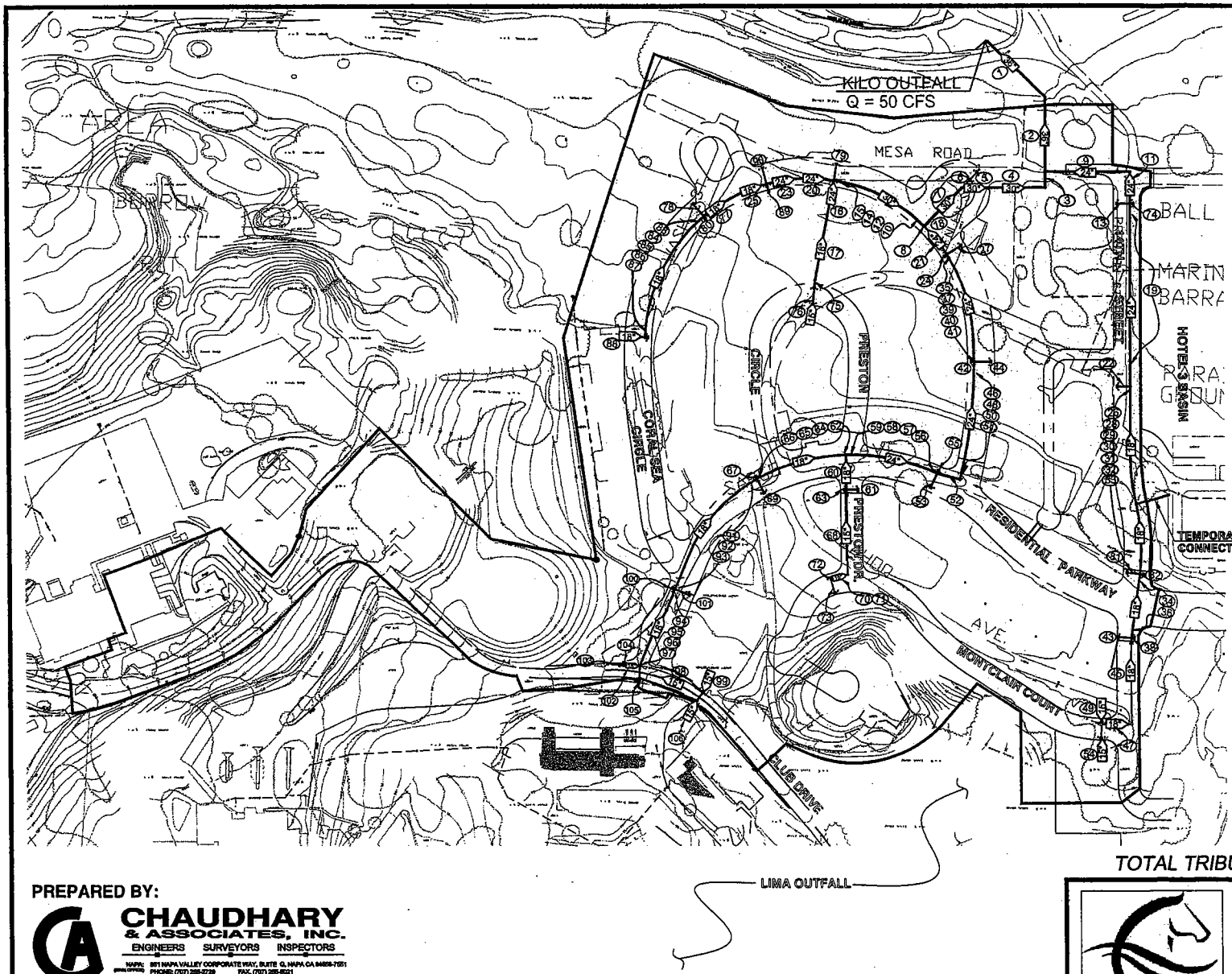
Project File: HOTEL-OUTFALL4.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 7 | Run Date: 10-27-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 7.61 (ft)



LINE DIAGRAM

HOTEL 4 BASIN



SCALE: 1" = 200'

NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

*TOTAL TRIBUTARY AREA = **37.90** Acres*

PREPARED BY:

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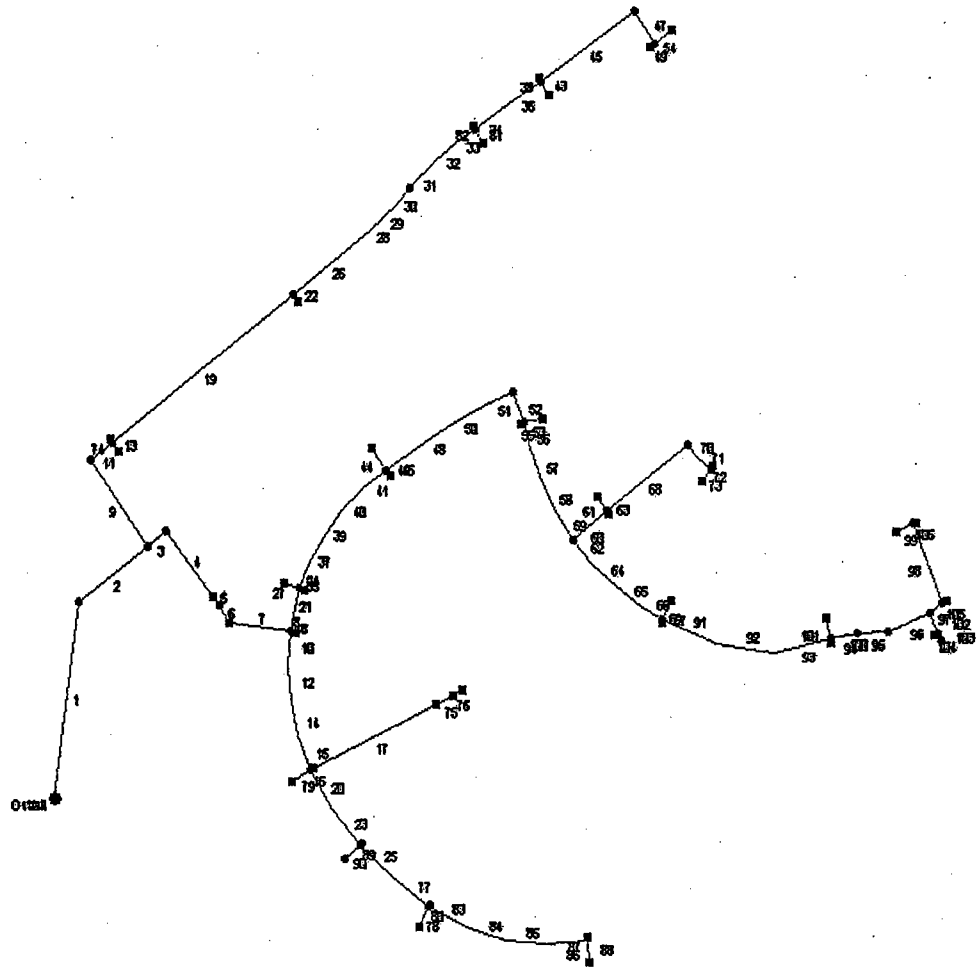
MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

KILO BASIN

DATE: DECEMBER 1, 2003

Hydraflow Plan View



Project file: KILO-OUTFALL.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 106	12-05-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	287.0	0.00	37.89	0.60	0.00	25.16	10.0	18.9	2.0	50.01	111.3	8.78	36	2.79	15.00	7.00	17.25	9.25	22.00	10.70	
2	1	139.0	0.00	37.89	0.60	0.00	25.16	10.0	18.5	2.0	50.61	180.7	7.99	36	7.34	25.20	15.00	27.47	18.15	35.00	22.00	
3	2	38.0	0.00	28.97	0.60	0.00	19.25	10.0	18.4	2.0	38.84	111.3	8.40	30	7.37	28.00	25.20	30.08	28.68	35.00	35.00	
4	3	120.0	1.55	28.97	0.60	0.93	19.25	10.0	18.1	2.0	39.20	51.61	7.99	30	1.58	29.90	28.00	32.40	31.31	38.50	35.00	
5	4	17.0	0.00	27.42	0.60	0.00	18.32	10.0	18.1	2.0	37.35	54.48	7.61	30	1.76	30.20	29.90	33.04	32.89	38.50	38.50	Inserted Line
6	5	30.0	0.25	27.42	0.60	0.15	18.32	10.0	18.0	2.0	37.44	58.00	7.63	30	2.00	30.80	30.20	33.42	33.17	39.00	38.50	
7	6	101.0	0.00	27.17	0.60	0.00	18.17	10.0	17.7	2.1	37.44	44.70	7.63	30	1.19	32.00	30.80	35.26	34.42	40.56	39.00	
8	7	8.0	0.20	0.20	0.60	0.12	0.12	10.0	10.0	2.8	0.34	2.52	0.43	12	0.50	32.09	32.05	36.16	36.16	40.72	40.56	
9	2	155.0	0.50	8.92	0.60	0.30	5.91	10.0	15.1	2.3	13.34	22.98	4.25	24	1.03	26.90	25.30	29.22	28.68	34.00	35.00	
10	7	51.0	0.00	12.36	0.60	0.00	8.03	10.0	13.2	2.4	19.49	40.61	3.97	30	0.98	32.50	32.00	36.28	36.16	39.94	40.56	
11	9	44.0	0.00	8.42	0.60	0.00	5.61	10.0	14.9	2.3	12.75	22.62	5.55	24	1.00	28.43	27.99	29.69	29.50	34.82	34.00	
12	10	50.0	0.00	12.36	0.60	0.00	8.03	10.0	13.0	2.4	19.67	41.01	4.01	30	1.00	33.00	32.50	36.43	36.32	39.33	39.94	
13	11	16.0	1.20	1.20	0.60	0.72	0.72	10.0	10.0	2.8	2.02	4.88	2.57	12	1.87	28.83	28.53	30.32	30.27	34.50	34.82	
14	12	50.0	0.00	12.36	0.60	0.00	8.03	10.0	12.8	2.5	19.85	41.01	4.04	30	1.00	33.50	33.00	36.59	36.47	38.73	39.33	
15	14	55.0	0.00	12.36	0.60	0.00	8.03	10.0	12.6	2.5	20.05	41.01	4.08	30	1.00	34.05	33.50	36.75	36.62	38.06	38.73	
16	15	6.0	0.82	4.98	0.60	0.49	2.99	10.0	11.4	2.6	7.84	18.47	2.50	24	0.67	34.09	34.05	37.02	37.01	38.18	38.06	
17	16	221.0	2.76	4.16	0.60	1.66	2.50	10.0	10.5	2.7	6.84	8.51	3.87	18	0.66	35.54	34.09	38.01	37.07	38.78	38.18	Inserted Line
18	7	36.0	0.00	14.61	0.60	0.00	10.02	10.0	17.6	2.1	20.71	59.48	6.62	24	6.92	34.49	32.00	36.44	36.16	41.00	40.56	
19	11	366.0	0.00	6.92	0.60	0.00	4.71	10.0	13.1	2.4	11.50	22.62	4.90	24	1.00	32.19	28.53	33.39	30.27	37.00	34.82	
20	15	69.0	0.00	6.73	0.60	0.00	4.65	10.0	12.2	2.5	11.78	19.82	3.75	24	0.77	34.58	34.05	37.20	37.01	41.39	38.06	
21	18	29.0	0.00	14.61	0.60	0.00	10.02	10.0	17.5	2.1	20.77	59.55	7.13	24	6.93	36.50	34.49	38.11	36.54	41.87	41.00	

Project File: KILO-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 106 | Run Date: 12-05-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.25 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	19	15.0	0.25	0.25	0.60	0.15	0.15	10.0	10.0	2.8	0.42	5.04	0.54	12	2.00	32.59	32.29	33.92	33.92	42.00	37.00	
23	20	68.0	0.00	6.73	0.60	0.00	4.65	10.0	11.9	2.6	11.94	19.78	3.80	24	0.76	35.10	34.58	37.42	37.23	44.33	41.39	
24	21	8.0	0.58	0.58	0.60	0.35	0.35	10.0	10.0	2.8	0.98	2.52	1.24	12	0.50	36.59	36.55	39.03	39.02	41.00	41.87	
25	23	73.0	0.00	4.68	0.60	0.00	2.81	10.0	11.6	2.6	7.30	20.20	4.88	18	3.70	37.80	35.10	38.83	37.65	47.64	44.33	
26	19	157.0	0.00	6.67	0.60	0.00	4.56	10.0	12.7	2.5	11.33	18.19	6.72	18	3.00	37.00	32.29	38.29	33.92	40.87	37.00	
27	21	27.0	0.80	0.80	0.60	0.48	0.48	10.0	10.0	2.8	1.35	2.56	1.72	12	0.52	36.69	36.55	39.06	39.02	41.00	41.87	
28	26	26.0	0.00	6.67	0.60	0.00	4.56	10.0	12.6	2.5	11.37	18.19	6.82	18	3.00	37.78	37.00	39.07	38.40	41.47	40.87	
29	28	34.0	0.00	6.67	0.60	0.00	4.56	10.0	12.5	2.5	11.41	18.19	6.84	18	3.00	38.80	37.78	40.09	39.19	42.30	41.47	
30	29	30.0	0.00	6.67	0.60	0.00	4.56	10.0	12.4	2.5	11.45	18.19	6.86	18	3.00	39.70	38.80	40.99	40.21	43.00	42.30	
31	30	61.0	0.00	6.67	0.60	0.00	4.56	10.0	12.2	2.5	11.53	18.19	7.07	18	3.00	41.63	39.80	42.93	41.11	44.60	43.00	
32	31	39.0	0.00	6.67	0.60	0.00	4.56	10.0	12.1	2.5	11.58	18.19	6.91	18	3.00	42.80	41.63	44.10	43.05	45.45	44.60	
33	32	40.0	1.70	6.67	0.60	1.02	4.56	10.0	12.0	2.6	11.64	18.19	6.94	18	3.00	44.00	42.80	45.30	44.22	45.75	45.45	
34	33	52.0	0.00	4.42	0.60	0.00	3.04	10.0	11.8	2.6	7.84	9.09	4.43	18	0.75	44.48	44.09	46.38	46.10	49.65	45.75	
35	21	38.0	0.00	13.23	0.60	0.00	9.19	10.0	17.4	2.1	19.13	39.69	6.71	24	3.08	37.67	36.50	39.22	39.02	44.03	41.87	
36	34	77.0	0.00	4.42	0.60	0.00	3.04	10.0	11.6	2.6	7.94	9.11	4.49	18	0.75	45.06	44.48	46.87	46.43	49.10	49.65	
37	35	46.0	0.00	13.23	0.60	0.00	9.19	10.0	17.3	2.1	19.21	39.60	7.09	24	3.07	39.08	37.67	40.63	39.34	45.41	44.03	
38	36	5.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	8.72	0.64	12	6.00	45.85	45.55	47.19	47.18	49.35	49.10	CB 42
39	37	47.0	0.00	13.23	0.60	0.00	9.19	10.0	17.2	2.1	19.31	39.45	7.11	24	3.04	40.51	39.08	42.07	40.76	46.82	45.41	
40	39	50.0	0.00	13.23	0.60	0.00	9.19	10.0	17.0	2.1	19.40	39.56	7.13	24	3.06	42.04	40.51	43.60	42.19	48.32	46.82	
41	40	48.0	0.00	13.23	0.60	0.00	9.19	10.0	16.9	2.1	19.50	39.45	7.15	24	3.04	43.50	42.04	45.06	43.73	49.76	48.32	
42	41	10.0	0.60	0.60	0.60	0.36	0.36	10.0	10.0	2.8	1.01	2.52	1.29	12	0.50	43.55	43.50	45.92	45.91	51.75	49.76	

Project File: KILO-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 106 | Run Date: 12-05-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.25 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
43	36	25.0	1.42	1.42	0.60	0.85	0.85	10.0	10.0	2.8	2.39	3.90	3.05	12	1.20	45.85	45.55	47.30	47.18	51.90	49.10	CB 65
44	41	40.0	0.90	0.90	0.60	0.54	0.54	10.0	10.0	2.8	1.52	2.52	1.93	12	0.50	43.70	43.50	45.99	45.91	51.75	49.76	
45	36	185.0	0.00	2.80	0.60	0.00	2.01	10.0	10.6	2.7	5.49	9.10	3.49	18	0.75	46.54	45.15	47.66	47.18	52.35	49.10	
46	41	59.0	0.00	11.73	0.60	0.00	8.29	10.0	16.7	2.1	17.70	35.70	6.34	24	2.49	44.97	43.50	46.46	45.91	51.53	49.76	
47	45	58.0	0.00	2.80	0.60	0.00	2.01	10.0	10.3	2.8	5.57	9.15	4.27	18	0.76	47.08	46.64	47.98	47.90	57.80	52.35	
48	46	59.0	0.00	11.73	0.60	0.00	8.29	10.0	16.5	2.1	17.82	35.70	6.83	24	2.49	46.44	44.97	47.93	46.58	53.30	51.53	
49	47	8.0	1.70	1.70	0.60	1.02	1.02	10.0	10.0	2.8	2.86	4.57	3.93	15	0.50	47.88	47.84	48.60	48.56	56.96	57.80	
50	48	65.0	0.00	11.73	0.60	0.00	8.29	10.0	16.3	2.2	17.94	35.71	6.86	24	2.49	48.06	46.44	49.56	48.05	55.20	53.30	
51	50	54.0	0.00	11.73	0.60	0.00	8.29	10.0	16.1	2.2	18.05	35.63	6.87	24	2.48	49.40	48.06	50.90	49.68	56.90	55.20	
52	51	48.0	0.00	11.73	0.60	0.00	8.29	10.0	16.0	2.2	18.14	23.08	5.78	24	1.04	50.00	49.50	52.00	51.69	57.80	56.90	
53	52	31.0	0.50	0.50	0.60	0.30	0.30	10.0	10.0	2.8	0.84	3.50	3.31	12	0.97	54.60	54.30	54.99	54.64	57.80	57.80	CB 43
54	47	34.0	1.10	1.10	0.90	0.99	0.99	10.0	10.0	2.8	2.78	4.57	3.90	15	0.50	48.01	47.84	48.71	48.55	57.48	57.80	
55	52	5.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	8.72	3.57	12	6.00	54.60	54.30	55.15	54.46	57.80	57.80	CB 44
56	52	39.0	0.00	11.03	0.60	0.00	7.81	10.0	15.8	2.2	17.17	21.12	5.47	24	0.87	50.34	50.00	52.74	52.52	58.40	57.80	
57	56	57.0	0.00	11.03	0.60	0.00	7.81	10.0	15.7	2.2	17.28	21.18	5.50	24	0.88	50.84	50.34	53.15	52.81	59.30	58.40	
58	57	47.0	0.00	11.03	0.60	0.00	7.81	10.0	15.5	2.2	17.37	21.12	5.53	24	0.87	51.25	50.84	53.49	53.22	60.40	59.30	
59	58	46.0	0.00	11.03	0.60	0.00	7.81	10.0	15.4	2.2	17.47	21.09	5.56	24	0.87	51.65	51.25	53.84	53.57	60.80	60.40	
60	59	69.0	0.00	3.45	0.60	0.00	2.13	10.0	11.2	2.7	5.65	10.58	3.20	18	1.01	52.45	51.75	54.52	54.32	61.00	60.80	
61	60	26.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	3.83	0.64	12	1.15	53.25	52.95	54.68	54.68	61.00	61.00	CB 45
62	59	47.0	0.00	7.58	0.60	0.00	5.68	10.0	15.3	2.2	12.76	20.78	7.42	18	3.91	53.74	51.90	55.09	54.32	61.97	60.80	
63	60	5.0	0.75	0.75	0.60	0.45	0.45	10.0	10.0	2.8	1.26	8.72	1.61	12	6.00	53.25	52.95	54.69	54.68	61.00	61.00	CB 46

Project File: KILO-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 106 | Run Date: 12-05-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.25 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
64	62	51.0	0.00	7.58	0.60	0.00	5.68	10.0	15.1	2.3	12.81	20.74	7.46	18	3.90	55.73	53.74	57.08	55.22	63.31	61.97	
65	64	49.0	0.00	7.58	0.60	0.00	5.68	10.0	15.0	2.3	12.87	20.73	7.49	18	3.90	57.64	55.73	58.99	57.21	64.60	63.31	
66	65	40.0	0.00	7.58	0.60	0.00	5.68	10.0	14.9	2.3	12.91	20.74	7.51	18	3.90	59.20	57.64	60.55	59.13	65.70	64.60	
67	66	5.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	8.72	3.57	12	6.00	62.50	62.20	63.05	62.36	65.70	65.70	CB 48
68	60	164.0	0.00	2.50	0.60	0.00	1.50	10.0	10.4	2.8	4.14	11.18	4.13	15	3.00	57.62	52.70	58.43	54.68	66.30	61.00	
69	66	31.0	0.63	0.63	0.60	0.38	0.38	10.0	10.0	2.8	1.06	9.70	2.28	12	7.42	62.50	60.20	62.94	61.47	65.70	65.70	CB 47
70	68	27.0	0.00	2.50	0.60	0.00	1.50	10.0	10.2	2.8	4.16	6.46	3.82	15	1.00	57.89	57.62	58.83	58.81	68.60	66.30	
71	70	25.0	0.00	2.50	0.60	0.00	1.50	10.0	10.1	2.8	4.19	6.46	4.48	15	1.00	58.14	57.89	58.96	58.88	70.70	68.60	
72	71	7.0	0.90	0.90	0.60	0.54	0.54	10.0	10.0	2.8	1.52	7.37	1.98	12	4.29	58.44	58.14	59.34	59.33	70.70	70.70	
73	71	22.0	1.60	1.60	0.60	0.96	0.96	10.0	10.0	2.8	2.70	4.16	3.43	12	1.36	58.44	58.14	59.44	59.33	70.70	70.70	
74	11	6.0	0.30	0.30	0.60	0.18	0.18	10.0	10.0	2.8	0.51	7.96	0.64	12	5.00	28.83	28.53	30.27	30.27	34.82	34.82	
75	17	30.0	0.55	1.40	0.60	0.33	0.84	10.0	10.2	2.8	2.33	6.46	1.90	15	1.00	35.84	35.54	38.16	38.13	40.72	38.78	
76	75	16.0	0.85	0.85	0.60	0.51	0.51	10.0	10.0	2.8	1.43	6.46	1.17	15	1.00	36.00	35.84	38.20	38.19	41.32	40.72	
77	25	72.0	0.00	4.68	0.60	0.00	2.81	10.0	11.3	2.6	7.40	20.34	5.49	18	3.75	40.50	37.80	41.54	38.91	51.30	47.64	
78	77	33.0	0.93	0.93	0.60	0.56	0.56	10.0	10.0	2.8	1.57	3.40	1.99	12	0.91	40.90	40.60	42.10	42.04	51.32	51.30	
79	15	36.0	0.65	0.65	0.60	0.39	0.39	10.0	10.0	2.8	1.10	2.52	1.39	12	0.50	34.18	34.00	37.05	37.01	38.78	38.06	
80	77	5.0	0.70	0.70	0.60	0.42	0.42	10.0	10.0	2.8	1.18	8.72	1.50	12	6.00	40.90	40.60	42.04	42.04	51.42	51.30	
81	33	25.0	0.35	0.35	0.90	0.32	0.32	10.0	10.0	2.8	0.88	3.90	1.13	12	1.20	44.80	44.50	46.11	46.10	45.75	45.75	CB 66
82	33	5.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	8.72	0.64	12	6.00	44.80	44.50	46.10	46.10	45.75	45.75	CB 67
83	77	67.0	0.00	3.05	0.90	0.00	1.83	10.0	11.0	2.7	4.89	12.60	4.62	15	3.81	43.05	40.50	43.93	42.04	0.00	51.30	
84	83	68.0	0.00	3.05	0.90	0.00	1.83	10.0	10.8	2.7	4.95	12.50	5.12	15	3.75	45.60	43.05	46.49	44.00	0.00	0.00	

Project File: KILO-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 106 | Run Date: 12-05-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.25 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
85	84	67.0	0.00	3.05	0.90	0.00	1.83	10.0	10.5	2.7	5.02	12.60	4.88	15	3.81	48.15	45.60	49.05	46.69	0.00	0.00	
86	85	68.0	0.00	3.05	0.90	0.00	1.83	10.0	10.2	2.8	5.09	12.50	5.19	15	3.75	50.70	48.15	51.60	49.11	0.00	0.00	
87	86	5.0	1.15	1.15	0.60	0.69	0.69	10.0	10.0	2.8	1.94	15.82	1.77	15	6.00	51.10	50.80	52.03	52.05	0.00	0.00	
88	86	33.0	1.90	1.90	0.60	1.14	1.14	10.0	10.0	2.8	3.20	6.16	2.84	15	0.91	51.10	50.80	52.09	52.05	0.00	0.00	
89	23	5.0	0.35	0.35	0.90	0.32	0.32	10.0	10.0	2.8	0.88	8.72	1.13	12	6.00	35.50	35.20	37.65	37.65	0.00	44.33	
90	23	33.0	1.70	1.70	0.90	1.53	1.53	10.0	10.0	2.8	4.30	3.40	5.47	12	0.91	35.50	35.20	38.13	37.65	0.00	44.33	
91	66	94.0	0.00	6.75	0.00	0.00	5.12	10.0	14.7	2.3	11.75	16.92	6.92	18	2.60	61.64	59.20	62.95	61.47	0.00	65.70	
92	91	94.0	0.00	6.75	0.00	0.00	5.12	10.0	14.5	2.3	11.85	16.92	6.97	18	2.60	64.08	61.64	65.39	63.31	0.00	0.00	
93	92	94.0	0.00	6.75	0.00	0.00	5.12	10.0	14.2	2.3	11.95	16.92	7.02	18	2.60	66.52	64.08	67.84	65.76	0.00	0.00	
94	93	45.0	0.00	6.03	0.00	0.00	4.63	10.0	14.1	2.3	10.85	16.93	6.29	18	2.60	67.69	66.52	69.05	68.66	0.00	0.00	
95	94	51.0	0.00	6.03	0.00	0.00	4.63	10.0	14.0	2.4	10.91	16.83	6.55	18	2.57	69.00	67.69	70.26	69.15	0.00	0.00	
96	95	73.0	0.00	6.03	0.00	0.00	4.63	10.0	13.8	2.4	10.99	16.94	6.56	18	2.60	70.90	69.00	72.17	70.59	0.00	0.00	
97	96	25.0	0.00	0.58	0.00	0.00	0.52	10.0	13.4	2.4	1.26	6.46	1.02	15	1.00	71.25	71.00	72.92	72.91	0.00	0.00	
98	97	125.0	0.00	0.37	0.00	0.00	0.33	10.0	10.7	2.7	0.90	4.66	0.82	15	0.52	72.00	71.35	72.95	72.93	0.00	0.00	
99	98	30.0	0.23	0.23	0.90	0.21	0.21	10.0	10.0	2.8	0.58	3.56	1.44	12	1.00	72.55	72.25	72.96	72.97	0.00	0.00	
100	93	5.0	0.20	0.20	0.90	0.18	0.18	10.0	10.0	2.8	0.51	8.72	0.64	12	6.00	67.07	66.77	68.66	68.66	0.00	0.00	
101	93	31.0	0.52	0.52	0.60	0.31	0.31	10.0	10.0	2.8	0.88	3.50	1.12	12	0.97	67.07	66.77	68.68	68.66	0.00	0.00	
102	96	32.0	0.00	5.45	0.00	0.00	4.11	10.0	12.0	2.6	10.50	16.60	6.12	18	2.50	71.80	71.00	73.14	72.91	0.00	0.00	
103	102	10.0	5.31	5.31	0.75	3.98	3.98	12.0	12.0	2.6	10.19	16.60	5.77	18	2.50	72.05	71.80	73.85	73.76	0.00	0.00	
104	102	5.0	0.14	0.14	0.90	0.13	0.13	10.0	10.0	2.8	0.35	8.72	0.45	12	6.00	72.35	72.05	73.76	73.76	0.00	0.00	
105	97	7.0	0.21	0.21	0.90	0.19	0.19	10.0	10.0	2.8	0.53	7.37	0.68	12	4.29	71.90	71.60	72.93	72.93	0.00	0.00	

Project File: KILO-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 106 | Run Date: 12-05-2003

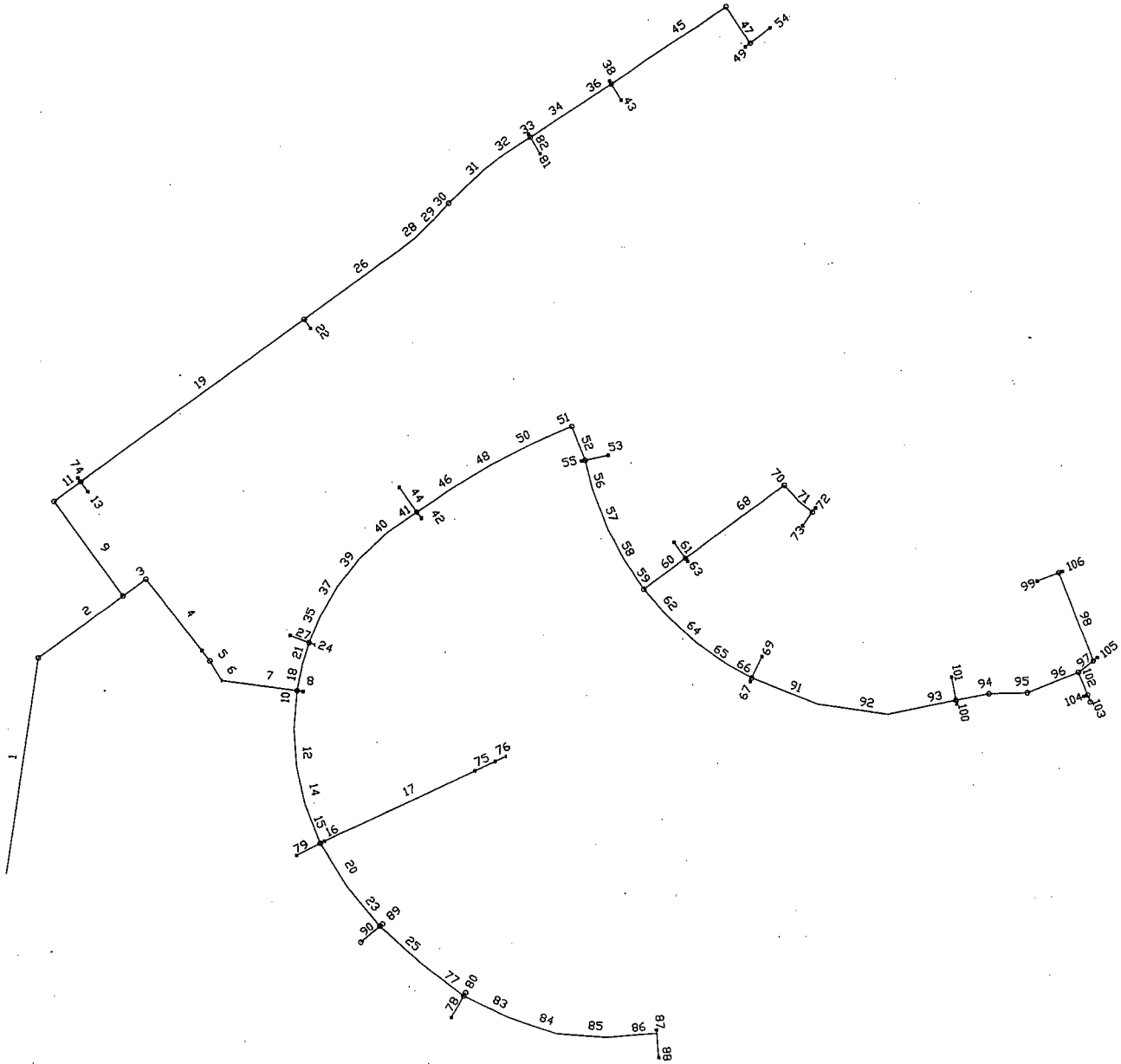
NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.25 (ft)

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
106	98	5.0	0.14	0.14	0.90	0.13	0.13	10.0	10.0	2.8	0.35	8.72	0.89	12	6.00	72.55	72.25	72.95	72.97	0.00	0.00	

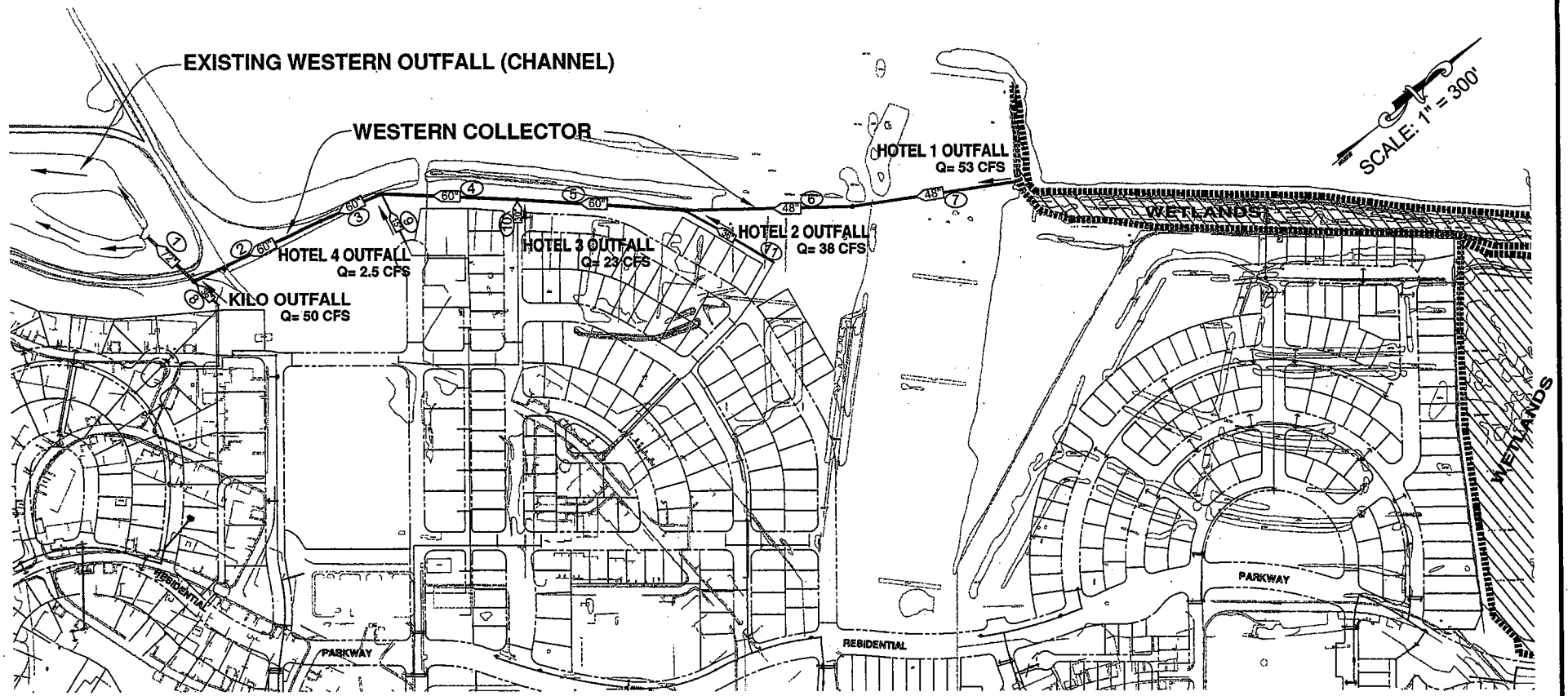
Project File: KILO-OUTFALL.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 106 | Run Date: 12-05-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.25 (ft)



LINE DIAGRAM

KILO BASIN



NOTES:

1. EXISTING NETWORK OF PIPES PER NAVY MAPS SHOWN FOR REFERENCE ONLY. WHEREVER APPROPRIATE, EXISTING PIPE SHALL BE RE-USED ESPECIALLY AS PRIVATE SYSTEMS.
2. UNLESS OTHERWISE SPECIFIED, ALL NEW STORM DRAIN PIPES AT LOW POINTS (CATCH BASIN TO MANHOLE) ARE 12" IN DIAMETER.
3. PIPE LAYOUT, PIPE SIZES AND BASIN BOUNDARIES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE BASED ON IMPROVEMENT PLANS.

LEGEND

- 18" — PROPOSED STORM DRAIN PIPE WITH SIZE & FLOW DIRECTION
- STORM DRAIN PIPE PER NAVY QUAD MAPS
- TRIBUTARY BOUNDARY
- (53) LINE NUMBER TO CORRELATE WITH HYDRAFLOW STORM SEWER TABULATION
- FUTURE RIGHT-OF-WAY

TOTAL TRIBUTARY AREA = **143.12** Acres

MARE ISLAND AMENDED AND RESTATED SPECIFIC PLAN

WESTERN COLLECTOR

DATE: DECEMBER 1, 2003

PREPARED BY:

CHAUDHARY & ASSOCIATES, INC.

ENGINEERS SURVEYORS INSPECTORS

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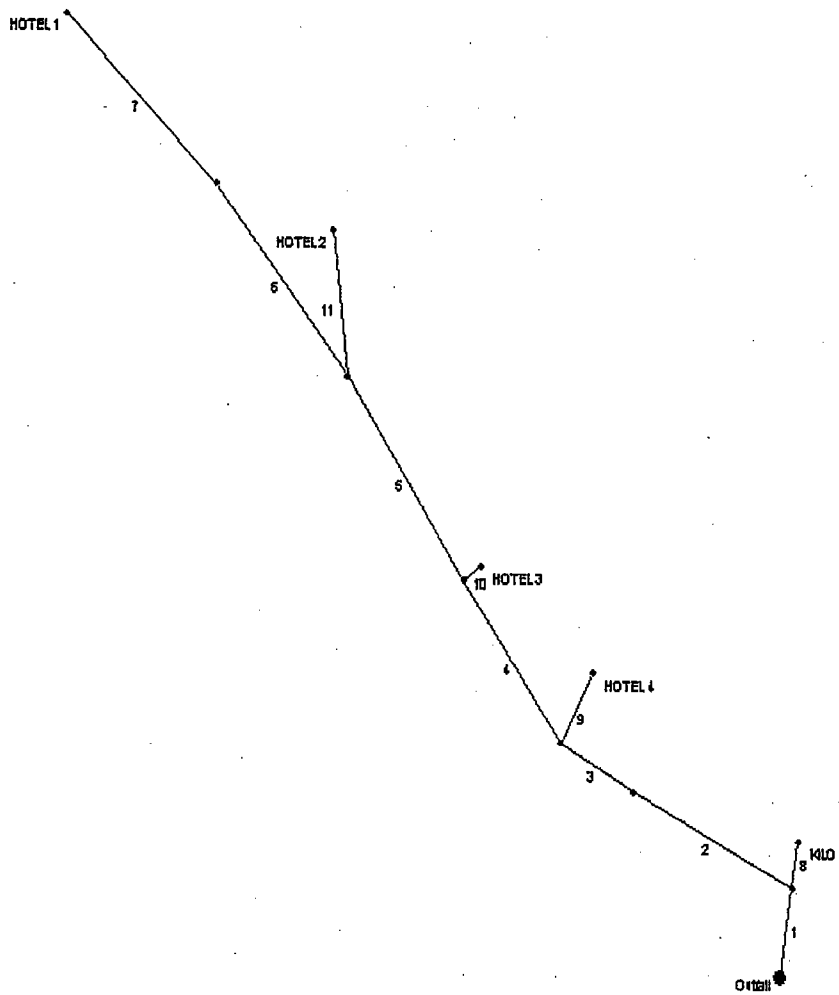
Hydraflow Plan View



Project file: WEST-COLLECTOR.stm	IDF file: VALLEJO-15YR.IDF	No. Lines: 11	12-05-2003

Hydraflow Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(In/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	187.0	0.00	0.00	0.00	0.00	0.00	0.0	34.6	0.0	166.5	195.9	7.76	72	0.21	5.40	5.00	9.65	9.26	0.00	0.00	
2	1	415.0	0.00	0.00	0.00	0.00	0.00	0.0	33.4	0.0	116.5	116.5	5.96	60	0.20	6.33	5.50	11.19	10.45	0.00	0.00	
3	2	196.0	0.00	0.00	0.00	0.00	0.00	0.0	32.9	0.0	116.5	116.2	5.95	60	0.20	6.72	6.33	11.63	11.27	0.00	0.00	
4	3	403.0	0.00	0.00	0.00	0.00	0.00	0.0	31.7	0.0	114.0	116.8	5.81	60	0.20	7.53	6.72	12.95	12.18	0.00	0.00	
5	4	500.0	0.00	0.00	0.00	0.00	0.00	0.0	29.9	0.0	91.00	116.5	4.64	60	0.20	8.53	7.53	14.09	13.48	0.00	0.00	
6	5	500.0	0.00	0.00	0.00	0.00	0.00	0.0	27.9	0.0	53.00	71.82	4.22	48	0.25	9.78	8.53	14.92	14.24	0.00	0.00	
7	6	488.0	0.00	0.00	0.00	0.00	0.00	26.0	26.0	0.0	53.00	71.82	4.22	48	0.25	11.00	9.78	15.63	14.96	0.00	0.00	HOTEL 1 OVERF
8	1	100.0	0.00	0.00	0.00	0.00	0.00	19.0	19.0	0.0	50.00	182.6	7.94	36	7.50	15.00	7.50	17.25	10.45	0.00	0.00	KILO OUTFALL
9	3	165.0	0.00	0.00	0.00	0.00	0.00	15.0	15.0	0.0	2.50	8.34	2.04	15	1.67	10.00	7.25	12.43	12.18	0.00	0.00	HOTEL 4 OUTFA
10	4	50.0	0.00	0.00	0.00	0.00	0.00	19.0	19.0	0.0	23.00	29.00	4.69	30	0.50	8.00	7.75	13.64	13.48	0.00	0.00	HOTEL 3 OUTFA
11	5	304.0	0.00	0.00	0.00	0.00	0.00	20.0	20.0	0.0	38.00	38.25	5.38	36	0.33	9.75	8.75	15.23	14.24	0.00	0.00	HOTEL 2 OUTFA

Project File: WEST-COLLECTOR.stm | IDF File: VALLEJO-15YR.IDF | Total number of lines: 11 | Run Date: 12-05-2003

NOTES: Intensity = 21.07 / (Inlet time + 5.00) ^ 0.74; Return period = 10 Yrs. ; Initial tailwater elevation = 9.26 (ft)

SANITARY SEWER

Introduction

This section of the Master Utility Plans provides island-wide planning and calculations for the proposed sanitary sewer collection system on Mare Island. The Vallejo Sanitary and Flood Control District (VSFCD) recently annexed Mare Island into its District and is responsible for the operation and maintenance of the system. The sanitary sewer wastewater is not treated on site. After it is collected by gravity sewers and pump stations throughout Mare Island, the wastewater is pumped through a force main attached to the Mare Island Causeway to the VSFCD's North Interceptor, which leads to the wastewater treatment plant, located on Ryder Street in southern Vallejo.

Although the sanitary sewer system is currently functional, it is in very poor condition with significant inflow and infiltration (I&I) problems, which will require substantial replacement or relining of the system. These improvements will largely be driven by the phased privatization and redevelopment led by the master developer, Lennar Mare Island.

The proposed sanitary sewer collection system improvements presented in this section are shown on Exhibit 3 entitled "Proposed Sanitary Sewer Backbone Improvement Plan". This exhibit shows the proposed sewer lines and sizes and the locations of existing sewer lines that require relining to support the Lennar Mare Island redevelopment plan.

The sanitary sewer system was divided into three separate systems that outfall at Domestic Pump Station 4 (DOM-4): the North End, Industrial Area, and Residential Area. This was done because the infiltration rates for the Industrial Area are much higher

than those for the other two areas. The Residential Area was separated to assist consultants responsible for the preparation of the residential tentative maps and improvement plans.

This sanitary sewer section of the Master Utility Plans, which has been prepared in conjunction with Chaudhary and Associates, includes system layouts and calculations prepared by LFR Inc. as shown in the calculations section under separate tabs for:

North End
Industrial Area
Residential Area
DOM-4 / Causeway Force Main

Basis of Design and Calculations

In accordance with the VSFCD standards, this study is based upon the following criteria:

- The average family unit = 2.7 persons per unit.
- The average daily discharge = 80 gallons per person per day.
- The average daily discharge for employment, commercial = 20 gallons per person per day.
- The peak sanitary flow for more than 0.1 mgd is:

  $PSF = (SF)^{0.97} x\ (e)^{0.33}$

- The peak sanitary flow for 0.1 mgd or less is:

  $PSF = (SF)\ x\ (e)$

- Infiltration allowances for areas where sewers were constructed before 1970 = 4,000 gpd/acre
- Infiltration allowances for new development = 600 gpd/acre
- For new development, the VSFCD requires a minimum velocity of 2.5 feet per second (fps) when the sewer is flowing half full. (The mains along Railroad Avenue are ideal for lining versus replacement. In isolated locations, this minimum velocity cannot be met because of existing slopes, but pumped flows from the satellite pump stations (DOMs) will provide scouring velocities during pumping events.)

- The maximum design velocity is 10 fps.
- The velocities in the sanitary sewers shall be computed using the Manning's formula with a constant *n* value of .013. (For the newly relined mains on Railroad Avenue and new PVC mains, this study used an *n* value of .010.)

Other sanitary sewer demands used in this analysis for were based upon employee populations. The number of employees was based upon the following ratios:

- Heavy Industrial: 800 SF per employee
- Light Industrial: 600 SF per employee
- Office/R&D: 425 SF per employee
- Retail: 400 SF per employee
- Warehouse: 1200 SF per employee
- Educational/Civic: 250 SF per employee
- Dormitory demands are based 1 person per unit.

The attached calculations and plans are the result of the modeling effort for each of the areas. The models were prepared using the Haestad Methods software SewerCAD.

Each of the areas was analyzed for two different scenarios. The first is the wet weather flow, which is based upon peak daily sanitary sewer and infiltration demands with rated pump station flow rates to obtain the design flows. The second is the dry weather flow, which does not include infiltration. This second analysis is performed to check for low velocities during dry weather conditions.

The system analysis printouts and sewer plans showing pump station, manhole, and pipe numbers are attached for each of the sanitary sewer study areas.

North End Sanitary Sewer System

This analysis includes all of the areas north of G Street and areas south to A Street (see plan with calculations section). Most of this area is north of G Street and includes sewer demands based upon the proposed North Mare Island Business Park. LFR previously discussed the North Mare Island Business Park Sanitary Sewer System in a report

entitled, "North Mare Island Business Park Water, Sanitary Sewer, and Storm Drainage Master Plans," dated July 25, 2001. The current study is based upon a similar master plan layout. During preparation of this report, LFR and the VSFCD discussed the district's specific concerns regarding the North End, particularly the potential for differential settlement due to bay mud underlying the North End. To help mitigate this concern, VSFCD suggested that the minimum sanitary sewer pipe slope should be no less than 1% for all pipe sizes (in some cases the slopes were closer to 0.9% to maintain acceptable cover). This minimum pipe slope had a significant influence on the sanitary sewer system concept. Because the North End is so flat, the sewer mains would have to be in excess of 25' deep, which would be impractical. To maintain the minimum slope requirement and keep the pipes shallower, a series of two new pump stations and one existing pump station along Railroad Avenue were included in the sanitary sewer analysis.

The two new north area pump stations are connected to the existing pump station DOM-2 through force mains running along Railroad Avenue. The northernmost pump station is sized at 50 gallons per minute (gpm) and the next one to the south is sized at 150 gpm. These pump stations and force mains are sized to accommodate the peak daily plus infiltration sanitary sewer demands.

The existing DOM-2 pump station is currently operational. It has three pumps, each with a flow rate of 1,070 gpm. The peak daily plus infiltration demand is under 200 gpm, making the pump station quite adequate to accommodate the flows. During the past several years the City of Vallejo has used grant funding to replace the existing pumps, valves, and check valves. Because of the recent improvements to this station, the analysis assumes that this pump station will remain and will only need to operate one pump at a time to meet the peak daily plus infiltration demands. The analysis assumes the DOM-2 pumped flow to be at about 1,100 gpm.

The proposed force mains along Railroad Avenue were sized to accommodate the pumped flows with a velocity of less than 5 fps.

Because the North Area will require new gravity and pressure mains, the infiltration rate used of this analysis was 600 gpd/acre (versus 4000 gpd/acre for older in place systems).

Proposed Design Results:

There are no surcharged gravity flows within the system.

Because of the nature of the Mare Island redevelopment, there are constraints and special requirements that influence the design.

The redevelopment of the area north of G Street has a special minimum slope requirement of 1% because of the potential for differential settlement. The VSFCD requires a minimum pipe size of 8" for public mains. To serve existing buildings to remain, existing sanitary sewer system inverts must be met and influence the slope of pipes. The combination of these three requirements requires low velocities in pipes at the upstream ends of the collection system for wet and dry weather design flows. Design flow velocities for the dry weather flows are as low as 0.78 fps according to the analysis.

There are three gravity pipes that are influenced by existing invert elevations and that do not meet the VFSCD minimum 8" pipe slopes. The lowest slope is 0.3 percent.

Industrial Area Sewer System

The Industrial Area flows into the existing RCP sewer interceptor that runs the entire length of the Industrial Area. These interceptor lines range in diameter from 12" to 27". The interceptor receives most of the industrial area and some residential area flows. The waterfront industrial area pump stations pump wastewater to the Railroad Avenue interceptor. There is one lift station along the Railroad Avenue interceptor; this lift station is necessary to maintain gravity flows to DOM-4, the main Mare Island pump station, which is located near the intersection of Railroad Avenue and A Street.

Within the industrial area there are smaller pump stations and ship-to-shore pump stations that are not designated as part of this master plan. Some of these pump stations are actively supporting operations and some are inactive. As the development of Mare Island progresses they will be replaced, be reactivated, or continue operation depending on the demands generated by an area-detailed development plan.

The main pump stations supporting the Industrial Area build-out are part of this master plan study. During the last several years, when the City of Vallejo was responsible for maintaining the sanitary sewer system, these main pump stations were upgraded with grant funds. The DOMs in the industrial area received significant improvements such as pump replacements or upgrades. Because of the recent upgrades, this master plan is based upon these pump sizes remaining (even though they are rated many times above the peak domestic plus infiltration demands). The following table presents the industrial area DOMs' recent improvements (within the last five years) and their pump station capacities.

Station ID	City of Vallejo Recent Repairs	Pump Station Capacities
DOM-5	Rerouted electrical service. Replaced pumps, valves, and check valves. Replaced VFD units with fixed speed motors	Two pumps at 650 gpm each
DOM-6	Replaced pumps, valves and check valves. Replaced VFD units with fixed speed motors	Two pumps at 850 gpm each
DOM-7	Replaced pumps, valves, and check valves. Replaced VFD units with fixed speed motors	Three pumps at 400 gpm each
DOM-8	Replaced pumps, valves, and check valves	Two pumps at 850 gpm each
DOM-9	Replaced pumps, valves, and check valves	Two pumps at 600 gpm each

The Industrial Area sanitary sewer system analysis is based upon one pump operating with the other pump(s) as backup.

Recent video surveys indicate that the Railroad Avenue Interceptor RCP pipe is consistently corroded with only a few laterals connected directly into the pipe. The RCP is still structurally sound with no indications of deformed pipe. This provides a good opportunity for using the lining technology. This application will be used for rehabilitating the entire run along Railroad Avenue, unless detailed design surveys performed in support of construction documents indicate otherwise.

Because the Industrial Area consists of older sanitary sewer mains that will remain active, the infiltration rate used for the Industrial Area analysis was 4,000 gpd/acre (versus 600 gpd/acre for new systems).

Proposed Design Results:

There are no surcharged gravity flows within the system.

Because of the nature of the Mare Island redevelopment, there are constraints and special requirements that influence the design.

The redevelopment of the Industrial Area and the interceptor main along Railroad Avenue must serve existing buildings to remain. Existing sanitary sewer system inverts must be met and influence the pipe slopes.

The existing RCP pipes along the Railroad Avenue Interceptor will be lined with cured-in-place or folded form liners.

If the existing Railroad Avenue interceptor pipes were lined and all of the associated pump stations were on, the system would be able to convey the flows to DOM-4 while keeping the water surface within the pipes (i.e., without surcharging). The velocities in this scenario are high and would keep the pipes flushed, even though the Navy record drawings indicate flat or slightly reverse slopes.

Low velocities exist during the dry weather (i.e., no infiltration occurs), especially at the flat or inverse slope conditions in several locations, based upon the Navy record drawings. Additional maintenance may be needed to keep sediment from building up in the pipes, but the system could be flushed by turning on one or more of the pump stations simultaneously. The extent of the low slope or inverse slope conditions should be verified with a field survey during preparation of construction documents.

Design flow velocities for the dry weather flows are as low as 0.79 fps due to possible negative pipe slopes and existing larger-diameter pipes (27").

There are an estimated 12 gravity pipes that are influenced by existing invert elevations and that do not meet the VFSCD minimum pipe slopes. Based on the Navy record drawings, the slopes are .0027 for an 8" pipe; .0024 for a 12" pipe; .0018 for a 15" pipe; .0015 for a 12" pipe; -.0006 for an 18" pipe; .0018 for a 21" pipe; and -.0010 for a 27"

pipe. These slopes must be verified with a detailed survey during preparation of the construction documents.

Residential Area Sewer System

The Residential Area sanitary sewer system comprises all new pump stations and mains (with the exception of two existing 10" lines to remain on 3rd Street & Walnut Avenue) that will collect wastewater from approximately 1,400 new housing units on the western side of the Mare Island Redevelopment Area. The system will discharge into DOM-4.

This system will provide service from three distinct residential development areas: Farragut Village, Coral Sea North, and Coral Sea South. All three areas feed into a proposed interceptor that runs south along the proposed residential Parkway, south along Azuar Drive, east along Third Street, north along Walnut Avenue, and east along A Street to DOM-4 at Railroad Avenue.

The Farragut Village and Coral Sea North areas require pump stations. Based upon an analysis performed by West Yost and Associates (presented in a Technical Memorandum to Steve Thurman of Chaudhary Associates and dated June 13, 2003), the Farragut Village area will require a 100-gpm pump station and Coral Sea North will require a 120-gpm pump station.

This system also collects wastewater from some of the Mare Island build-out office/R&D and Light industrial areas east of Azuar Drive and south of G Street.

Proposed Design Results:

There are no surcharged gravity flows within the system.

Because of the nature of the Mare Island redevelopment, there are constraints and special requirements that influence the design.

The VSFCD requires a minimum pipe size of 8" for public mains. In the redevelopment of the area south of G Street, the system must serve existing buildings which will remain. Existing sanitary sewer system inverts must be met and influence the slope of pipes.

The combination of these two requirements requires low velocities in pipes at the upstream ends of the collection system for wet and dry weather design flows. Design flow velocities for the dry weather flows go as low as 0.92 fps per the analysis.

There are two gravity pipes that are influenced by existing invert elevations and that do not meet the VFSCD minimum 12" pipe slopes. The lowest slope is 0.0026.

DOM-4 / Causeway Force Main

DOM-4 is the main Mare Island Pump Station. All wastewater from the three study areas is routed to DOM-4, which pumps the wastewater from Mare Island through an 18" force main. The main crosses Mare Island Strait on the Causeway Bridge and ends at the VSFCD North Interceptor.

The existing 18" steel force main feeding from DOM-4 to the Causeway Bridge is in operational condition and does not require unusual maintenance by the VSFCD maintenance crews. The pipe was not field inspected during preparation of this sanitary sewer master plan and the assumption of this master plan is that it is in good condition and will provide service for many years to come. During the infrastructure development process it is recommended that this 18" force main be video surveyed or inspected to insure a long service life without unexpected interruptions.

DOM-4 was recently upgraded. During the last several years, when the City of Vallejo was responsible for maintaining the sanitary sewer system, these main pump stations were upgraded using grant funds. Because of the recent upgrades, this master plan is based upon the pump sizes remaining (even though they are rated many times above the peak domestic plus infiltration demands). The following table presents DOM-4's recent improvements (within the last five years) and its pump station capacities.

Station ID	City of Vallejo Recent Repairs	Pump Station Capacities
DOM-4	Motor repairs, overhauled pumps, replaced VFD units	One pump at 1,600 gpm, three pumps at 4,600 gpm each

The total proposed peak domestic and infiltration flows are summarized below (these are not pumped flows). The following table indicates the peak daily design flow that can be used in determining treatment plant capacity requirements.

Summary of DOM-4 Pump Station Flows

Sewer System Analyzed	Peak Daily Sanitary Sewer Flow (mgd)	Infiltration (mgd)	Peak Daily Design Flow (mgd; Peak Daily plus Infiltration)
North End (600 gpd/acre infiltration rate)	0.130	0.171	0.301
Industrial Area (4000 gpd/acre infiltration rate)	0.552	1.788	2.340
Residential Area (600 gpd/acre infiltration rate)	0.351	0.134	0.485
Mare Island Totals	1.033	2.093	3.126

The peak daily design flow of 3.126 mgd is much less than the total existing pump station capacity of 22.1 million gallons (based on all four pumps running).

The system analysis printouts are for gravity flows and are not based upon pumped flows, and a summary printout, are attached to the calculations section.

North End. Pumped Flows. Infiltration. RCP on RR Lined.

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-187	MH-195	MH-194	-2.40	-7.00	0.015232	302.00	12 inch	PVC	600	25.50	15,300	1.92	19,335	0.5
P-183	MH-191	MH-192	2.32	-1.25	0.008707	410.00	12 inch	PVC	600	24.00	14,400	1.55	18,199	0.7
P-184	MH-192	MH-193	-1.25	-4.20	0.008702	339.00	12 inch	PVC			14,400	1.55	18,199	0.7
P-185	MH-193	MH-194	-4.20	-7.00	0.007216	388.00	12 inch	PVC			14,400	1.45	18,199	0.7
P-196	MH-194	WW-3	-7.00	-7.61	0.008133	75.00	8 inch	PVC	600	17.80	40,380	3.51	265,464	29.0
P-192	MH-200	MH-161	5.19	-7.40	0.032786	384.00	8 inch	PVC	600	25.40	15,240	2.78	22,322	1.2
P-191	MH-199	MH-161	3.33	-7.40	0.009991	1,074.00	8 inch	PVC	600	59.60	35,760	2.43	57,480	5.7
P-195	MH-161	WW-2	-7.40	-7.91	0.003129	163.00	8 inch	PVC	600	32.20	70,320	0.77	172,613	30.4
P-193	MH-201	MH-202	-2.00	-7.81	0.010000	581.00	8 inch	PVC	600	15.70	9,420	2.28	46,189	4.5
P-194	MH-202	WW-1	-7.81	-10.25	0.015641	156.00	8 inch	PVC			9,420	2.67	46,189	3.6
P-178	MH-187	MH-182	2.09	0.53	0.004333	360.00	8 inch	PVC	600	6.80	4,080	0.98	7,407	1.1
P-169	MH-178	MH-179	5.34	4.40	0.004724	199.00	8 inch	PVC	600	9.00	5,400	1.08	9,199	1.3
P-170	MH-179	MH-180	4.40	2.03	0.012154	195.00	8 inch	PVC			5,400	1.50	9,199	0.8
P-171	MH-180	MH-181	2.03	1.25	0.003000	260.00	8 inch	PVC	600	14.70	14,220	1.19	21,818	3.9
P-172	MH-181	MH-182	1.25	0.53	0.002988	241.00	12 inch	PVC			14,220	1.13	21,818	1.3
P-2	MH-182	MH-24	0.53	-0.30	0.002986	279.00	12 inch	PVC	600	2.60	19,860	1.34	38,302	2.3
P-3	MH-24	MH-186	-0.30	-1.32	0.003000	339.00	12 inch	PVC	600	3.30	21,840	1.39	43,130	2.6
P-189	MH-168	MH-170	-0.45	-1.40	0.001947	488.00	20	PVC			0	3.21	1,568,052	30.4
P-197	MH-189	MH-170	5.00	-1.40	0.013793	464.00	8 inch	PVC	600	8.60	5,160	1.67	11,218	0.9
P-163	MH-170	MH-171	-1.40	-1.64	0.006667	36.00	20	PVC			5,160	5.01	1,579,269	16.5
P-180	MH-188	MH-171	5.00	-1.64	0.022060	301.00	8 inch	PVC	600	2.00	1,200	1.40	3,700	0.2
P-179	MH-177	MH-186	4.37	-1.32	0.010963	519.00	8 inch	PVC	600	7.90	4,740	1.39	8,067	0.8
P-177	MH-186	MH-173	-1.32	-2.70	0.003115	443.00	12 inch	PVC	600	4.80	29,460	1.52	55,753	3.3
P-168	MH-176	MH-173	3.40	-2.70	0.010590	576.00	8 inch	PVC	600	13.20	7,920	1.66	14,985	1.4
P-164	MH-171	MH-172	-1.64	-2.49	0.003195	266.00	20	PVC	600	2.80	8,040	3.85	1,587,717	24.0
P-165	MH-172	MH-173	-2.49	-2.70	0.000598	351.00	23"	PVC	600	2.80	9,720	2.08	1,589,397	38.3
P-166	MH-173	MH-174	-2.70	-2.75	0.000212	236.00	23"	PVC			47,100	1.42	1,660,135	67.2
P-1	MH-174	O-1	-2.75	-6.67	0.012250	320.00	23"	PVC	600	6.30	50,880	6.22	1,668,675	8.9

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-195	7.00	-2.40	-2.33	3,732	0	0	4,035
MH-191	10.00	2.32	2.39	3,496	0	0	3,799
MH-192	12.90	-1.25	-1.19	0	14,400	0	18,199
MH-193	8.50	-4.20	-4.13	0	14,400	0	18,199
MH-194	9.00	-7.00	-6.58	3,496	29,700	213,450	254,784
MH-200	9.70	5.19	5.27	6,477	0	0	7,082
MH-199	7.00	3.33	3.47	18,799	0	0	21,720
MH-161	8.00	-7.40	-5.86	3,512	51,000	69,675	153,293
MH-201	2.50	-2.00	-1.90	36,466	0	0	36,769
MH-202	4.24	-7.81	-7.69	0	9,420	0	46,189
MH-187	11.80	2.09	2.14	3,327	0	0	3,327
MH-178	12.00	5.34	5.39	3,496	0	0	3,799
MH-179	11.50	4.40	4.45	0	5,400	0	9,199
MH-180	12.40	2.03	2.12	3,496	5,400	0	12,998
MH-181	11.70	1.25	1.33	0	14,220	0	21,818
MH-182	11.30	0.53	0.64	7,517	18,300	0	36,742
MH-24	12.00	-0.30	-0.19	2,848	19,860	0	41,150
MH-168	12.00	-0.45	0.18	0	0	1,568,052	1,568,052
MH-189	8.70	5.00	5.06	6,058	0	0	6,058
MH-170	13.00	-1.40	-0.83	0	5,160	1,568,052	1,579,269
MH-188	12.00	5.00	5.03	2,500	0	0	2,500
MH-177	12.60	4.37	4.42	3,327	0	0	3,327
MH-186	13.00	-1.32	-1.19	1,677	26,580	0	52,873
MH-176	10.40	3.40	3.47	7,065	0	0	7,065
MH-171	13.00	-1.64	-1.06	2,167	6,360	1,568,052	1,586,037
MH-172	13.20	-2.49	-1.65	0	8,040	1,568,052	1,587,717
MH-173	13.30	-2.70	-1.83	0	47,100	1,568,052	1,660,135
MH-174	13.10	-2.75	-2.36	4,760	47,100	1,568,052	1,664,895
O-1	14.00	-6.67	-6.67		50,880	1,568,052	1,668,675

Scenario: Base

Pump Report

Label	To Pipe	Ground Elevation (ft)	Design Head (ft)	Design Discharge (gpm)	Discharge (Absolute Value) (gpm)	Maximum Operating Discharge (gpm)	Control Status
DOM-2	FM-9	9.50	13.00	1,000.00	1,088.92	2,000.00	On
PMP-2	FM-7	8.00	0.20	150.00	148.23	300.00	On
PMP-1	FM-2	2.57	3.00	50.00	48.39	100.00	On

North End. Pumped Flows. No Infiltration. RCP on RR Lined.

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Uni (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-187	MH-195	MH-194	-2.40	-7.00	0.015232	302.00	12 inch	PVC	0	25.50	0	1.19	4,035	0.1
P-183	MH-191	MH-192	2.32	-1.25	0.008707	410.00	12 inch	PVC	0	24.00	0	0.96	3,799	0.1
P-184	MH-192	MH-193	-1.25	-4.20	0.008702	339.00	12 inch	PVC			0	0.96	3,799	0.1
P-185	MH-193	MH-194	-4.20	-7.00	0.007216	388.00	12 inch	PVC			0	0.90	3,799	0.1
P-196	MH-194	WW-3	-7.00	-7.61	0.008133	75.00	8 inch	PVC	0	17.80	0	3.36	225,084	24.6
P-192	MH-200	MH-161	5.19	-7.40	0.032786	384.00	8 inch	PVC	0	25.40	0	1.96	7,082	0.4
P-191	MH-199	MH-161	3.33	-7.40	0.009991	1,074.00	8 inch	PVC	0	59.60	0	1.82	21,720	2.1
P-195	MH-161	WW-2	-7.40	-7.91	0.003129	163.00	8 inch	PVC	0	32.20	0	0.45	102,293	18.0
P-193	MH-201	MH-202	-2.00	-7.81	0.010000	581.00	8 inch	PVC	0	15.70	0	2.13	36,769	3.6
P-194	MH-202	WW-1	-7.81	-10.25	0.015641	156.00	8 inch	PVC			0	2.50	36,769	2.9
P-178	MH-187	MH-182	2.09	0.53	0.004333	360.00	8 inch	PVC	0	6.80	0	0.78	3,327	0.5
P-169	MH-178	MH-179	5.34	4.40	0.004724	199.00	8 inch	PVC	0	9.00	0	0.82	3,799	0.5
P-170	MH-179	MH-180	4.40	2.03	0.012154	195.00	8 inch	PVC			0	1.14	3,799	0.3
P-171	MH-180	MH-181	2.03	1.25	0.003000	260.00	8 inch	PVC	0	14.70	0	0.87	7,598	1.4
P-172	MH-181	MH-182	1.25	0.53	0.002988	241.00	12 inch	PVC			0	0.82	7,598	0.5
P-2	MH-182	MH-24	0.53	-0.30	0.002986	279.00	12 inch	PVC	0	2.60	0	1.07	18,442	1.1
P-3	MH-24	MH-186	-0.30	-1.32	0.003000	339.00	12 inch	PVC	0	3.30	0	1.12	21,290	1.3
P-189	MH-168	MH-170	-0.45	-1.40	0.001947	488.00	20	PVC			0	3.21	1,568,052	30.4
P-197	MH-189	MH-170	5.00	-1.40	0.013793	464.00	8 inch	PVC	0	8.60	0	1.40	6,058	0.5
P-163	MH-170	MH-171	-1.40	-1.64	0.006667	36.00	20	PVC			0	5.00	1,574,109	16.5
P-180	MH-188	MH-171	5.00	-1.64	0.022060	301.00	8 inch	PVC	0	2.00	0	1.24	2,500	0.2
P-179	MH-177	MH-186	4.37	-1.32	0.010963	519.00	8 inch	PVC	0	7.90	0	1.06	3,327	0.3
P-177	MH-186	MH-173	-1.32	-2.70	0.003115	443.00	12 inch	PVC	0	4.80	0	1.21	26,293	1.6
P-168	MH-176	MH-173	3.40	-2.70	0.010590	576.00	8 inch	PVC	0	13.20	0	1.32	7,065	0.7
P-164	MH-171	MH-172	-1.64	-2.49	0.003195	266.00	20	PVC	0	2.80	0	3.85	1,579,677	23.9
P-165	MH-172	MH-173	-2.49	-2.70	0.000598	351.00	23"	PVC	0	2.80	0	2.07	1,579,677	38.1
P-166	MH-173	MH-174	-2.70	-2.75	0.000212	236.00	23"	PVC			0	1.41	1,613,035	65.3
P-1	MH-174	O-1	-2.75	-6.67	0.012250	320.00	23"	PVC	0	6.30	0	6.16	1,617,795	8.6

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-195	7.00	-2.40	-2.37	3,732	0	0	4,035
MH-191	10.00	2.32	2.35	3,496	0	0	3,799
MH-192	12.90	-1.25	-1.22	0	0	0	3,799
MH-193	8.50	-4.20	-4.17	0	0	0	3,799
MH-194	9.00	-7.00	-6.59	3,496	0	213,450	225,084
MH-200	9.70	5.19	5.24	6,477	0	0	7,082
MH-199	7.00	3.33	3.41	18,799	0	0	21,720
MH-161	8.00	-7.40	-5.89	3,512	0	69,675	102,293
MH-201	2.50	-2.00	-1.91	36,466	0	0	36,769
MH-202	4.24	-7.81	-7.70	0	0	0	36,769
MH-187	11.80	2.09	2.12	3,327	0	0	3,327
MH-178	12.00	5.34	5.38	3,496	0	0	3,799
MH-179	11.50	4.40	4.43	0	0	0	3,799
MH-180	12.40	2.03	2.08	3,496	0	0	7,598
MH-181	11.70	1.25	1.30	0	0	0	7,598
MH-182	11.30	0.53	0.60	7,517	0	0	18,442
MH-24	12.00	-0.30	-0.22	2,848	0	0	21,290
MH-168	12.00	-0.45	0.18	0	0	1,568,052	1,568,052
MH-189	8.70	5.00	5.04	6,058	0	0	6,058
MH-170	13.00	-1.40	-0.83	0	0	1,568,052	1,574,109
MH-188	12.00	5.00	5.03	2,500	0	0	2,500
MH-177	12.60	4.37	4.40	3,327	0	0	3,327
MH-186	13.00	-1.32	-1.23	1,677	0	0	26,293
MH-176	10.40	3.40	3.45	7,065	0	0	7,065
MH-171	13.00	-1.64	-1.07	2,167	0	1,568,052	1,579,677
MH-172	13.20	-2.49	-1.66	0	0	1,568,052	1,579,677
MH-173	13.30	-2.70	-1.85	0	0	1,568,052	1,613,035
MH-174	13.10	-2.75	-2.37	4,760	0	1,568,052	1,617,795
O-1	14.00	-6.67	-6.67		0	1,568,052	1,617,795

Industrial Area. Pumped Flows. Infiltration. Pipes Lined.

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-93	MH-78	WW-5	-1.50	-1.80	0.003488	86.00	10 inch	PVC	4,000.00	11.00	44,000.00	1.51	44,000.00	4.0
P-92	MH-76	WW-1	-0.02	-2.00	0.011061	179.00	12"	PVC	4,000.00	21.20	84,800.00	2.69	84,800.00	2.7
P-91	MH-75	WW-4	-2.93	-4.50	0.015700	100.00	12"	PVC	4,000.00	27.24	108,960.00	3.27	108,960.00	2.9
P-88	MH-74	WW-3	-2.37	-4.08	0.005000	342.00	12"	PVC	4,000.00	78.43	313,720.00	2.99	313,720.00	14.8
P-89	MH-70	MH-30	1.34	0.56	0.002393	326.00	12	PVC			0.00	3.23	1,221,556.29	83.4
P-122	MH-125	MH-126	25.50	21.37	0.018773	220.00	8"	PVC	4,000.00	24.40	97,600.00	3.98	144,239.98	10.4
P-123	MH-126	MH-127	21.37	11.00	0.034112	304.00	8"	PVC			97,600.00	4.92	144,239.98	7.7
P-124	MH-127	MH-128	11.00	9.62	0.007709	179.00	8"	PVC			97,600.00	2.90	144,239.98	16.2
P-125	MH-128	MH-129	9.62	8.82	0.005674	141.00	8"	PVC			97,600.00	2.62	148,173.58	19.4
P-126	MH-129	MH-130	8.82	8.22	0.003974	151.00	8"	PVC			97,600.00	2.31	148,173.58	23.2
P-127	MH-130	MH-131	8.22	0.27	0.034416	231.00	8"	PVC			97,600.00	4.98	148,173.58	7.9
P-77	MH-131	MH-133	0.27	-0.49	0.003193	238.00	8"	PVC	4,000.00	16.06	161,840.00	2.68	358,017.06	62.4
P-76	MH-44	MH-47	-5.47	-6.09	0.000994	624.00	26"	PVC	4,000.00	22.10	784,400.00	3.01	3,246,708.73	43.8
P-39	MH-41	MH-42	-4.84	-4.77	-0.000409	171.00	26"	PVC			696,000.00	1.32	3,154,005.98	999.0
P-40	MH-42	MH-43	-4.77	-5.15	0.006909	55.00	26"	PVC			696,000.00	6.03	3,154,005.98	16.1
P-41	MH-43	MH-44	-5.15	-5.47	0.001285	249.00	26"	PVC			696,000.00	3.28	3,158,308.73	37.4
P-75	MH-39	MH-41	-4.10	-4.84	0.006789	109.00	26"	PVC			696,000.00	5.99	3,154,005.98	16.3
P-131	MH-134	MH-38	10.05	-3.76	0.018562	744.00	8"	PVC	4,000.00	23.27	93,080.00	3.65	108,084.30	7.8
P-130	MH-133	MH-34	-0.49	-0.98	0.003311	148.00	8"	PVC			161,840.00	2.72	360,321.06	61.7
P-20	MH-22	MH-23	10.91	9.89	0.005100	200.00	11"	PVC			0.00	4.01	875,924.03	51.7
P-21	MH-23	MH-24	9.89	9.47	0.002428	173.00	11"	PVC			0.00	3.01	875,924.03	74.9
P-22	MH-24	MH-25	9.47	8.98	0.002620	187.00	11"	PVC			0.00	3.10	875,924.03	72.1
P-23	MH-25	MH-26	8.98	7.97	0.004410	229.00	11"	PVC	4,000.00	25.74	102,960.00	3.98	1,074,467.53	68.2
P-24	MH-26	MH-27	7.97	7.43	0.002660	203.00	11"	PVC			102,960.00	3.24	1,074,467.53	87.8
P-25	MH-27	MH-28	7.43	2.40	0.022061	228.00	14"	PVC	4,000.00	21.58	189,280.00	7.30	1,172,879.12	17.5
P-26	MH-28	MH-29	2.40	1.31	0.003406	320.00	14"	PVC			189,280.00	3.71	1,175,335.39	44.6
P-27	MH-29	MH-30	1.31	0.56	0.001756	427.00	14"	PVC			189,280.00	2.89	1,177,957.79	62.2
P-28	MH-30	MH-31	0.56	-0.23	0.005032	157.00	17"	PVC			189,280.00	5.14	2,418,589.21	45.0
P-29	MH-31	MH-32	-0.23	-0.17	-0.000588	102.00	17	PVC			189,280.00	2.37	2,418,589.21	999.0
P-30	MH-32	MH-33	-0.17	-0.76	0.002864	206.00	17"	PVC			189,280.00	4.16	2,426,632.23	59.8
P-31	MH-33	MH-34	-0.76	-0.98	0.001477	149.00	20"	PVC	4,000.00	23.29	282,440.00	3.28	2,519,792.23	56.1
P-32	MH-34	MH-35	-0.98	-2.76	0.002880	618.00	20"	PVC			444,280.00	4.35	2,873,369.53	45.8
P-33	MH-35	MH-36	-2.76	-3.41	0.001771	367.00	20"	PVC	4,000.00	15.70	507,080.00	3.64	2,943,360.11	59.8
P-34	MH-36	MH-37	-3.41	-3.95	0.002535	213.00	20"	PVC			507,080.00	4.17	2,944,070.33	50.0
P-35	MH-37	MH-38	-3.95	-3.76	-0.000635	299.00	26"	PVC	4,000.00	23.96	602,920.00	1.28	3,046,802.02	999.0

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-36	MH-38	MH-39	-3.76	-4.10	0.007391	46.00	26"	PVC			696,000.00	6.17	3,154,005.98	15.6
P-80	MH-47	MH-77	-6.09	-7.00	0.018571	49.00	26"	PVC			784,400.00	8.64	3,246,708.73	10.1
P-78	MH-142	MH-144	-4.56	-5.36	0.002694	297.00	8"	PVC	4,000.00	9.30	37,200.00	1.55	59,358.83	11.3
P-79	MH-144	MH-77	-5.36	-7.00	0.019759	83.00	16"	PVC			37,200.00	2.84	59,358.83	0.7
P-87	MH-77	WW-2	-7.00	-7.50	0.025000	20.00	30 inch	PVC			821,600.00	9.48	3,304,674.98	6.1
P-90	MH-71	MH-21	4.85	-1.49	0.010000	634.00	8"	PVC			0.00	5.11	938,033.96	92.4
P-85	MH-64	MH-66	23.33	22.17	0.007250	160.00	8"	PVC	4,000.00	8.80	35,200.00	1.98	42,280.48	4.9
P-64	MH-66	MH-67	22.17	17.17	0.040000	125.00	8"	PVC			35,200.00	3.61	42,280.48	2.1
P-65	MH-67	MH-68	17.17	15.90	0.025918	49.00	8"	PVC			35,200.00	3.10	42,280.48	2.6
P-66	MH-68	MH-69	15.90	14.64	0.018000	70.00	8"	PVC			35,200.00	2.73	42,280.48	3.1
P-86	MH-69	MH-55	14.64	10.85	0.010798	351.00	8"	PVC	4,000.00	9.65	73,800.00	2.77	80,880.48	7.7
P-46	MH-48	MH-49	30.00	26.24	0.013875	271.00	8"	PVC	4,000.00	7.13	28,520.00	2.33	33,669.44	2.8
P-47	MH-49	MH-50	26.24	17.25	0.031544	285.00	8"	PVC	4,000.00	9.39	66,080.00	4.00	78,631.76	4.4
P-84	MH-50	MH-53	17.25	14.83	0.007446	325.00	8"	PVC			66,080.00	2.41	78,631.76	9.0
P-55	MH-57	MH-58	23.47	22.28	0.005777	206.00	8"	PVC	4,000.00	4.06	16,240.00	1.58	25,895.20	3.4
P-82	MH-58	MH-60	22.28	21.09	0.004818	247.00	8"	PVC			16,240.00	1.48	25,895.20	3.7
P-83	MH-60	MH-62	21.09	19.50	0.004504	353.00	8"	PVC			16,240.00	1.45	25,895.20	3.8
P-70	MH-72	MH-73	9.58	7.04	0.015030	169.00	12	PVC			0.00	6.55	1,256,066.37	34.2
P-71	MH-73	MH-15	7.04	6.38	0.005077	130.00	12	PVC			0.00	4.37	1,256,066.37	58.9
P-6	MH-7	MH-8	8.68	7.94	0.001429	518.00	26"	PVC			0.00	2.09	562,979.09	6.3
P-7	MH-8	MH-9	7.94	7.87	0.001207	58.00	26"	PVC			0.00	1.97	562,979.09	6.9
P-8	MH-9	MH-10	7.87	7.67	0.001205	166.00	26"	PVC			192,720.00	2.18	800,914.63	9.8
P-9	MH-10	MH-11	7.67	7.54	0.002364	55.00	26"	PVC			192,720.00	2.77	807,714.99	7.1
P-10	MH-11	MH-12	7.54	7.17	0.002176	170.00	26"	PVC			192,720.00	2.69	807,714.99	7.4
P-11	MH-12	MH-13	7.17	6.81	0.001565	230.00	26"	PVC			192,720.00	2.40	815,477.68	8.8
P-12	MH-13	MH-14	6.81	6.71	0.001449	69.00	26"	PVC			192,720.00	2.34	815,477.68	9.1
P-13	MH-14	MH-15	6.71	6.38	0.002143	154.00	26"	PVC	4,000.00	21.20	277,520.00	2.76	900,277.68	8.3
P-14	MH-15	MH-16	6.38	6.75	-0.001025	361.00	26"	PVC			277,520.00	0.90	2,156,344.05	999.0
P-15	MH-16	MH-17	6.75	5.31	0.007784	185.00	26"	PVC			277,520.00	5.63	2,156,344.05	10.4
P-16	MH-17	MH-18	5.31	4.48	0.003578	232.00	26"	PVC	4,000.00	24.30	374,720.00	4.33	2,265,576.21	16.1
P-72	MH-18	MH-20	4.48	0.82	0.005810	630.00	26"	PVC			374,720.00	5.15	2,265,576.21	12.6
P-73	MH-20	MH-21	0.82	-1.49	0.004989	463.00	26"	PVC			374,720.00	4.88	2,265,576.21	13.6
P-81	MH-55	MH-9	10.85	7.87	0.006804	438.00	8"	PVC			192,720.00	3.19	235,128.38	28.1
P-141	MH-145	MH-146	22.90	21.74	0.009915	117.00	8"	PVC			0.00	1.00	3,143.90	0.3
P-142	MH-146	MH-62	21.74	19.50	0.019310	116.00	8"	PVC			0.00	1.27	3,143.90	0.2

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Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-60	MH-62	MH-63	19.50	16.50	0.020000	150.00	8"	PVC			16,240.00	2.53	29,039.10	2.0
P-61	MH-63	MH-53	16.50	14.83	0.005530	302.00	8"	PVC	4,000.00	4.00	32,240.00	1.90	50,832.22	6.7
P-51	MH-53	MH-54	14.83	12.80	0.012229	166.00	8"	PVC	4,000.00	5.15	118,920.00	3.49	154,247.90	13.7
P-52	MH-54	MH-55	12.80	10.85	0.009112	214.00	8"	PVC			118,920.00	3.14	154,247.90	15.9
P-74	MH-21	O-1	-1.49	-2.43	0.004455	211.00	26"	PVC	4,000.00	10.27	415,800.00	5.20	3,250,847.60	20.7

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Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-78	10.93	-1.50	-0.80	0.00	0.00	0.00	0.00
MH-76	10.18	-0.02	0.13	0.00	0.00	0.00	0.00
MH-75	6.77	-2.93	-2.76	0.00	0.00	0.00	0.00
MH-74	6.45	-2.37	-2.08	0.00	0.00	0.00	0.00
MH-70	8.90	1.34	2.04	0.00	0.00	1,221,556.29	1,221,556.29
MH-125	35.00	25.50	25.72	31,302.00	0.00	0.00	46,639.98
MH-126	30.00	21.37	21.59	0.00	97,600.00	0.00	144,239.98
MH-127	18.60	11.00	11.22	0.00	97,600.00	0.00	144,239.98
MH-128	21.60	9.62	9.84	2,640.00	97,600.00	0.00	148,173.58
MH-129	26.20	8.82	9.04	0.00	97,600.00	0.00	148,173.58
MH-130	21.00	8.22	8.44	0.00	97,600.00	0.00	148,173.58
MH-131	13.00	0.27	0.65	98,588.50	97,600.00	0.00	293,777.06
MH-47	15.20	-6.09	-5.62	0.00	784,400.00	2,097,480.32	3,246,708.73
MH-41	10.50	-4.84	-3.64	0.00	696,000.00	2,097,480.32	3,154,005.98
MH-42	10.90	-4.77	-4.01	0.00	696,000.00	2,097,480.32	3,154,005.98
MH-43	11.30	-5.15	-4.22	3,073.50	696,000.00	2,097,480.32	3,158,308.73
MH-44	12.60	-5.47	-4.47	0.00	696,000.00	2,097,480.32	3,158,308.73
MH-134	25.00	10.05	10.24	10,070.00	0.00	0.00	15,004.30
MH-133	9.20	-0.49	-0.03	1,600.00	161,840.00	0.00	360,321.06
MH-22	16.00	10.91	11.42	0.00	0.00	875,924.03	875,924.03
MH-23	18.00	9.89	10.48	0.00	0.00	875,924.03	875,924.03
MH-24	19.50	9.47	10.05	0.00	0.00	875,924.03	875,924.03
MH-25	19.60	8.98	9.54	64,150.00	0.00	875,924.03	971,507.53
MH-26	16.70	7.97	8.64	0.00	102,960.00	875,924.03	1,074,467.53
MH-27	15.00	7.43	7.98	8,115.16	102,960.00	875,924.03	1,086,559.12
MH-28	12.10	2.40	2.95	1,648.50	189,280.00	875,924.03	1,175,335.39
MH-29	10.00	1.31	1.98	1,760.00	189,280.00	875,924.03	1,177,957.79
MH-30	10.30	0.56	1.31	12,802.10	189,280.00	2,097,480.32	2,418,589.21
MH-31	10.00	-0.23	0.92	0.00	189,280.00	2,097,480.32	2,418,589.21
MH-32	9.20	-0.17	0.62	5,398.00	189,280.00	2,097,480.32	2,426,632.23
MH-33	9.30	-0.76	0.12	0.00	189,280.00	2,097,480.32	2,426,632.23
MH-34	8.81	-0.98	-0.19	0.00	444,280.00	2,097,480.32	2,873,369.53
MH-35	8.90	-2.76	-1.83	5,107.76	444,280.00	2,097,480.32	2,880,560.11
MH-36	9.50	-3.41	-2.47	504.90	507,080.00	2,097,480.32	2,944,070.33
MH-37	10.00	-3.95	-2.58	4,903.12	507,080.00	2,097,480.32	2,950,962.02

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Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-38	10.80	-3.76	-3.18	0.00	696,000.00	2,097,480.32	3,154,005.98
MH-39	10.20	-4.10	-3.34	0.00	696,000.00	2,097,480.32	3,154,005.98
MH-142	10.00	-4.56	-4.41	14,871.70	0.00	0.00	22,158.83
MH-144	10.20	-5.36	-5.25	0.00	37,200.00	0.00	59,358.83
MH-77	15.00	-7.00	-6.25	0.00	821,600.00	2,097,480.32	3,304,674.98
MH-71	11.00	4.85	5.41	0.00	0.00	938,033.96	938,033.96
MH-64	30.50	23.33	23.45	4,752.00	0.00	0.00	7,080.48
MH-66	27.10	22.17	22.29	0.00	35,200.00	0.00	42,280.48
MH-67	25.00	17.17	17.29	0.00	35,200.00	0.00	42,280.48
MH-68	25.00	15.90	16.02	0.00	35,200.00	0.00	42,280.48
MH-69	25.00	14.64	14.80	0.00	35,200.00	0.00	42,280.48
MH-48	35.00	30.00	30.10	3,456.00	0.00	0.00	5,149.44
MH-49	30.90	26.24	26.40	4,968.00	28,520.00	0.00	41,071.76
MH-50	28.90	17.25	17.41	0.00	66,080.00	0.00	78,631.76
MH-57	30.00	23.47	23.56	6,480.00	0.00	0.00	9,655.20
MH-58	30.60	22.28	22.37	0.00	16,240.00	0.00	25,895.20
MH-60	33.80	21.09	21.18	0.00	16,240.00	0.00	25,895.20
MH-72	17.60	9.58	10.17	0.00	0.00	1,256,066.37	1,256,066.37
MH-73	19.10	7.04	7.98	0.00	0.00	1,256,066.37	1,256,066.37
MH-7	15.30	8.68	9.05	0.00	0.00	562,979.09	562,979.09
MH-8	17.00	7.94	8.36	0.00	0.00	562,979.09	562,979.09
MH-9	17.30	7.87	8.33	1,884.00	192,720.00	562,979.09	800,914.63
MH-10	18.00	7.67	8.06	4,564.00	192,720.00	562,979.09	807,714.99
MH-11	17.90	7.54	7.94	0.00	192,720.00	562,979.09	807,714.99
MH-12	18.80	7.17	7.78	5,209.86	192,720.00	562,979.09	815,477.68
MH-13	20.10	6.81	7.77	0.00	192,720.00	562,979.09	815,477.68
MH-14	20.20	6.71	7.76	0.00	192,720.00	562,979.09	815,477.68
MH-15	21.10	6.38	7.76	0.00	277,520.00	1,819,045.46	2,156,344.05
MH-16	21.40	6.75	7.37	0.00	277,520.00	1,819,045.46	2,156,344.05
MH-17	21.80	5.31	5.95	8,075.28	277,520.00	1,819,045.46	2,168,376.21
MH-18	20.70	4.48	5.12	0.00	374,720.00	1,819,045.46	2,265,576.21
MH-20	17.60	0.82	1.46	0.00	374,720.00	1,819,045.46	2,265,576.21
MH-21	14.10	-1.49	-0.82	4,132.50	374,720.00	2,757,079.42	3,209,767.60
MH-145	29.60	22.90	22.93	2,110.00	0.00	0.00	3,143.90
MH-146	31.00	21.74	21.77	0.00	0.00	0.00	3,143.90

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Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-62	31.00	19.50	19.60	0.00	16,240.00	0.00	29,039.10
MH-63	32.40	16.50	16.63	3,888.00	16,240.00	0.00	34,832.22
MH-53	28.60	14.83	15.06	2,808.00	98,320.00	0.00	133,647.90
MH-54	25.00	12.80	13.03	0.00	118,920.00	0.00	154,247.90
MH-55	25.30	10.85	11.13	0.00	192,720.00	0.00	235,128.38
O-1	14.00	-2.43	-2.43		415,800.00	2,757,079.42	3,250,847.60

Scenario: Base

Pump Report

Label	To Pipe	Ground Elevation (ft)	Design Head (ft)	Design Discharge (gpm)	Discharge (Absolute Value) (gpm)	Maximum Operating Discharge (gpm)	Control Status
DOM-6	FM-2	14.00	12.65	850.00	872.27	1,700.00	On
DOM-7	FM-4	15.00	15.96	400.00	390.96	800.00	On
DOM-9	FM-6	7.00	15.77	600.00	608.28	1,200.00	On
DOM-8	FM-8	8.00	6.59	850.00	848.30	1,700.00	On
DOM-5	FM-10	11.00	6.88	650.00	651.41	1,300.00	On

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Industrial Area, Pumped Flows, No Infiltration, Pipes Lined.

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-93	MH-78	WW-5	-1.50	-1.80	0.003488	86.00	10 inch	PVC	0.00	11.00	0.00	0.00	0.00	0.0
P-92	MH-76	WW-1	-0.02	-2.00	0.011061	179.00	12"	PVC	0.00	21.20	0.00	0.00	0.00	0.0
P-91	MH-75	WW-4	-2.93	-4.50	0.015700	100.00	12"	PVC	0.00	27.24	0.00	0.00	0.00	0.0
P-88	MH-74	WW-3	-2.37	-4.08	0.005000	342.00	12"	PVC	0.00	78.43	0.00	0.00	0.00	0.0
P-89	MH-70	MH-30	1.34	0.56	0.002393	326.00	12	PVC			0.00	3.23	1,221,556.29	83.4
P-122	MH-125	MH-126	25.50	21.37	0.018773	220.00	8"	PVC	0.00	24.40	0.00	2.85	46,639.98	3.4
P-123	MH-126	MH-127	21.37	11.00	0.034112	304.00	8"	PVC			0.00	3.52	46,639.98	2.5
P-124	MH-127	MH-128	11.00	9.62	0.007709	179.00	8"	PVC			0.00	2.09	46,639.98	5.2
P-125	MH-128	MH-129	9.62	8.82	0.005674	141.00	8"	PVC			0.00	1.92	50,573.58	6.6
P-126	MH-129	MH-130	8.82	8.22	0.003974	151.00	8"	PVC			0.00	1.69	50,573.58	7.9
P-127	MH-130	MH-131	8.22	0.27	0.034416	231.00	8"	PVC			0.00	3.61	50,573.58	2.7
P-77	MH-131	MH-133	0.27	-0.49	0.003193	238.00	8"	PVC	0.00	16.06	0.00	2.30	196,177.06	34.2
P-76	MH-44	MH-47	-5.47	-6.09	0.000994	624.00	26"	PVC	0.00	22.10	0.00	2.80	2,462,308.73	33.2
P-39	MH-41	MH-42	-4.84	-4.77	-0.000409	171.00	26"	PVC			0.00	1.03	2,458,005.98	999.0
P-40	MH-42	MH-43	-4.77	-5.15	0.006909	55.00	26"	PVC			0.00	5.61	2,458,005.98	12.6
P-41	MH-43	MH-44	-5.15	-5.47	0.001285	249.00	26"	PVC			0.00	3.07	2,462,308.73	29.2
P-75	MH-39	MH-41	-4.10	-4.84	0.006789	109.00	26"	PVC			0.00	5.57	2,458,005.98	12.7
P-131	MH-134	MH-38	10.05	-3.76	0.018562	744.00	8"	PVC	0.00	23.27	0.00	2.02	15,004.30	1.1
P-130	MH-133	MH-34	-0.49	-0.98	0.003311	148.00	8"	PVC			0.00	2.34	198,481.06	34.0
P-20	MH-22	MH-23	10.91	9.89	0.005100	200.00	11"	PVC			0.00	4.01	875,924.03	51.7
P-21	MH-23	MH-24	9.89	9.47	0.002428	173.00	11"	PVC			0.00	3.01	875,924.03	74.9
P-22	MH-24	MH-25	9.47	8.98	0.002620	187.00	11"	PVC			0.00	3.10	875,924.03	72.1
P-23	MH-25	MH-26	8.98	7.97	0.004410	229.00	11"	PVC	0.00	25.74	0.00	3.89	971,507.53	61.6
P-24	MH-26	MH-27	7.97	7.43	0.002660	203.00	11"	PVC			0.00	3.18	971,507.53	79.4
P-25	MH-27	MH-28	7.43	2.40	0.022061	228.00	14"	PVC	0.00	21.58	0.00	6.94	983,599.12	14.7
P-26	MH-28	MH-29	2.40	1.31	0.003406	320.00	14"	PVC			0.00	3.54	986,055.39	37.4
P-27	MH-29	MH-30	1.31	0.56	0.001756	427.00	14"	PVC			0.00	2.77	988,677.79	52.2
P-28	MH-30	MH-31	0.56	-0.23	0.005032	157.00	17"	PVC			0.00	5.03	2,229,309.21	41.5
P-29	MH-31	MH-32	-0.23	-0.17	-0.000588	102.00	17	PVC			0.00	2.19	2,229,309.21	999.0
P-30	MH-32	MH-33	-0.17	-0.76	0.002864	206.00	17"	PVC			0.00	4.08	2,237,352.23	55.2
P-31	MH-33	MH-34	-0.76	-0.98	0.001477	149.00	20"	PVC	0.00	23.29	0.00	3.18	2,237,352.23	49.8
P-32	MH-34	MH-35	-0.98	-2.76	0.002880	618.00	20"	PVC			0.00	4.17	2,429,089.53	38.7
P-33	MH-35	MH-36	-2.76	-3.41	0.001771	367.00	20"	PVC	0.00	15.70	0.00	3.48	2,436,280.11	49.5
P-34	MH-36	MH-37	-3.41	-3.95	0.002535	213.00	20"	PVC			0.00	3.98	2,436,990.33	41.4
P-35	MH-37	MH-38	-3.95	-3.76	-0.000635	299.00	26"	PVC	0.00	23.96	0.00	1.03	2,443,882.02	999.0

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-36	MH-38	MH-39	-3.76	-4.10	0.007391	46.00	26"	PVC			0.00	5.74	2,458,005.98	12.2
P-80	MH-47	MH-77	-6.09	-7.00	0.018571	49.00	26"	PVC			0.00	7.96	2,462,308.73	7.7
P-78	MH-142	MH-144	-4.56	-5.36	0.002694	297.00	8"	PVC	0.00	9.30	0.00	1.16	22,158.83	4.2
P-79	MH-144	MH-77	-5.36	-7.00	0.019759	83.00	16"	PVC			0.00	2.10	22,158.83	0.2
P-87	MH-77	WW-2	-7.00	-7.50	0.025000	20.00	30 inch	PVC			0.00	8.71	2,483,074.98	4.6
P-90	MH-71	MH-21	4.85	-1.49	0.010000	634.00	8"	PVC			0.00	5.11	938,033.96	92.4
P-85	MH-64	MH-66	23.33	22.17	0.007250	160.00	8"	PVC	0.00	8.80	0.00	1.16	7,080.48	0.8
P-64	MH-66	MH-67	22.17	17.17	0.040000	125.00	8"	PVC			0.00	2.09	7,080.48	0.3
P-65	MH-67	MH-68	17.17	15.90	0.025918	49.00	8"	PVC			0.00	1.80	7,080.48	0.4
P-66	MH-68	MH-69	15.90	14.64	0.018000	70.00	8"	PVC			0.00	1.62	7,080.48	0.5
P-86	MH-69	MH-55	14.64	10.85	0.010798	351.00	8"	PVC	0.00	9.65	0.00	1.33	7,080.48	0.7
P-46	MH-48	MH-49	30.00	26.24	0.013875	271.00	8	PVC	0.00	7.13	0.00	1.32	5,149.44	0.4
P-47	MH-49	MH-50	26.24	17.25	0.031544	285.00	8"	PVC	0.00	9.39	0.00	2.30	12,551.76	0.7
P-84	MH-50	MH-53	17.25	14.83	0.007446	325.00	8"	PVC			0.00	1.39	12,551.76	1.4
P-55	MH-57	MH-58	23.47	22.28	0.005777	206.00	8"	PVC	0.00	4.06	0.00	1.18	9,655.20	1.3
P-82	MH-58	MH-60	22.28	21.09	0.004818	247.00	8"	PVC			0.00	1.10	9,655.20	1.4
P-83	MH-60	MH-62	21.09	19.50	0.004504	353.00	8"	PVC			0.00	1.08	9,655.20	1.4
P-70	MH-72	MH-73	9.58	7.04	0.015030	169.00	12	PVC			0.00	6.55	1,256,066.37	34.2
P-71	MH-73	MH-15	7.04	6.38	0.005077	130.00	12	PVC			0.00	4.37	1,256,066.37	58.9
P-6	MH-7	MH-8	8.68	7.94	0.001429	518.00	26"	PVC			0.00	2.09	562,979.09	6.3
P-7	MH-8	MH-9	7.94	7.87	0.001207	58.00	26"	PVC			0.00	1.97	562,979.09	6.9
P-8	MH-9	MH-10	7.87	7.67	0.001205	166.00	26"	PVC			0.00	2.01	608,194.63	7.4
P-9	MH-10	MH-11	7.67	7.54	0.002364	55.00	26"	PVC			0.00	2.56	614,994.99	5.4
P-10	MH-11	MH-12	7.54	7.17	0.002176	170.00	26"	PVC			0.00	2.48	614,994.99	5.6
P-11	MH-12	MH-13	7.17	6.81	0.001565	230.00	26"	PVC			0.00	2.22	622,757.68	6.7
P-12	MH-13	MH-14	6.81	6.71	0.001449	69.00	26"	PVC			0.00	2.16	622,757.68	7.0
P-13	MH-14	MH-15	6.71	6.38	0.002143	154.00	26"	PVC	0.00	21.20	0.00	2.48	622,757.68	5.7
P-14	MH-15	MH-16	6.38	6.75	-0.001025	361.00	26"	PVC			0.00	0.79	1,878,824.05	999.0
P-15	MH-16	MH-17	6.75	5.31	0.007784	185.00	26"	PVC			0.00	5.41	1,878,824.05	9.1
P-16	MH-17	MH-18	5.31	4.48	0.003578	232.00	26"	PVC	0.00	24.30	0.00	4.11	1,890,856.21	13.4
P-72	MH-18	MH-20	4.48	0.82	0.005810	630.00	26"	PVC			0.00	4.89	1,890,856.21	10.5
P-73	MH-20	MH-21	0.82	-1.49	0.004989	463.00	26"	PVC			0.00	4.63	1,890,856.21	11.4
P-81	MH-55	MH-9	10.85	7.87	0.006804	438.00	8"	PVC			0.00	1.94	42,408.38	5.1
P-141	MH-145	MH-146	22.90	21.74	0.009915	117.00	8"	PVC			0.00	1.00	3,143.90	0.3
P-142	MH-146	MH-62	21.74	19.50	0.019310	116.00	8"	PVC			0.00	1.27	3,143.90	0.2

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-60	MH-62	MH-63	19.50	16.50	0.020000	150.00	8"	PVC			0.00	1.97	12,799.10	0.9
P-61	MH-63	MH-53	16.50	14.83	0.005530	302.00	8"	PVC	0.00	4.00	0.00	1.41	18,592.22	2.5
P-51	MH-53	MH-54	14.83	12.80	0.012229	166.00	8"	PVC	0.00	5.15	0.00	2.26	35,327.90	3.1
P-52	MH-54	MH-55	12.80	10.85	0.009112	214.00	8"	PVC			0.00	2.04	35,327.90	3.6
P-74	MH-21	O-1	-1.49	-2.43	0.004455	211.00	26"	PVC	0.00	10.27	0.00	5.00	2,835,047.60	18.1

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-78	10.93	-1.50	-0.80	0.00	0.00	0.00	0.00
MH-76	10.18	-0.02	-0.02	0.00	0.00	0.00	0.00
MH-75	6.77	-2.93	-2.93	0.00	0.00	0.00	0.00
MH-74	6.45	-2.37	-2.37	0.00	0.00	0.00	0.00
MH-70	8.90	1.34	2.04	0.00	0.00	1,221,556.29	1,221,556.29
MH-125	35.00	25.50	25.62	31,302.00	0.00	0.00	46,639.98
MH-126	30.00	21.37	21.49	0.00	0.00	0.00	46,639.98
MH-127	18.60	11.00	11.12	0.00	0.00	0.00	46,639.98
MH-128	21.60	9.62	9.75	2,640.00	0.00	0.00	50,573.58
MH-129	26.20	8.82	8.95	0.00	0.00	0.00	50,573.58
MH-130	21.00	8.22	8.35	0.00	0.00	0.00	50,573.58
MH-131	13.00	0.27	0.54	98,588.50	0.00	0.00	196,177.06
MH-47	15.20	-6.09	-5.68	0.00	0.00	2,097,480.32	2,462,308.73
MH-41	10.50	-4.84	-3.76	0.00	0.00	2,097,480.32	2,458,005.98
MH-42	10.90	-4.77	-4.10	0.00	0.00	2,097,480.32	2,458,005.98
MH-43	11.30	-5.15	-4.34	3,073.50	0.00	2,097,480.32	2,462,308.73
MH-44	12.60	-5.47	-4.61	0.00	0.00	2,097,480.32	2,462,308.73
MH-134	25.00	10.05	10.12	10,070.00	0.00	0.00	15,004.30
MH-133	9.20	-0.49	-0.20	1,600.00	0.00	0.00	198,481.06
MH-22	16.00	10.91	11.42	0.00	0.00	875,924.03	875,924.03
MH-23	18.00	9.89	10.48	0.00	0.00	875,924.03	875,924.03
MH-24	19.50	9.47	10.05	0.00	0.00	875,924.03	875,924.03
MH-25	19.60	8.98	9.51	64,150.00	0.00	875,924.03	971,507.53
MH-26	16.70	7.97	8.59	0.00	0.00	875,924.03	971,507.53
MH-27	15.00	7.43	7.93	8,115.16	0.00	875,924.03	983,599.12
MH-28	12.10	2.40	2.90	1,648.50	0.00	875,924.03	986,055.39
MH-29	10.00	1.31	1.91	1,760.00	0.00	875,924.03	988,677.79
MH-30	10.30	0.56	1.28	12,802.10	0.00	2,097,480.32	2,229,309.21
MH-31	10.00	-0.23	0.88	0.00	0.00	2,097,480.32	2,229,309.21
MH-32	9.20	-0.17	0.58	5,398.00	0.00	2,097,480.32	2,237,352.23
MH-33	9.30	-0.76	0.06	0.00	0.00	2,097,480.32	2,237,352.23
MH-34	8.81	-0.98	-0.26	0.00	0.00	2,097,480.32	2,429,089.53
MH-35	8.90	-2.76	-1.93	5,107.76	0.00	2,097,480.32	2,436,280.11
MH-36	9.50	-3.41	-2.60	504.90	0.00	2,097,480.32	2,436,990.33
MH-37	10.00	-3.95	-2.69	4,903.12	0.00	2,097,480.32	2,443,882.02

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Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-62	31.00	19.50	19.56	0.00	0.00	0.00	12,799.10
MH-63	32.40	16.50	16.58	3,888.00	0.00	0.00	18,592.22
MH-53	28.60	14.83	14.94	2,808.00	0.00	0.00	35,327.90
MH-54	25.00	12.80	12.91	0.00	0.00	0.00	35,327.90
MH-55	25.30	10.85	10.97	0.00	0.00	0.00	42,408.38
O-1	14.00	-2.43	-2.43		0.00	2,757,079.42	2,835,047.60

Scenario: Base

Pump Report

Label	To Pipe	Ground Elevation (ft)	Design Head (ft)	Design Discharge (gpm)	Discharge (Absolute Value) (gpm)	Maximum Operating Discharge (gpm)	Control Status
DOM-6	FM-2	14.00	12.65	850.00	872.27	1,700.00	On
DOM-7	FM-4	15.00	15.96	400.00	390.96	800.00	On
DOM-9	FM-6	7.00	15.77	600.00	608.28	1,200.00	On
DOM-8	FM-8	8.00	6.59	850.00	848.30	1,700.00	On
DOM-5	FM-10	11.00	6.88	650.00	651.41	1,300.00	On

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Residential Area with Infiltration

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-72	MH-74	MH-75	84.00	79.00	0.018657	268.00	8	PVC	600.00	14.00	8,400.00	1.84	10,953.44	0.8
P-73	MH-75	MH-76	79.00	73.50	0.048246	114.00	8	PVC	600.00	10.00	14,400.00	3.61	34,010.96	1.5
P-143	MH-147	MH-148	18.00	15.00	0.010067	298.00	8	PVC	600.00	2.40	1,440.00	1.17	4,971.75	0.5
P-14	MH-148	MH-117	15.00	6.70	0.021900	379.00	8	PVC			1,440.00	1.95	11,094.27	0.7
P-15	MH-121	O-1	-2.60	-2.90	0.002655	113.00	12	PVC			133,680.00	2.69	485,678.81	31.5
P-152	MH-156	MH-119	3.74	0.76	0.007905	377.00	8	PVC	600.00	7.00	4,200.00	1.21	7,358.06	0.8
P-146	MH-150	MH-151	5.29	4.74	0.004955	111.00	8	PVC	600.00	13.00	7,800.00	1.43	21,878.27	3.1
P-147	MH-151	MH-152	4.74	3.23	0.005171	292.00	8	PVC			7,800.00	1.45	21,878.27	3.0
P-148	MH-152	MH-153	3.23	1.62	0.005552	290.00	8	PVC			7,800.00	1.49	21,878.27	2.9
P-149	MH-153	MH-154	1.62	0.58	0.004262	244.00	10	PVC	600.00	14.20	16,320.00	1.58	40,223.33	3.3
P-150	MH-154	MH-155	0.58	-0.40	0.004900	200.00	10	PVC	600.00	2.80	18,000.00	1.70	44,359.59	3.4
P-151	MH-155	MH-120	-0.40	-1.28	0.004444	198.00	10	PVC	600.00	3.50	20,100.00	1.67	46,459.59	3.8
P-74	MH-76	MH-77	73.50	64.19	0.031667	294.00	8	PVC			14,400.00	3.11	34,010.96	1.9
P-75	MH-77	MH-78	64.19	60.20	0.032439	123.00	8	PVC			14,400.00	3.14	34,010.96	1.9
P-76	MH-78	MH-79	60.20	56.10	0.029078	141.00	8	PVC			14,400.00	3.02	34,010.96	2.0
P-77	MH-79	MH-80	56.10	54.40	0.024638	69.00	8	PVC			14,400.00	2.85	34,010.96	2.1
P-78	MH-80	MH-81	54.40	53.20	0.016438	73.00	8	PVC	600.00	4.00	16,800.00	2.65	42,847.76	3.3
P-79	MH-81	MH-82	53.20	50.90	0.014935	154.00	8	PVC			16,800.00	2.56	42,847.76	3.5
P-80	MH-82	MH-83	50.90	47.30	0.016143	223.00	8	PVC			16,800.00	2.64	42,847.76	3.3
P-81	MH-83	MH-84	47.30	43.45	0.022254	173.00	8	PVC			16,800.00	2.95	42,847.76	2.8
P-82	MH-84	MH-85	43.45	40.45	0.028037	107.00	8	PVC	600.00	3.50	18,900.00	3.37	50,740.88	3.0
P-83	MH-85	MH-86	40.45	26.60	0.041970	330.00	8	PVC			18,900.00	3.88	50,740.88	2.4
P-84	MH-86	MH-87	26.60	26.05	0.003395	162.00	12	PVC	600.00	22.00	32,100.00	1.88	101,918.00	5.8
P-85	MH-87	MH-88	26.05	25.56	0.003267	150.00	12	PVC			32,100.00	1.85	101,918.00	6.0
P-86	MH-88	MH-89	25.56	24.97	0.003122	189.00	12	PVC	600.00	0.50	32,400.00	1.83	103,183.52	6.2
P-87	MH-89	MH-90	24.97	24.37	0.003261	184.00	12	PVC			32,400.00	1.86	103,183.52	6.0
P-88	MH-90	MH-91	24.37	23.86	0.003446	148.00	12	PVC			32,400.00	1.89	103,183.52	5.9
P-89	MH-91	MH-92	23.86	23.19	0.003722	180.00	12	PVC	600.00	2.50	33,900.00	1.99	111,764.00	6.1
P-90	MH-92	MH-93	23.19	22.50	0.002887	239.00	12	PVC			33,900.00	1.82	111,764.00	6.9
P-91	MH-93	MH-94	22.50	21.52	0.003192	307.00	12	PVC	600.00	35.00	54,900.00	2.19	185,545.76	11.0
P-92	MH-94	MH-95	21.52	20.80	0.003258	221.00	12	PVC			54,900.00	2.20	185,545.76	10.9
P-93	MH-95	MH-96	20.80	20.21	0.003296	179.00	12	PVC			54,900.00	2.21	185,545.76	10.8
P-94	MH-96	MH-97	20.21	19.55	0.003300	200.00	12	PVC	600.00	17.00	65,100.00	2.36	232,334.67	13.5
P-95	MH-97	MH-98	19.55	18.87	0.003254	209.00	12	PVC			65,100.00	2.35	232,334.67	13.6
P-96	MH-98	MH-99	18.87	18.08	0.003224	245.00	12	PVC			65,100.00	2.34	232,334.67	13.7

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Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-97	MH-99	MH-100	18.08	17.31	0.003195	241.00	12	PVC			65,100.00	2.34	232,334.67	13.7
P-98	MH-100	MH-101	17.31	16.74	0.003220	177.00	12	PVC	600.00	33.00	84,900.00	2.55	310,931.02	18.3
P-99	MH-101	MH-102	16.74	16.19	0.003395	162.00	12	PVC			84,900.00	2.60	310,931.02	17.8
P-100	MH-102	MH-103	16.19	15.59	0.003429	175.00	12	PVC			84,900.00	2.61	310,931.02	17.7
P-101	MH-103	MH-104	15.59	14.76	0.003192	260.00	12	PVC			84,900.00	2.54	310,931.02	18.4
P-102	MH-104	MH-105	14.76	14.33	0.003496	123.00	12	PVC			84,900.00	2.62	310,931.02	17.6
P-103	MH-105	MH-106	14.33	13.86	0.003357	140.00	12	PVC			84,900.00	2.59	310,931.02	17.9
P-104	MH-106	MH-107	13.86	13.38	0.003504	137.00	12	PVC			84,900.00	2.63	310,931.02	17.5
P-105	MH-107	MH-108	13.38	12.04	0.003941	340.00	12	PVC	600.00	13.50	93,000.00	2.81	340,860.16	18.1
P-106	MH-108	MH-109	12.04	11.18	0.003060	281.00	12	PVC			93,000.00	2.57	340,860.16	20.6
P-107	MH-109	MH-110	11.18	11.05	0.003023	43.00	12	PVC			93,000.00	2.56	340,860.16	20.7
P-108	MH-110	MH-111	11.05	10.68	0.003895	95.00	12	PVC			93,000.00	2.80	340,860.16	18.2
P-109	MH-111	MH-112	10.68	10.23	0.003409	132.00	12	PVC			93,000.00	2.67	340,860.16	19.5
P-110	MH-112	MH-113	10.23	9.46	0.003775	204.00	12	PVC			93,000.00	2.77	340,860.16	18.5
P-111	MH-113	MH-114	9.46	8.67	0.003238	244.00	12	PVC	600.00	2.50	94,500.00	2.64	348,483.74	20.5
P-112	MH-114	MH-115	8.67	8.53	0.004828	29.00	12	PVC			94,500.00	3.04	348,483.74	16.8
P-113	MH-115	MH-116	8.53	8.11	0.004615	91.00	12	PVC	600.00	15.00	103,500.00	3.12	405,307.92	19.9
P-114	MH-116	MH-117	8.11	6.70	0.005146	274.00	10	PVC			103,500.00	3.29	405,307.92	30.7
P-115	MH-117	MH-118	6.70	5.50	0.003859	311.00	10	PVC	600.00	2.80	106,620.00	2.99	417,602.32	36.5
P-116	MH-118	MH-119	5.50	4.25	0.005000	250.00	12	PVC			106,620.00	3.24	417,602.32	19.7
P-117	MH-119	MH-120	0.76	-1.28	0.003499	583.00	12	PVC	600.00	4.60	113,580.00	2.89	435,379.80	24.6
P-118	MH-120	MH-121	-1.28	-2.60	0.003000	440.00	12	PVC			133,680.00	2.81	485,678.81	29.6

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-74	90.00	84.00	84.06	1,713.72	0.00	0.00	2,553.44
MH-75	85.50	79.00	79.10	11,448.00	8,400.00	0.00	28,010.96
MH-147	28.00	18.00	18.04	2,370.30	0.00	0.00	3,531.75
MH-148	25.00	15.00	15.06	4,109.08	1,440.00	0.00	11,094.27
O-1	14.50	-2.90	-2.90		133,680.00	0.00	485,678.81
MH-156	16.00	3.74	3.79	2,119.50	0.00	0.00	3,158.06
MH-150	13.00	5.29	5.37	9,448.50	0.00	0.00	14,078.27
MH-151	12.68	4.74	4.82	0.00	7,800.00	0.00	21,878.27
MH-152	13.00	3.23	3.31	0.00	7,800.00	0.00	21,878.27
MH-153	11.70	1.62	1.73	6,594.00	7,800.00	0.00	31,703.33
MH-154	12.70	0.58	0.69	1,648.50	16,320.00	0.00	42,679.59
MH-155	13.00	-0.40	-0.29	0.00	18,000.00	0.00	44,359.59
MH-76	79.57	73.50	73.60	0.00	14,400.00	0.00	34,010.96
MH-77	70.30	64.19	64.29	0.00	14,400.00	0.00	34,010.96
MH-78	66.30	60.20	60.30	0.00	14,400.00	0.00	34,010.96
MH-79	62.20	56.10	56.20	0.00	14,400.00	0.00	34,010.96
MH-80	60.50	54.40	54.52	4,320.00	14,400.00	0.00	40,447.76
MH-81	59.30	53.20	53.32	0.00	16,800.00	0.00	42,847.76
MH-82	57.00	50.90	51.02	0.00	16,800.00	0.00	42,847.76
MH-83	53.00	47.30	47.42	0.00	16,800.00	0.00	42,847.76
MH-84	50.20	43.45	43.58	3,888.00	16,800.00	0.00	48,640.88
MH-85	46.70	40.45	40.58	0.00	18,900.00	0.00	50,740.88
MH-86	35.10	26.60	26.76	25,488.00	18,900.00	0.00	88,718.00
MH-87	32.60	26.05	26.22	0.00	32,100.00	0.00	101,918.00
MH-88	31.00	25.56	25.73	648.00	32,100.00	0.00	102,883.52
MH-89	30.30	24.97	25.14	0.00	32,400.00	0.00	103,183.52
MH-90	29.70	24.37	24.53	0.00	32,400.00	0.00	103,183.52
MH-91	30.70	23.86	24.03	4,752.00	32,400.00	0.00	110,264.00
MH-92	31.40	23.19	23.37	0.00	33,900.00	0.00	111,764.00
MH-93	28.20	22.50	22.72	35,424.00	33,900.00	0.00	164,545.76
MH-94	26.20	21.52	21.74	0.00	54,900.00	0.00	185,545.76
MH-95	25.30	20.80	21.02	0.00	54,900.00	0.00	185,545.76
MH-96	25.30	20.21	20.46	24,840.00	54,900.00	0.00	222,134.67
MH-97	24.30	19.55	19.80	0.00	65,100.00	0.00	232,334.67
MH-98	23.30	18.87	19.12	0.00	65,100.00	0.00	232,334.67

 LFR Levine Fricke 37 Brookside Road Waterbury, CT 06708 USA +1-203-755-1666

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-99	24.30	18.08	18.33	0.00	65,100.00	0.00	232,334.67
MH-100	22.10	17.31	17.60	40,824.00	65,100.00	0.00	291,131.02
MH-101	22.00	16.74	17.03	0.00	84,900.00	0.00	310,931.02
MH-102	22.40	16.19	16.48	0.00	84,900.00	0.00	310,931.02
MH-103	23.30	15.59	15.88	0.00	84,900.00	0.00	310,931.02
MH-104	22.20	14.76	15.05	0.00	84,900.00	0.00	310,931.02
MH-105	21.60	14.33	14.62	0.00	84,900.00	0.00	310,931.02
MH-106	22.00	13.86	14.15	0.00	84,900.00	0.00	310,931.02
MH-107	22.90	13.38	13.68	15,336.00	84,900.00	0.00	332,760.16
MH-108	25.70	12.04	12.35	0.00	93,000.00	0.00	340,860.16
MH-109	22.70	11.18	11.49	0.00	93,000.00	0.00	340,860.16
MH-110	22.40	11.05	11.35	0.00	93,000.00	0.00	340,860.16
MH-111	21.40	10.68	10.98	0.00	93,000.00	0.00	340,860.16
MH-112	20.00	10.23	10.53	0.00	93,000.00	0.00	340,860.16
MH-113	17.80	9.46	9.77	4,320.00	93,000.00	0.00	346,983.74
MH-114	18.00	8.67	8.97	0.00	94,500.00	0.00	348,483.74
MH-115	18.50	8.53	8.86	33,912.00	94,500.00	0.00	396,307.92
MH-116	17.60	8.11	8.46	0.00	103,500.00	0.00	405,307.92
MH-117	21.00	6.70	7.05	0.00	104,940.00	0.00	415,922.32
MH-118	18.80	5.50	5.83	0.00	106,620.00	0.00	417,602.32
MH-119	17.58	0.76	1.10	5,535.58	110,820.00	0.00	432,619.80
MH-120	14.50	-1.28	-0.91	3,768.00	133,680.00	0.00	485,678.81
MH-121	14.50	-2.60	-2.21	0.00	133,680.00	0.00	485,678.81

Residential Area. No Infiltration (Dry Weather Flows)

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-72	MH-74	MH-75	84.00	79.00	0.018657	268.00	8	PVC	0.00	14.00	0.00	1.17	2,553.44	0.2
P-73	MH-75	MH-76	79.00	73.50	0.048246	114.00	8	PVC	0.00	10.00	0.00	3.05	19,610.96	0.9
P-143	MH-147	MH-148	18.00	15.00	0.010067	298.00	8	PVC	0.00	2.40	0.00	1.05	3,531.75	0.3
P-14	MH-148	MH-117	15.00	6.70	0.021900	379.00	8	PVC			0.00	1.87	9,654.27	0.6
P-15	MH-121	O-1	-2.60	-2.90	0.002655	113.00	12	PVC			0.00	2.46	351,998.81	22.8
P-152	MH-156	MH-119	3.74	0.76	0.007905	377.00	8	PVC	0.00	7.00	0.00	0.93	3,158.06	0.3
P-146	MH-150	MH-151	5.29	4.74	0.004955	111.00	8	PVC	0.00	13.00	0.00	1.25	14,078.27	2.0
P-147	MH-151	MH-152	4.74	3.23	0.005171	292.00	8	PVC			0.00	1.27	14,078.27	1.9
P-148	MH-152	MH-153	3.23	1.62	0.005552	290.00	8	PVC			0.00	1.30	14,078.27	1.9
P-149	MH-153	MH-154	1.62	0.58	0.004262	244.00	10	PVC	0.00	14.20	0.00	1.35	23,903.33	2.0
P-150	MH-154	MH-155	0.58	-0.40	0.004900	200.00	10	PVC	0.00	2.80	0.00	1.46	26,359.59	2.0
P-151	MH-155	MH-120	-0.40	-1.28	0.004444	198.00	10	PVC	0.00	3.50	0.00	1.41	26,359.59	2.1
P-74	MH-76	MH-77	73.50	64.19	0.031667	294.00	8	PVC			0.00	2.64	19,610.96	1.1
P-75	MH-77	MH-78	64.19	60.20	0.032439	123.00	8	PVC			0.00	2.66	19,610.96	1.1
P-76	MH-78	MH-79	60.20	56.10	0.029078	141.00	8	PVC			0.00	2.56	19,610.96	1.1
P-77	MH-79	MH-80	56.10	54.40	0.024638	69.00	8	PVC			0.00	2.42	19,610.96	1.2
P-78	MH-80	MH-81	54.40	53.20	0.016438	73.00	8	PVC	0.00	4.00	0.00	2.29	26,047.76	2.0
P-79	MH-81	MH-82	53.20	50.90	0.014935	154.00	8	PVC			0.00	2.21	26,047.76	2.1
P-80	MH-82	MH-83	50.90	47.30	0.016143	223.00	8	PVC			0.00	2.27	26,047.76	2.0
P-81	MH-83	MH-84	47.30	43.45	0.022254	173.00	8	PVC			0.00	2.54	26,047.76	1.7
P-82	MH-84	MH-85	43.45	40.45	0.028037	107.00	8	PVC	0.00	3.50	0.00	2.93	31,840.88	1.9
P-83	MH-85	MH-86	40.45	26.60	0.041970	330.00	8	PVC			0.00	3.37	31,840.88	1.5
P-84	MH-86	MH-87	26.60	26.05	0.003395	162.00	12	PVC	0.00	22.00	0.00	1.68	69,818.00	4.0
P-85	MH-87	MH-88	26.05	25.56	0.003267	150.00	12	PVC			0.00	1.65	69,818.00	4.1
P-86	MH-88	MH-89	25.56	24.97	0.003122	189.00	12	PVC	0.00	0.50	0.00	1.63	70,783.52	4.2
P-87	MH-89	MH-90	24.97	24.37	0.003261	184.00	12	PVC			0.00	1.66	70,783.52	4.1
P-88	MH-90	MH-91	24.37	23.86	0.003446	148.00	12	PVC			0.00	1.69	70,783.52	4.0
P-89	MH-91	MH-92	23.86	23.19	0.003722	180.00	12	PVC	0.00	2.50	0.00	1.79	77,864.00	4.3
P-90	MH-92	MH-93	23.19	22.50	0.002887	239.00	12	PVC			0.00	1.64	77,864.00	4.8
P-91	MH-93	MH-94	22.50	21.52	0.003192	307.00	12	PVC	0.00	35.00	0.00	1.97	130,645.76	7.7
P-92	MH-94	MH-95	21.52	20.80	0.003258	221.00	12	PVC			0.00	1.99	130,645.76	7.6
P-93	MH-95	MH-96	20.80	20.21	0.003296	179.00	12	PVC			0.00	2.00	130,645.76	7.6
P-94	MH-96	MH-97	20.21	19.55	0.003300	200.00	12	PVC	0.00	17.00	0.00	2.15	167,234.67	9.7
P-95	MH-97	MH-98	19.55	18.87	0.003254	209.00	12	PVC			0.00	2.14	167,234.67	9.8
P-96	MH-98	MH-99	18.87	18.08	0.003224	245.00	12	PVC			0.00	2.13	167,234.67	9.8

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-97	MH-99	MH-100	18.08	17.31	0.003195	241.00	12	PVC			0.00	2.12	167,234.67	9.9
P-98	MH-100	MH-101	17.31	16.74	0.003220	177.00	12	PVC	0.00	33.00	0.00	2.33	226,031.02	13.3
P-99	MH-101	MH-102	16.74	16.19	0.003395	162.00	12	PVC			0.00	2.37	226,031.02	13.0
P-100	MH-102	MH-103	16.19	15.59	0.003429	175.00	12	PVC			0.00	2.38	226,031.02	12.9
P-101	MH-103	MH-104	15.59	14.76	0.003192	260.00	12	PVC			0.00	2.32	226,031.02	13.4
P-102	MH-104	MH-105	14.76	14.33	0.003496	123.00	12	PVC			0.00	2.39	226,031.02	12.8
P-103	MH-105	MH-106	14.33	13.86	0.003357	140.00	12	PVC			0.00	2.36	226,031.02	13.0
P-104	MH-106	MH-107	13.86	13.38	0.003504	137.00	12	PVC			0.00	2.40	226,031.02	12.8
P-105	MH-107	MH-108	13.38	12.04	0.003941	340.00	12	PVC	0.00	13.50	0.00	2.57	247,860.16	13.2
P-106	MH-108	MH-109	12.04	11.18	0.003060	281.00	12	PVC			0.00	2.34	247,860.16	15.0
P-107	MH-109	MH-110	11.18	11.05	0.003023	43.00	12	PVC			0.00	2.33	247,860.16	15.1
P-108	MH-110	MH-111	11.05	10.68	0.003895	95.00	12	PVC			0.00	2.55	247,860.16	13.3
P-109	MH-111	MH-112	10.68	10.23	0.003409	132.00	12	PVC			0.00	2.44	247,860.16	14.2
P-110	MH-112	MH-113	10.23	9.46	0.003775	204.00	12	PVC			0.00	2.53	247,860.16	13.5
P-111	MH-113	MH-114	9.46	8.67	0.003238	244.00	12	PVC	0.00	2.50	0.00	2.41	253,983.74	14.9
P-112	MH-114	MH-115	8.67	8.53	0.004828	29.00	12	PVC			0.00	2.78	253,983.74	12.2
P-113	MH-115	MH-116	8.53	8.11	0.004615	91.00	12	PVC	0.00	15.00	0.00	2.87	301,807.92	14.8
P-114	MH-116	MH-117	8.11	6.70	0.005146	274.00	10	PVC			0.00	3.04	301,807.92	22.9
P-115	MH-117	MH-118	6.70	5.50	0.003859	311.00	10	PVC	0.00	2.80	0.00	2.76	310,982.32	27.2
P-116	MH-118	MH-119	5.50	4.25	0.005000	250.00	12	PVC			0.00	2.98	310,982.32	14.7
P-117	MH-119	MH-120	0.76	-1.28	0.003499	583.00	12	PVC	0.00	4.60	0.00	2.65	321,799.80	18.2
P-118	MH-120	MH-121	-1.28	-2.60	0.003000	440.00	12	PVC			0.00	2.57	351,998.81	21.5

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-74	90.00	84.00	84.03	1,713.72	0.00	0.00	2,553.44
MH-75	85.50	79.00	79.08	11,448.00	0.00	0.00	19,610.96
MH-147	28.00	18.00	18.03	2,370.30	0.00	0.00	3,531.75
MH-148	25.00	15.00	15.05	4,109.08	0.00	0.00	9,654.27
O-1	14.50	-2.90	-2.90		0.00	0.00	351,998.81
MH-156	16.00	3.74	3.77	2,119.50	0.00	0.00	3,158.06
MH-150	13.00	5.29	5.36	9,448.50	0.00	0.00	14,078.27
MH-151	12.68	4.74	4.81	0.00	0.00	0.00	14,078.27
MH-152	13.00	3.23	3.30	0.00	0.00	0.00	14,078.27
MH-153	11.70	1.62	1.70	6,594.00	0.00	0.00	23,903.33
MH-154	12.70	0.58	0.67	1,648.50	0.00	0.00	26,359.59
MH-155	13.00	-0.40	-0.31	0.00	0.00	0.00	26,359.59
MH-76	79.57	73.50	73.58	0.00	0.00	0.00	19,610.96
MH-77	70.30	64.19	64.27	0.00	0.00	0.00	19,610.96
MH-78	66.30	60.20	60.28	0.00	0.00	0.00	19,610.96
MH-79	62.20	56.10	56.18	0.00	0.00	0.00	19,610.96
MH-80	60.50	54.40	54.49	4,320.00	0.00	0.00	26,047.76
MH-81	59.30	53.20	53.29	0.00	0.00	0.00	26,047.76
MH-82	57.00	50.90	50.99	0.00	0.00	0.00	26,047.76
MH-83	53.00	47.30	47.39	0.00	0.00	0.00	26,047.76
MH-84	50.20	43.45	43.55	3,888.00	0.00	0.00	31,840.88
MH-85	46.70	40.45	40.55	0.00	0.00	0.00	31,840.88
MH-86	35.10	26.60	26.74	25,488.00	0.00	0.00	69,818.00
MH-87	32.60	26.05	26.19	0.00	0.00	0.00	69,818.00
MH-88	31.00	25.56	25.70	648.00	0.00	0.00	70,783.52
MH-89	30.30	24.97	25.11	0.00	0.00	0.00	70,783.52
MH-90	29.70	24.37	24.51	0.00	0.00	0.00	70,783.52
MH-91	30.70	23.86	24.00	4,752.00	0.00	0.00	77,864.00
MH-92	31.40	23.19	23.34	0.00	0.00	0.00	77,864.00
MH-93	28.20	22.50	22.69	35,424.00	0.00	0.00	130,645.76
MH-94	26.20	21.52	21.71	0.00	0.00	0.00	130,645.76
MH-95	25.30	20.80	20.99	0.00	0.00	0.00	130,645.76
MH-96	25.30	20.21	20.42	24,840.00	0.00	0.00	167,234.67
MH-97	24.30	19.55	19.76	0.00	0.00	0.00	167,234.67
MH-98	23.30	18.87	19.08	0.00	0.00	0.00	167,234.67

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-99	24.30	18.08	18.29	0.00	0.00	0.00	167,234.67
MH-100	22.10	17.31	17.56	40,824.00	0.00	0.00	226,031.02
MH-101	22.00	16.74	16.98	0.00	0.00	0.00	226,031.02
MH-102	22.40	16.19	16.43	0.00	0.00	0.00	226,031.02
MH-103	23.30	15.59	15.84	0.00	0.00	0.00	226,031.02
MH-104	22.20	14.76	15.00	0.00	0.00	0.00	226,031.02
MH-105	21.60	14.33	14.57	0.00	0.00	0.00	226,031.02
MH-106	22.00	13.86	14.10	0.00	0.00	0.00	226,031.02
MH-107	22.90	13.38	13.64	15,336.00	0.00	0.00	247,860.16
MH-108	25.70	12.04	12.30	0.00	0.00	0.00	247,860.16
MH-109	22.70	11.18	11.44	0.00	0.00	0.00	247,860.16
MH-110	22.40	11.05	11.31	0.00	0.00	0.00	247,860.16
MH-111	21.40	10.68	10.94	0.00	0.00	0.00	247,860.16
MH-112	20.00	10.23	10.49	0.00	0.00	0.00	247,860.16
MH-113	17.80	9.46	9.72	4,320.00	0.00	0.00	253,983.74
MH-114	18.00	8.67	8.93	0.00	0.00	0.00	253,983.74
MH-115	18.50	8.53	8.81	33,912.00	0.00	0.00	301,807.92
MH-116	17.60	8.11	8.41	0.00	0.00	0.00	301,807.92
MH-117	21.00	6.70	7.00	0.00	0.00	0.00	310,982.32
MH-118	18.80	5.50	5.79	0.00	0.00	0.00	310,982.32
MH-119	17.58	0.76	1.05	5,535.58	0.00	0.00	321,799.80
MH-120	14.50	-1.28	-0.97	3,768.00	0.00	0.00	351,998.81
MH-121	14.50	-2.60	-2.28	0.00	0.00	0.00	351,998.81

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Summary of DOM 4 pump station flows

Sewer System Analized	wet weather flow	dry weather flow	infiltration
Industrial Area Analysis (used 4000 gpd per acre for infiltration	2.34	0.552	1.7880
Residentail Area Analysis 600 gpd per acre	0.485	0.351	0.1340
North End Area Analysis 600 gpd per acre	0.301	0.13	0.171
Island Wide Totals	3.126	1.033	2.093

North End. Infiltration. RCP or RR Lined. Not Pumped Flows

Peak Daily Demands

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-187	MH-195	MH-194	-2.40	-7.00	0.015232	302.00	12 inch	PVC	600	25.50	15,300	1.92	19,335	0.5
P-183	MH-191	MH-192	2.32	-1.25	0.008707	410.00	12 inch	PVC	600	24.00	14,400	1.55	18,199	0.7
P-184	MH-192	MH-193	-1.25	-4.20	0.008702	339.00	12 inch	PVC			14,400	1.55	18,199	0.7
P-185	MH-193	MH-194	-4.20	-7.00	0.007216	388.00	12 inch	PVC			14,400	1.45	18,199	0.7
P-196	MH-194	WW-3	-7.00	-7.61	0.008133	75.00	8 inch	PVC	600	17.80	120,120	3.25	201,140	22.0
P-192	MH-200	MH-161	5.19	-7.40	0.032786	384.00	8 inch	PVC	600	25.40	15,240	2.78	22,322	1.2
P-191	MH-199	MH-161	3.33	-7.40	0.009991	1,074.00	8 inch	PVC	600	59.60	35,760	2.43	57,480	5.7
P-195	MH-161	WW-2	-7.40	-7.91	0.003129	163.00	8 inch	PVC	600	32.20	79,740	0.66	149,127	26.3
P-193	MH-201	MH-202	-2.00	-7.81	0.010000	581.00	8 inch	PVC	600	15.70	9,420	2.28	46,189	4.5
P-194	MH-202	WW-1	-7.81	-10.25	0.015641	156.00	8 inch	PVC			9,420	2.67	46,189	3.6
P-178	MH-187	MH-182	2.09	0.53	0.004333	360.00	8 inch	PVC	600	6.80	4,080	0.98	7,407	1.1
P-169	MH-178	MH-179	5.34	4.40	0.004724	199.00	8 inch	PVC	600	9.00	5,400	1.08	9,199	1.3
P-170	MH-179	MH-180	4.40	2.03	0.012154	195.00	8 inch	PVC			5,400	1.50	9,199	0.8
P-171	MH-180	MH-181	2.03	1.25	0.003000	260.00	8 inch	PVC	600	14.70	14,220	1.19	21,818	3.9
P-172	MH-181	MH-182	1.25	0.53	0.002988	241.00	12 inch	PVC			14,220	1.13	21,818	1.3
P-2	MH-182	MH-24	0.53	-0.30	0.002986	279.00	12 inch	PVC	600	2.60	19,860	1.34	38,302	2.3
P-3	MH-24	MH-186	-0.30	-1.32	0.003000	339.00	12 inch	PVC	600	3.30	21,840	1.39	43,130	2.6
P-189	MH-168	MH-170	-0.45	-1.40	0.001947	488.00	20	PVC			120,120	1.77	201,140	3.9
P-197	MH-189	MH-170	5.00	-1.40	0.013793	464.00	8 inch	PVC	600	8.60	5,160	1.67	11,218	0.9
P-163	MH-170	MH-171	-1.40	-1.64	0.006667	36.00	20	PVC			125,280	2.77	212,358	2.2
P-180	MH-188	MH-171	5.00	-1.64	0.022060	301.00	8 inch	PVC	600	2.00	1,200	1.40	3,700	0.2
P-179	MH-177	MH-186	4.37	-1.32	0.010963	519.00	8 inch	PVC	600	7.90	4,740	1.39	8,067	0.8
P-177	MH-186	MH-173	-1.32	-2.70	0.003115	443.00	12 inch	PVC	600	4.80	29,460	1.52	55,753	3.3
P-168	MH-176	MH-173	3.40	-2.70	0.010590	576.00	8 inch	PVC	600	13.20	7,920	1.66	14,985	1.4
P-164	MH-171	MH-172	-1.64	-2.49	0.003195	266.00	20	PVC	600	2.80	128,160	2.17	220,805	3.3
P-165	MH-172	MH-173	-2.49	-2.70	0.000598	351.00	23"	PVC	600	2.80	129,840	1.18	222,485	5.4
P-166	MH-173	MH-174	-2.70	-2.75	0.000212	236.00	23"	PVC			167,220	0.89	293,145	11.9
P-1	MH-174	O-1	-2.75	-6.67	0.012250	320.00	23"	PVC	600	6.30	171,000	3.73	301,666	1.6

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-195	7.00	-2.40	-2.33	3,732	0	0	4,035
MH-191	10.00	2.32	2.39	3,496	0	0	3,799
MH-192	12.90	-1.25	-1.19	0	14,400	0	18,199
MH-193	8.50	-4.20	-4.13	0	14,400	0	18,199
MH-194	9.00	-7.00	-6.60	3,496	109,440	0	190,460
MH-200	9.70	5.19	5.27	6,477	0	0	7,082
MH-199	7.00	3.33	3.47	18,799	0	0	21,720
MH-161	8.00	-7.40	-5.87	3,512	60,420	0	129,807
MH-201	2.50	-2.00	-1.90	36,466	0	0	36,769
MH-202	4.24	-7.81	-7.69	0	9,420	0	46,189
MH-187	11.80	2.09	2.14	3,327	0	0	3,327
MH-178	12.00	5.34	5.39	3,496	0	0	3,799
MH-179	11.50	4.40	4.45	0	5,400	0	9,199
MH-180	12.40	2.03	2.12	3,496	5,400	0	12,998
MH-181	11.70	1.25	1.33	0	14,220	0	21,818
MH-182	11.30	0.53	0.64	7,517	18,300	0	36,742
MH-24	12.00	-0.30	-0.19	2,848	19,860	0	41,150
MH-168	12.00	-0.45	-0.23	0	120,120	0	201,140
MH-189	8.70	5.00	5.06	6,058	0	0	6,058
MH-170	13.00	-1.40	-1.19	0	125,280	0	212,358
MH-188	12.00	5.00	5.03	2,500	0	0	2,500
MH-177	12.60	4.37	4.42	3,327	0	0	3,327
MH-186	13.00	-1.32	-1.19	1,677	26,580	0	52,873
MH-176	10.40	3.40	3.47	7,065	0	0	7,065
MH-171	13.00	-1.64	-1.43	2,167	126,480	0	219,125
MH-172	13.20	-2.49	-2.18	0	128,160	0	220,805
MH-173	13.30	-2.70	-2.31	0	167,220	0	293,145
MH-174	13.10	-2.75	-2.58	4,760	167,220	0	297,886
O-1	14.00	-6.67	-6.67		171,000	0	301,666

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Industrial Area, Peak Daily Demands, Infiltration, Pipes Lined.

Not Pumped Flows

Peak Daily Demand

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-93	MH-78	WW-5	-1.50	-1.80	0.003488	86.00	10 inch	PVC	4,000.00	11.00	44,000.00	1.51	44,000.00	4.0
P-92	MH-76	WW-1	-0.02	-2.00	0.011061	179.00	12"	PVC	4,000.00	21.20	84,800.00	2.69	84,800.00	2.7
P-91	MH-75	WW-4	-2.93	-4.50	0.015700	100.00	12"	PVC	4,000.00	27.24	108,960.00	3.27	108,960.00	2.9
P-88	MH-74	WW-3	-2.37	-4.08	0.005000	342.00	12"	PVC	4,000.00	78.43	313,720.00	2.99	313,720.00	14.8
P-89	MH-70	MH-30	1.34	0.56	0.002393	326.00	12	PVC			108,960.00	1.75	122,709.51	8.4
P-122	MH-125	MH-126	25.50	21.37	0.018773	220.00	8"	PVC	4,000.00	24.40	97,600.00	3.98	144,239.98	10.4
P-123	MH-126	MH-127	21.37	11.00	0.034112	304.00	8"	PVC			97,600.00	4.92	144,239.98	7.7
P-124	MH-127	MH-128	11.00	9.62	0.007709	179.00	8"	PVC			97,600.00	2.90	144,239.98	16.2
P-125	MH-128	MH-129	9.62	8.82	0.005674	141.00	8"	PVC			97,600.00	2.62	148,173.58	19.4
P-126	MH-129	MH-130	8.82	8.22	0.003974	151.00	8"	PVC			97,600.00	2.31	148,173.58	23.2
P-127	MH-130	MH-131	8.22	0.27	0.034416	231.00	8"	PVC			97,600.00	4.98	148,173.58	7.9
P-77	MH-131	MH-133	0.27	-0.49	0.003193	238.00	8"	PVC	4,000.00	16.06	161,840.00	2.68	358,017.06	62.4
P-76	MH-44	MH-47	-5.47	-6.09	0.000994	624.00	26"	PVC	4,000.00	22.10	1,207,080.00	2.48	1,604,833.62	21.6
P-39	MH-41	MH-42	-4.84	-4.77	-0.000409	171.00	26"	PVC			1,118,680.00	0.63	1,512,159.90	999.0
P-40	MH-42	MH-43	-4.77	-5.15	0.006909	55.00	26"	PVC			1,118,680.00	4.87	1,512,159.90	7.7
P-41	MH-43	MH-44	-5.15	-5.47	0.001285	249.00	26"	PVC			1,118,680.00	2.68	1,516,433.62	18.0
P-75	MH-39	MH-41	-4.10	-4.84	0.006789	109.00	26"	PVC			1,118,680.00	4.84	1,512,159.90	7.8
P-131	MH-134	MH-38	10.05	-3.76	0.018562	744.00	8"	PVC	4,000.00	23.27	93,080.00	3.65	108,084.30	7.8
P-130	MH-133	MH-34	-0.49	-0.98	0.003311	148.00	8"	PVC			161,840.00	2.72	360,321.06	61.7
P-20	MH-22	MH-23	10.91	9.89	0.005100	200.00	11"	PVC			313,720.00	3.09	335,147.69	19.8
P-21	MH-23	MH-24	9.89	9.47	0.002428	173.00	11"	PVC			313,720.00	2.37	335,147.69	28.7
P-22	MH-24	MH-25	9.47	8.98	0.002620	187.00	11"	PVC			313,720.00	2.43	335,147.69	27.6
P-23	MH-25	MH-26	8.98	7.97	0.004410	229.00	11"	PVC	4,000.00	25.74	416,680.00	3.34	533,691.19	33.9
P-24	MH-26	MH-27	7.97	7.43	0.002660	203.00	11"	PVC			416,680.00	2.77	533,691.19	43.6
P-25	MH-27	MH-28	7.43	2.40	0.022061	228.00	14"	PVC	4,000.00	21.58	503,000.00	6.10	632,102.78	9.4
P-26	MH-28	MH-29	2.40	1.31	0.003406	320.00	14"	PVC			503,000.00	3.14	634,559.05	24.1
P-27	MH-29	MH-30	1.31	0.56	0.001756	427.00	14"	PVC			503,000.00	2.47	637,181.45	33.7
P-28	MH-30	MH-31	0.56	-0.23	0.005032	157.00	17"	PVC			611,960.00	3.76	778,559.74	14.5
P-29	MH-31	MH-32	-0.23	-0.17	-0.000588	102.00	17	PVC			611,960.00	0.76	778,559.74	999.0
P-30	MH-32	MH-33	-0.17	-0.76	0.002864	206.00	17"	PVC			611,960.00	3.08	786,392.93	19.4
P-31	MH-33	MH-34	-0.76	-0.98	0.001477	149.00	20"	PVC	4,000.00	23.29	705,120.00	2.47	879,552.93	19.6
P-32	MH-34	MH-35	-0.98	-2.76	0.002880	618.00	20"	PVC			866,960.00	3.46	1,231,717.85	19.6
P-33	MH-35	MH-36	-2.76	-3.41	0.001771	367.00	20"	PVC	4,000.00	15.70	929,760.00	2.95	1,301,660.20	26.5
P-34	MH-36	MH-37	-3.41	-3.95	0.002535	213.00	20"	PVC			929,760.00	3.35	1,302,365.65	22.1
P-35	MH-37	MH-38	-3.95	-3.76	-0.000635	299.00	26"	PVC	4,000.00	23.96	1,025,600.00	0.59	1,405,051.04	999.0

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Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-36	MH-38	MH-39	-3.76	-4.10	0.007391	46.00	26"	PVC			1,118,680.00	4.98	1,512,159.90	7.5
P-80	MH-47	MH-77	-6.09	-7.00	0.018571	49.00	26"	PVC			1,207,080.00	7.01	1,604,833.62	5.0
P-78	MH-142	MH-144	-4.56	-5.36	0.002694	297.00	8"	PVC	4,000.00	9.30	37,200.00	1.55	59,358.83	11.3
P-79	MH-144	MH-77	-5.36	-7.00	0.019759	83.00	16"	PVC			37,200.00	2.84	59,358.83	0.7
P-87	MH-77	WW-2	-7.00	-7.50	0.025000	20.00	30 inch	PVC			1,244,280.00	7.72	1,662,659.43	3.1
P-90	MH-71	MH-21	4.85	-1.49	0.010000	634.00	8"	PVC			44,000.00	2.71	82,453.92	8.1
P-85	MH-64	MH-66	23.33	22.17	0.007250	160.00	8"	PVC	4,000.00	8.80	35,200.00	1.98	42,280.48	4.9
P-64	MH-66	MH-67	22.17	17.17	0.040000	125.00	8"	PVC			35,200.00	3.61	42,280.48	2.1
P-65	MH-67	MH-68	17.17	15.90	0.025918	49.00	8"	PVC			35,200.00	3.10	42,280.48	2.6
P-66	MH-68	MH-69	15.90	14.64	0.018000	70.00	8"	PVC			35,200.00	2.73	42,280.48	3.1
P-86	MH-69	MH-55	14.64	10.85	0.010798	351.00	8"	PVC	4,000.00	9.65	73,800.00	2.77	80,880.48	7.7
P-46	MH-48	MH-49	30.00	26.24	0.013875	271.00	8	PVC	4,000.00	7.13	28,520.00	2.33	33,669.44	2.8
P-47	MH-49	MH-50	26.24	17.25	0.031544	285.00	8"	PVC	4,000.00	9.39	66,080.00	4.00	78,631.76	4.4
P-84	MH-50	MH-53	17.25	14.83	0.007446	325.00	8"	PVC			66,080.00	2.41	78,631.76	9.0
P-55	MH-57	MH-58	23.47	22.28	0.005777	206.00	8"	PVC	4,000.00	4.06	16,240.00	1.58	25,895.20	3.4
P-82	MH-58	MH-60	22.28	21.09	0.004818	247.00	8"	PVC			16,240.00	1.48	25,895.20	3.7
P-83	MH-60	MH-62	21.09	19.50	0.004504	353.00	8"	PVC			16,240.00	1.45	25,895.20	3.8
P-70	MH-72	MH-73	9.58	7.04	0.015030	169.00	12	PVC			84,800.00	3.24	110,680.56	3.0
P-71	MH-73	MH-15	7.04	6.38	0.005077	130.00	12	PVC			84,800.00	2.21	110,680.56	5.2
P-6	MH-7	MH-8	8.68	7.94	0.001429	518.00	26"	PVC			1,244,280.00	2.86	1,662,659.43	18.7
P-7	MH-8	MH-9	7.94	7.87	0.001207	58.00	26"	PVC			1,244,280.00	2.69	1,662,659.43	20.3
P-8	MH-9	MH-10	7.87	7.67	0.001205	166.00	26"	PVC			1,437,000.00	2.79	1,897,849.06	23.2
P-9	MH-10	MH-11	7.67	7.54	0.002364	55.00	26"	PVC			1,437,000.00	3.56	1,904,263.51	16.6
P-10	MH-11	MH-12	7.54	7.17	0.002176	170.00	26"	PVC			1,437,000.00	3.45	1,904,263.51	17.3
P-11	MH-12	MH-13	7.17	6.81	0.001565	230.00	26"	PVC			1,437,000.00	3.07	1,911,580.60	20.5
P-12	MH-13	MH-14	6.81	6.71	0.001449	69.00	26"	PVC			1,437,000.00	2.99	1,911,580.60	21.3
P-13	MH-14	MH-15	6.71	6.38	0.002143	154.00	26"	PVC	4,000.00	21.20	1,521,800.00	3.48	1,996,380.60	18.3
P-14	MH-15	MH-16	6.38	6.75	-0.001025	361.00	26"	PVC			1,606,600.00	0.88	2,105,536.29	999.0
P-15	MH-16	MH-17	6.75	5.31	0.007784	185.00	26"	PVC			1,606,600.00	5.59	2,105,536.29	10.1
P-16	MH-17	MH-18	5.31	4.48	0.003578	232.00	26"	PVC	4,000.00	24.30	1,703,800.00	4.31	2,214,038.97	15.7
P-72	MH-18	MH-20	4.48	0.82	0.005810	630.00	26"	PVC			1,703,800.00	5.12	2,214,038.97	12.3
P-73	MH-20	MH-21	0.82	-1.49	0.004989	463.00	26"	PVC			1,703,800.00	4.85	2,214,038.97	13.3
P-81	MH-55	MH-9	10.85	7.87	0.006804	438.00	8"	PVC			192,720.00	3.19	235,128.38	28.1
P-141	MH-145	MH-146	22.90	21.74	0.009915	117.00	8"	PVC			0.00	1.00	3,143.90	0.3
P-142	MH-146	MH-62	21.74	19.50	0.019310	116.00	8"	PVC			0.00	1.27	3,143.90	0.2

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Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-60	MH-62	MH-63	19.50	16.50	0.020000	150.00	8"	PVC			16,240.00	2.53	29,039.10	2.0
P-61	MH-63	MH-53	16.50	14.83	0.005530	302.00	8"	PVC	4,000.00	4.00	32,240.00	1.90	50,832.22	6.7
P-51	MH-53	MH-54	14.83	12.80	0.012229	166.00	8"	PVC	4,000.00	5.15	118,920.00	3.49	154,247.90	13.7
P-52	MH-54	MH-55	12.80	10.85	0.009112	214.00	8"	PVC			118,920.00	3.14	154,247.90	15.9
P-74	MH-21	O-1	-1.49	-2.43	0.004455	211.00	26"	PVC	4,000.00	10.27	1,788,880.00	4.73	2,340,911.85	14.9

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-78	10.93	-1.50	-0.80	0.00	0.00	0.00	0.00
MH-76	10.18	-0.02	0.13	0.00	0.00	0.00	0.00
MH-75	6.77	-2.93	-2.76	0.00	0.00	0.00	0.00
MH-74	6.45	-2.37	-2.08	0.00	0.00	0.00	0.00
MH-70	8.90	1.34	1.54	0.00	108,960.00	0.00	122,709.51
MH-125	35.00	25.50	25.72	31,302.00	0.00	0.00	46,639.98
MH-126	30.00	21.37	21.59	0.00	97,600.00	0.00	144,239.98
MH-127	18.60	11.00	11.22	0.00	97,600.00	0.00	144,239.98
MH-128	21.60	9.62	9.84	2,640.00	97,600.00	0.00	148,173.58
MH-129	26.20	8.82	9.04	0.00	97,600.00	0.00	148,173.58
MH-130	21.00	8.22	8.44	0.00	97,600.00	0.00	148,173.58
MH-131	13.00	0.27	0.65	98,588.50	97,600.00	0.00	293,777.06
MH-47	15.20	-6.09	-5.76	0.00	1,207,080.00	0.00	1,604,833.62
MH-41	10.50	-4.84	-3.93	0.00	1,118,680.00	0.00	1,512,159.90
MH-42	10.90	-4.77	-4.25	0.00	1,118,680.00	0.00	1,512,159.90
MH-43	11.30	-5.15	-4.53	3,073.50	1,118,680.00	0.00	1,516,433.62
MH-44	12.60	-5.47	-4.79	0.00	1,118,680.00	0.00	1,516,433.62
MH-134	25.00	10.05	10.24	10,070.00	0.00	0.00	15,004.30
MH-133	9.20	-0.49	-0.11	1,600.00	161,840.00	0.00	360,321.06
MH-22	16.00	10.91	11.22	0.00	313,720.00	0.00	335,147.69
MH-23	18.00	9.89	10.23	0.00	313,720.00	0.00	335,147.69
MH-24	19.50	9.47	9.80	0.00	313,720.00	0.00	335,147.69
MH-25	19.60	8.98	9.37	64,150.00	313,720.00	0.00	430,731.19
MH-26	16.70	7.97	8.39	0.00	416,680.00	0.00	533,691.19
MH-27	15.00	7.43	7.83	8,115.16	416,680.00	0.00	545,782.78
MH-28	12.10	2.40	2.80	1,648.50	503,000.00	0.00	634,559.05
MH-29	10.00	1.31	1.78	1,760.00	503,000.00	0.00	637,181.45
MH-30	10.30	0.56	0.98	12,802.10	611,960.00	0.00	778,559.74
MH-31	10.00	-0.23	0.47	0.00	611,960.00	0.00	778,559.74
MH-32	9.20	-0.17	0.25	5,398.00	611,960.00	0.00	786,392.93
MH-33	9.30	-0.76	-0.26	0.00	611,960.00	0.00	786,392.93
MH-34	8.81	-0.98	-0.48	0.00	866,960.00	0.00	1,231,717.85
MH-35	8.90	-2.76	-2.17	5,107.76	866,960.00	0.00	1,238,860.20
MH-36	9.50	-3.41	-2.86	504.90	929,760.00	0.00	1,302,365.65
MH-37	10.00	-3.95	-2.91	4,903.12	929,760.00	0.00	1,309,211.04

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Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-38	10.80	-3.76	-3.36	0.00	1,118,680.00	0.00	1,512,159.90
MH-39	10.20	-4.10	-3.58	0.00	1,118,680.00	0.00	1,512,159.90
MH-142	10.00	-4.56	-4.41	14,871.70	0.00	0.00	22,158.83
MH-144	10.20	-5.36	-5.25	0.00	37,200.00	0.00	59,358.83
MH-77	15.00	-7.00	-6.48	0.00	1,244,280.00	0.00	1,662,659.43
MH-71	11.00	4.85	5.01	0.00	44,000.00	0.00	82,453.92
MH-64	30.50	23.33	23.45	4,752.00	0.00	0.00	7,080.48
MH-66	27.10	22.17	22.29	0.00	35,200.00	0.00	42,280.48
MH-67	25.00	17.17	17.29	0.00	35,200.00	0.00	42,280.48
MH-68	25.00	15.90	16.02	0.00	35,200.00	0.00	42,280.48
MH-69	25.00	14.64	14.80	0.00	35,200.00	0.00	42,280.48
MH-48	35.00	30.00	30.10	3,456.00	0.00	0.00	5,149.44
MH-49	30.90	26.24	26.40	4,968.00	28,520.00	0.00	41,071.76
MH-50	28.90	17.25	17.41	0.00	66,080.00	0.00	78,631.76
MH-57	30.00	23.47	23.56	6,480.00	0.00	0.00	9,655.20
MH-58	30.60	22.28	22.37	0.00	16,240.00	0.00	25,895.20
MH-60	33.80	21.09	21.18	0.00	16,240.00	0.00	25,895.20
MH-72	17.60	9.58	9.75	0.00	84,800.00	0.00	110,680.56
MH-73	19.10	7.04	7.75	0.00	84,800.00	0.00	110,680.56
MH-7	15.30	8.68	9.31	0.00	1,244,280.00	0.00	1,662,659.43
MH-8	17.00	7.94	8.63	0.00	1,244,280.00	0.00	1,662,659.43
MH-9	17.30	7.87	8.58	1,884.00	1,437,000.00	0.00	1,897,849.06
MH-10	18.00	7.67	8.27	4,564.00	1,437,000.00	0.00	1,904,263.51
MH-11	17.90	7.54	8.15	0.00	1,437,000.00	0.00	1,904,263.51
MH-12	18.80	7.17	7.88	5,209.86	1,437,000.00	0.00	1,911,580.60
MH-13	20.10	6.81	7.77	0.00	1,437,000.00	0.00	1,911,580.60
MH-14	20.20	6.71	7.76	0.00	1,437,000.00	0.00	1,911,580.60
MH-15	21.10	6.38	7.75	0.00	1,606,600.00	0.00	2,105,536.29
MH-16	21.40	6.75	7.37	0.00	1,606,600.00	0.00	2,105,536.29
MH-17	21.80	5.31	5.94	8,075.28	1,606,600.00	0.00	2,116,838.97
MH-18	20.70	4.48	5.11	0.00	1,703,800.00	0.00	2,214,038.97
MH-20	17.60	0.82	1.45	0.00	1,703,800.00	0.00	2,214,038.97
MH-21	14.10	-1.49	-0.92	4,132.50	1,747,800.00	0.00	2,299,831.85
MH-145	29.60	22.90	22.93	2,110.00	0.00	0.00	3,143.90
MH-146	31.00	21.74	21.77	0.00	0.00	0.00	3,143.90

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Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-62	31.00	19.50	19.60	0.00	16,240.00	0.00	29,039.10
MH-63	32.40	16.50	16.63	3,888.00	16,240.00	0.00	34,832.22
MH-53	28.60	14.83	15.06	2,808.00	98,320.00	0.00	133,647.90
MH-54	25.00	12.80	13.03	0.00	118,920.00	0.00	154,247.90
MH-55	25.30	10.85	11.13	0.00	192,720.00	0.00	235,128.38
O-1	14.00	-2.43	-2.43		1,788,880.00	0.00	2,340,911.85

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Residential Area with Infiltration

Not Pumped Flows

Peak Daily Remards

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-72	MH-74	MH-75	84.00	79.00	0.018657	268.00	8	PVC	600.00	14.00	8,400.00	1.84	10,953.44	0.8
P-73	MH-75	MH-76	79.00	73.50	0.048246	114.00	8	PVC	600.00	10.00	14,400.00	3.61	34,010.96	1.5
P-143	MH-147	MH-148	18.00	15.00	0.010067	298.00	8	PVC	600.00	2.40	1,440.00	1.17	4,971.75	0.5
P-14	MH-148	MH-117	15.00	6.70	0.021900	379.00	8	PVC			1,440.00	1.95	11,094.27	0.7
P-15	MH-121	O-1	-2.60	-2.90	0.002655	113.00	12	PVC			133,680.00	2.69	485,678.81	31.5
P-152	MH-156	MH-119	3.74	0.76	0.007905	377.00	8	PVC	600.00	7.00	4,200.00	1.21	7,358.06	0.8
P-146	MH-150	MH-151	5.29	4.74	0.004955	111.00	8	PVC	600.00	13.00	7,800.00	1.43	21,878.27	3.1
P-147	MH-151	MH-152	4.74	3.23	0.005171	292.00	8	PVC			7,800.00	1.45	21,878.27	3.0
P-148	MH-152	MH-153	3.23	1.62	0.005552	290.00	8	PVC			7,800.00	1.49	21,878.27	2.9
P-149	MH-153	MH-154	1.62	0.58	0.004262	244.00	10	PVC	600.00	14.20	16,320.00	1.58	40,223.33	3.3
P-150	MH-154	MH-155	0.58	-0.40	0.004900	200.00	10	PVC	600.00	2.80	18,000.00	1.70	44,359.59	3.4
P-151	MH-155	MH-120	-0.40	-1.28	0.004444	198.00	10	PVC	600.00	3.50	20,100.00	1.67	46,459.59	3.8
P-74	MH-76	MH-77	73.50	64.19	0.031667	294.00	8	PVC			14,400.00	3.11	34,010.96	1.9
P-75	MH-77	MH-78	64.19	60.20	0.032439	123.00	8	PVC			14,400.00	3.14	34,010.96	1.9
P-76	MH-78	MH-79	60.20	56.10	0.029078	141.00	8	PVC			14,400.00	3.02	34,010.96	2.0
P-77	MH-79	MH-80	56.10	54.40	0.024638	69.00	8	PVC			14,400.00	2.85	34,010.96	2.1
P-78	MH-80	MH-81	54.40	53.20	0.016438	73.00	8	PVC	600.00	4.00	16,800.00	2.65	42,847.76	3.3
P-79	MH-81	MH-82	53.20	50.90	0.014935	154.00	8	PVC			16,800.00	2.56	42,847.76	3.5
P-80	MH-82	MH-83	50.90	47.30	0.016143	223.00	8	PVC			16,800.00	2.64	42,847.76	3.3
P-81	MH-83	MH-84	47.30	43.45	0.022254	173.00	8	PVC			16,800.00	2.95	42,847.76	2.8
P-82	MH-84	MH-85	43.45	40.45	0.028037	107.00	8	PVC	600.00	3.50	18,900.00	3.37	50,740.88	3.0
P-83	MH-85	MH-86	40.45	26.60	0.041970	330.00	8	PVC			18,900.00	3.88	50,740.88	2.4
P-84	MH-86	MH-87	26.60	26.05	0.003395	162.00	12	PVC	600.00	22.00	32,100.00	1.88	101,918.00	5.8
P-85	MH-87	MH-88	26.05	25.56	0.003267	150.00	12	PVC			32,100.00	1.85	101,918.00	6.0
P-86	MH-88	MH-89	25.56	24.97	0.003122	189.00	12	PVC	600.00	0.50	32,400.00	1.83	103,183.52	6.2
P-87	MH-89	MH-90	24.97	24.37	0.003261	184.00	12	PVC			32,400.00	1.86	103,183.52	6.0
P-88	MH-90	MH-91	24.37	23.86	0.003446	148.00	12	PVC			32,400.00	1.89	103,183.52	5.9
P-89	MH-91	MH-92	23.86	23.19	0.003722	180.00	12	PVC	600.00	2.50	33,900.00	1.99	111,764.00	6.1
P-90	MH-92	MH-93	23.19	22.50	0.002887	239.00	12	PVC			33,900.00	1.82	111,764.00	6.9
P-91	MH-93	MH-94	22.50	21.52	0.003192	307.00	12	PVC	600.00	35.00	54,900.00	2.19	185,545.76	11.0
P-92	MH-94	MH-95	21.52	20.80	0.003258	221.00	12	PVC			54,900.00	2.20	185,545.76	10.9
P-93	MH-95	MH-96	20.80	20.21	0.003296	179.00	12	PVC			54,900.00	2.21	185,545.76	10.8
P-94	MH-96	MH-97	20.21	19.55	0.003300	200.00	12	PVC	600.00	17.00	65,100.00	2.36	232,334.67	13.5
P-95	MH-97	MH-98	19.55	18.87	0.003254	209.00	12	PVC			65,100.00	2.35	232,334.67	13.6
P-96	MH-98	MH-99	18.87	18.08	0.003224	245.00	12	PVC			65,100.00	2.34	232,334.67	13.7

Scenario: Base

Gravity Pipe Report

Label	Up. Node	Dn. Node	Up. Invert (ft)	Dn. Invert (ft)	S (ft/ft)	L (ft)	Size	Material	Infiltration Unit Load Flow per Unit (gpd)	Infiltration Unit Load Count	Sys. Infil. (gpd)	Avg. v (ft/s)	Total Flow (gpd)	Flow / Full Capacity (%)
P-97	MH-99	MH-100	18.08	17.31	0.003195	241.00	12	PVC			65,100.00	2.34	232,334.67	13.7
P-98	MH-100	MH-101	17.31	16.74	0.003220	177.00	12	PVC	600.00	33.00	84,900.00	2.55	310,931.02	18.3
P-99	MH-101	MH-102	16.74	16.19	0.003395	162.00	12	PVC			84,900.00	2.60	310,931.02	17.8
P-100	MH-102	MH-103	16.19	15.59	0.003429	175.00	12	PVC			84,900.00	2.61	310,931.02	17.7
P-101	MH-103	MH-104	15.59	14.76	0.003192	260.00	12	PVC			84,900.00	2.54	310,931.02	18.4
P-102	MH-104	MH-105	14.76	14.33	0.003496	123.00	12	PVC			84,900.00	2.62	310,931.02	17.6
P-103	MH-105	MH-106	14.33	13.86	0.003357	140.00	12	PVC			84,900.00	2.59	310,931.02	17.9
P-104	MH-106	MH-107	13.86	13.38	0.003504	137.00	12	PVC			84,900.00	2.63	310,931.02	17.5
P-105	MH-107	MH-108	13.38	12.04	0.003941	340.00	12	PVC	600.00	13.50	93,000.00	2.81	340,860.16	18.1
P-106	MH-108	MH-109	12.04	11.18	0.003060	281.00	12	PVC			93,000.00	2.57	340,860.16	20.6
P-107	MH-109	MH-110	11.18	11.05	0.003023	43.00	12	PVC			93,000.00	2.56	340,860.16	20.7
P-108	MH-110	MH-111	11.05	10.68	0.003895	95.00	12	PVC			93,000.00	2.80	340,860.16	18.2
P-109	MH-111	MH-112	10.68	10.23	0.003409	132.00	12	PVC			93,000.00	2.67	340,860.16	19.5
P-110	MH-112	MH-113	10.23	9.46	0.003775	204.00	12	PVC			93,000.00	2.77	340,860.16	18.5
P-111	MH-113	MH-114	9.46	8.67	0.003238	244.00	12	PVC	600.00	2.50	94,500.00	2.64	348,483.74	20.5
P-112	MH-114	MH-115	8.67	8.53	0.004828	29.00	12	PVC			94,500.00	3.04	348,483.74	16.8
P-113	MH-115	MH-116	8.53	8.11	0.004615	91.00	12	PVC	600.00	15.00	103,500.00	3.12	405,307.92	19.9
P-114	MH-116	MH-117	8.11	6.70	0.005146	274.00	10	PVC			103,500.00	3.29	405,307.92	30.7
P-115	MH-117	MH-118	6.70	5.50	0.003859	311.00	10	PVC	600.00	2.80	106,620.00	2.99	417,602.32	36.5
P-116	MH-118	MH-119	5.50	4.25	0.005000	250.00	12	PVC			106,620.00	3.24	417,602.32	19.7
P-117	MH-119	MH-120	0.76	-1.28	0.003499	583.00	12	PVC	600.00	4.60	113,580.00	2.89	435,379.80	24.6
P-118	MH-120	MH-121	-1.28	-2.60	0.003000	440.00	12	PVC			133,680.00	2.81	485,678.81	29.6

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-74	90.00	84.00	84.06	1,713.72	0.00	0.00	2,553.44
MH-75	85.50	79.00	79.10	11,448.00	8,400.00	0.00	28,010.96
MH-147	28.00	18.00	18.04	2,370.30	0.00	0.00	3,531.75
MH-148	25.00	15.00	15.06	4,109.08	1,440.00	0.00	11,094.27
O-1	14.50	-2.90	-2.90		133,680.00	0.00	485,678.81
MH-156	16.00	3.74	3.79	2,119.50	0.00	0.00	3,158.06
MH-150	13.00	5.29	5.37	9,448.50	0.00	0.00	14,078.27
MH-151	12.68	4.74	4.82	0.00	7,800.00	0.00	21,878.27
MH-152	13.00	3.23	3.31	0.00	7,800.00	0.00	21,878.27
MH-153	11.70	1.62	1.73	6,594.00	7,800.00	0.00	31,703.33
MH-154	12.70	0.58	0.69	1,648.50	16,320.00	0.00	42,679.59
MH-155	13.00	-0.40	-0.29	0.00	18,000.00	0.00	44,359.59
MH-76	79.57	73.50	73.60	0.00	14,400.00	0.00	34,010.96
MH-77	70.30	64.19	64.29	0.00	14,400.00	0.00	34,010.96
MH-78	66.30	60.20	60.30	0.00	14,400.00	0.00	34,010.96
MH-79	62.20	56.10	56.20	0.00	14,400.00	0.00	34,010.96
MH-80	60.50	54.40	54.52	4,320.00	14,400.00	0.00	40,447.76
MH-81	59.30	53.20	53.32	0.00	16,800.00	0.00	42,847.76
MH-82	57.00	50.90	51.02	0.00	16,800.00	0.00	42,847.76
MH-83	53.00	47.30	47.42	0.00	16,800.00	0.00	42,847.76
MH-84	50.20	43.45	43.58	3,888.00	16,800.00	0.00	48,640.88
MH-85	46.70	40.45	40.58	0.00	18,900.00	0.00	50,740.88
MH-86	35.10	26.60	26.76	25,488.00	18,900.00	0.00	88,718.00
MH-87	32.60	26.05	26.22	0.00	32,100.00	0.00	101,918.00
MH-88	31.00	25.56	25.73	648.00	32,100.00	0.00	102,883.52
MH-89	30.30	24.97	25.14	0.00	32,400.00	0.00	103,183.52
MH-90	29.70	24.37	24.53	0.00	32,400.00	0.00	103,183.52
MH-91	30.70	23.86	24.03	4,752.00	32,400.00	0.00	110,264.00
MH-92	31.40	23.19	23.37	0.00	33,900.00	0.00	111,764.00
MH-93	28.20	22.50	22.72	35,424.00	33,900.00	0.00	164,545.76
MH-94	26.20	21.52	21.74	0.00	54,900.00	0.00	185,545.76
MH-95	25.30	20.80	21.02	0.00	54,900.00	0.00	185,545.76
MH-96	25.30	20.21	20.46	24,840.00	54,900.00	0.00	222,134.67
MH-97	24.30	19.55	19.80	0.00	65,100.00	0.00	232,334.67
MH-98	23.30	18.87	19.12	0.00	65,100.00	0.00	232,334.67

Scenario: Base

Gravity Node Report

Label	Rim Elevation (ft)	Sump Elevation (ft)	Hydraulic Grade Line Out (ft)	Sanitary Base Load (gpd)	System Infiltration (gpd)	Pumped Flow (gpd)	Total Flow (gpd)
MH-99	24.30	18.08	18.33	0.00	65,100.00	0.00	232,334.67
MH-100	22.10	17.31	17.60	40,824.00	65,100.00	0.00	291,131.02
MH-101	22.00	16.74	17.03	0.00	84,900.00	0.00	310,931.02
MH-102	22.40	16.19	16.48	0.00	84,900.00	0.00	310,931.02
MH-103	23.30	15.59	15.88	0.00	84,900.00	0.00	310,931.02
MH-104	22.20	14.76	15.05	0.00	84,900.00	0.00	310,931.02
MH-105	21.60	14.33	14.62	0.00	84,900.00	0.00	310,931.02
MH-106	22.00	13.86	14.15	0.00	84,900.00	0.00	310,931.02
MH-107	22.90	13.38	13.68	15,336.00	84,900.00	0.00	332,760.16
MH-108	25.70	12.04	12.35	0.00	93,000.00	0.00	340,860.16
MH-109	22.70	11.18	11.49	0.00	93,000.00	0.00	340,860.16
MH-110	22.40	11.05	11.35	0.00	93,000.00	0.00	340,860.16
MH-111	21.40	10.68	10.98	0.00	93,000.00	0.00	340,860.16
MH-112	20.00	10.23	10.53	0.00	93,000.00	0.00	340,860.16
MH-113	17.80	9.46	9.77	4,320.00	93,000.00	0.00	346,983.74
MH-114	18.00	8.67	8.97	0.00	94,500.00	0.00	348,483.74
MH-115	18.50	8.53	8.86	33,912.00	94,500.00	0.00	396,307.92
MH-116	17.60	8.11	8.46	0.00	103,500.00	0.00	405,307.92
MH-117	21.00	6.70	7.05	0.00	104,940.00	0.00	415,922.32
MH-118	18.80	5.50	5.83	0.00	106,620.00	0.00	417,602.32
MH-119	17.58	0.76	1.10	5,535.58	110,820.00	0.00	432,619.80
MH-120	14.50	-1.28	-0.91	3,768.00	133,680.00	0.00	485,678.81
MH-121	14.50	-2.60	-2.21	0.00	133,680.00	0.00	485,678.81

JOINT TRENCH

Introduction

This section discusses the four proposed joint trench utilities for Mare Island: Electrical, Gas, Telecommunications, and Cable Communications systems. Exhibit 4 entitled "Proposed Joint Trench Backbone Improvement Plan" shows the proposed location of a new joint trench in support of the development plan. In general, the proposed joint trench follows the street framework plan. Not all joint trench locations will include all four systems. The intent is to allow for new facilities in each joint trench to support new development or more modern systems (specifically, communications). Not all systems require a new joint trench. Existing systems will remain in place if they are adequate to service the existing and new facilities. The proposed joint trench will include conduits and sub-structures in support of the electrical, gas, and communications systems.

Some of the existing utility easements over electrical, gas and telecommunication systems on the island shall be quit-claimed during the entitlement process by the filing of final maps for each area or neighborhood as and when they are developed. Other recorded easements shall remain as shown, for those facilities deemed adequate for the purpose and existing service locations, i.e. in the historic core and other heavy industrial areas. The proposed new backbone joint trench as shown schematically on Exhibit 4 including the in-tract joint trench shall be installed within the public right-of-way and as such shall not require any additional easements.

Electrical Distribution System

Island Energy is presently the electrical service provider on Mare Island. The City of Pittsburg, California, owns Island Energy and purchased the Mare Island electrical

systems from the Navy, and the Navy granted Island Energy nonexclusive easements for its existing electrical facilities on the Island. Presently, Island Energy is finalizing a franchise agreement with the City of Vallejo.

The overall condition of the electrical distribution system is very good. The primary electrical distribution system has proven to be a very reliable network and has experienced relatively few failures in recent past. Much of the present distribution system has been upgraded as recently as 1975. There are small portions of the system, which are in need of upgrading to comply with current electrical standards. Some of the underground electrical vaults have water intrusion from tidal waters. This presents water disposal issues when work must be done in these vaults.

Electricity is delivered to the island from Marin County via a dual 115-kiloVolt (-kV) transmission line owned by Pacific Gas and Electric Company (PG&E). The power is stepped down to 12 kV by two parallel 20-MegaWatt transformers at Substation H. Power is distributed through out the island from Substation H by a series of loops connecting a network of 26 major and 18 minor 12-kV switch stations and sub stations. The overall system uses a network configuration with multiple feeds at all substations for reliability and flexibility.

A significant portion of the existing system can support the proposed land uses. Relocation of existing overhead and underground facilities will be required to allow for new development areas. In these development areas, new electrical services to existing buildings that will remain and proposed buildings will be required. Other possible projects including sealing the walls of those underground electrical vaults that will remain and removing asbestos-containing insulation in the system.

To date, Island Energy has not completed all their master planning for the Island. In order to complete their planning, additional information from the North Island Master Developer is required. South of the causeway, area wide master planning is continuing in support of residential development. Therefore, the full extent of planned electrical system upgrades in support of the new development plan is not known.

Any new facilities must be planned utilizing the joint trench locations shown on Exhibit 4 or with existing conduits and substructures.

Telecommunications System

The existing system consists of two switches in Building 605A and underground copper cable for distribution. Two fiber optic cables connect Building 605A to two distribution buildings or "huts": one at northern end, near Walnut and 'H' Street, and one at southern end of the island, near Touro University.

Service to Mare Island existing units is provided and maintained by SBC up to the main point of entry (MPOE) at the exterior of each residence or building. The interior wire and phone equipment is the responsibility of the tenant.

The existing Mare Island telecommunications system was owned by GST Telecom; Lennar Mare Island purchased the GST structure and cable and currently leases the cable to SBC for communication purposes. SBC is planning the following improvements to the Mare Island telecommunications system:

- A new switch in Building 605A that will allow state-of-the-art communications services, including DSL high-speed Internet subscriber lines.
- A new fiber optic loop around Mare Island that meets SBC requirements and uses both existing structure and new joint trench facilities.
- A backup system to the new fiber optic system, which utilizes the existing fiber optic cable installed by GST.
- Capacity for 10,000 Mare Island service lines.

New facilities will utilize the joint trench locations shown on Exhibit 4 or with existing conduits and sub-structures.