

TABLE I – DISCHARGE POINT INFORMATION & DISCHARGE QUANTITY

Discharge Point	LOCATION	Longitude	Latitude	Class	C	I (in/hr)	A (Acres)	Q (cfs)
1	Wahiawa Reservoir	158.03148	21.49058	2	0.95	3.78	7.43	26.69
2	Wahiawa Reservoir	158.02803	21.49013	2	0.56	3.78	2.34	4.94
3	Wahiawa Reservoir	158.02782	21.48996	2	0.95	3.78	0.83	2.99
4	Waikele Stream	158.02845	21.46789	2	0.95	3.78	5.70	20.49
5	Waikele Stream	158.01581	21.47542	2	0.77	3.78	26.67	77061
6	Waikele Stream	158.01573	21.47473	2	0.95	3.78	0.66	2.38
7	Waikele Stream	158.01582	21.47463	2	0.95	3.78	0.06	0.23
8	Waikele Stream	158.01587	21.47451	2	0.95	3.78	0.71	2.56
9	Waikakalaua Ditch	158.01503	21.47450	2	0.95	3.78	0.55	1.98
10	Waikakalaua Ditch	158.01511	21.47435	2	0.95	3.78	0.06	0.22
11	Waikakalaua Ditch	158.01519	21.47425	2	0.95	3.78	0.49	1.74
12	Waikakalaua Ditch	158.01528	21.47419	2	0.95	3.78	3.57	12.84
13	Waikele Stream	158.00895	21.47054	2	0.82	3.78	5.67	17.66
14	Waikele Stream	158.00860	21.47099	2	0.95	3.78	1.54	5.52
15	Waikele Stream	158.00600	21.46567	2	0.62	3.78	18.98	44.48
16	Kipapa Stream	157.99861	21.46154	2	0.68	3.78	16.10	41.65
17	Kipapa Stream	157.99315	21.45833	2	0.70	3.78	12.08	31.75
18	Kipapa Stream	157.99284	21.45851	2	0.95	3.78	2.79	10.02
19	Kipapa Stream	157.99315	21.45835	2	0.95	3.78	2.80	10.04
20	Kipapa Stream	157.99237	21.45710	2	0.95	3.78	1.32	4.73
21	Kipapa Stream	157.99146	21.45505	2	0.91	3.78	6.30	21.57
22	Waiawa Stream	157.98980	21.44486	2	0.95	3.78	0.59	2.10
23	Waiawa Stream	157.99097	21.44835	2	0.30	3.78	0.16	0.18
24	Waiawa Stream	157.99003	21.44469	2	0.95	3.78	5.21	18.72
25	Waiawa Stream	157.99066	21.44347	2	0.95	3.78	1.22	4.39
26	Waiawa Stream	157.99209	21.44173	2	0.95	3.78	0.92	3.30
27	Waiawa Stream	157.99173	21.44025	2	0.79	3.78	7.36	21.93
28	Waiawa Stream	157.99194	21.43810	2	0.95	3.78	0.86	3.09
29	Waiawa Stream	157.99259	21.43604	2	0.90	3.78	2.59	8.79
30	Waiawa Stream	157.99305	21.43400	2	0.95	3.78	0.60	1.92
31	Waiawa Stream	157.99576	21.43165	2	0.79	3.78	10.02	30.05
32	Waiawa Stream	157.99501	21.43101	2	0.95	3.78	1.21	4.34
33	Waiawa Stream	157.99415	21.42564	2	0.83	3.78	7.60	23.87
34	Waiawa Stream	157.99404	21.42518	2	0.80	3.78	7.93	24.02

35	Waiawa Stream	157.99358	21.42385	2	0.80	3.78	4.31	13.10
36	Waiawa Stream	157.99242	21.41989	2	0.67	3.78	3.61	9.13
37	Waiawa Stream	157.99224	21.41797	2	0.95	3.78	1.53	5.48
38	Waiawa Stream	157.99150	21.41537	2	0.76	3.78	7.98	22.94
39	Waiawa Stream	157.99221	21.41431	2	0.95	3.78	1.62	5.80
40	Waiawa Stream	157.99190	21.41252	2	0.95	3.78	0.40	1.45
41	Unnamed Gulch	157.98942	21.41325	2	0.95	3.78	2.07	7.42
42	Unnamed Gulch	157.99069	21.41189	2	0.95	3.78	2.22	7.98
43	Waiawa Stream	157.99031	21.40922	2	0.95	3.78	3.12	11.19
44	Waiawa Stream	157.99015	21.40562	2	0.95	3.78	4.02	14.44
45	Waiawa Stream	157.98988	21.40504	2	0.95	3.78	0.95	3.41
46	Waiawa Stream	157.98818	21.40120	2	0.83	3.78	7.22	22.57
47	Waiawa Stream	157.98784	21.40102	2	0.41	3.78	5.11	8.01
48	Waiawa Stream	157.98864	21.40101	2	0.95	3.78	0.31	1.11
49	Waiawa Stream	157.98748	21.40098	2	0.95	3.78	0.52	1.88
50	Waiawa Stream	157.98850	21.40106	2	0.73	3.78	3.18	8.80
51	Waiawa Stream	157.98476	21.39888	2	0.60	3.78	2.01	4.56
52	Waiawa Stream	157.98428	21.39809	2	0.69	3.78	1.73	4.76
53	Pearl Harbor (Aiea Bay State Recreation Area)	157.93542	21.37668	1	0.60	3.78	1.15	2.62
54	Aiea Stream	157.93414	21.37716	2	0.95	3.78	0.89	3.18
55	Aiea Stream	157.93432	21.37695	2	0.82	3.78	5.82	18.12
56	Aiea Stream	157.93433	21.37689	2	0.95	3.78	0.46	1.65
57	Halawa Stream	157.92704	21.37001	2	0.81	3.78	2.86	8.80
58	Halawa Stream	157.92745	21.36995	2	0.95	3.78	1.06	3.80

RUNOFF CALCULATIONS

Given:

C = 0.95 (AC Pavement/Concrete Sidewalk/Concrete Driveways)

C=0.3 (Grassed/Pervious areas)

I = (2-yr, 1-hr event) = 1.68 in./hr.

t_{cAll} = 10 min. (minimum)

C_{fAll} = 2.25

$I = i \times C_f$

Since project area is less than 100 acres, the Rational Formula will be used to calculate potential runoff.

Find: Runoff for a 2-yr 1-hr rainfall event (Q).

Solution: $Q = C \times I \times A$

See Table Below for Calculations

Area	C	i(Inches/hr)	CF	Area (SF)	Area (Acres)	Q (CFS)
1-1	0.95	1.68	2.25	31,350	0.72	2.58
1-2	0.95	1.68	2.25	12,000	0.28	0.99
1-3	0.95	1.68	2.25	10,800	0.25	0.89
1-4	0.95	1.68	2.25	66,000	1.52	5.44
1-5	0.95	1.68	2.25	20,400	0.47	1.68
1-6	0.95	1.68	2.25	19,000	0.44	1.57
1-7	0.95	1.68	2.25	62,000	1.42	5.11
1-8	0.95	1.68	2.25	81,500	1.87	6.72
1-9	0.95	1.68	2.25	20,650	0.47	1.70
Total					7.43	26.69
2-1	0.95	1.68	2.25	3,600	0.08	0.30
2-2	0.3	1.68	2.25	61,575	1.41	1.60
2-3	0.95	1.68	2.25	36,850	0.85	3.04
Total					2.34	4.94
3-1	0.95	1.68	2.25	12,800	0.29	1.06
3-2	0.95	1.68	2.25	4,000	0.09	0.33
3-3	0.95	1.68	2.25	19,500	0.45	1.61
Total					0.83	2.99
4-1	0.95	1.68	2.25	30,800	0.71	2.54
4-2	0.95	1.68	2.25	30,600	0.70	2.52
4-3	0.95	1.68	2.25	6,600	0.15	0.54
4-4	0.95	1.68	2.25	7,800	0.18	0.64
4-5	0.95	1.68	2.25	14,400	0.33	1.19
4-6	0.95	1.68	2.25	18,900	0.43	1.56
4-7	0.95	1.68	2.25	9,600	0.22	0.79
4-8	0.95	1.68	2.25	1,200	0.03	0.10
4-9	0.95	1.68	2.25	26,000	0.60	2.14
4-10	0.95	1.68	2.25	12,500	0.29	1.03
4-11	0.95	1.68	2.25	12,800	0.29	1.06
4-12	0.95	1.68	2.25	9,000	0.21	0.74
4-13	0.95	1.68	2.25	15,000	0.34	1.24
4-14	0.95	1.68	2.25	13,200	0.30	1.09
4-15	0.95	1.68	2.25	7,000	0.16	0.58
4-16	0.95	1.68	2.25	21,700	0.50	1.79
4-17	0.95	1.68	2.25	11,400	0.26	0.94
Total					5.70	20.49

5-1	0.95	1.68	2.25	12,000	0.28	0.99
5-2	0.95	1.68	2.25	28,500	0.65	2.35
5-3	0.95	1.68	2.25	30,000	0.69	2.47
5-4	0.95	1.68	2.25	29,050	0.67	2.39
5-5	0.95	1.68	2.25	54,000	1.24	4.45
5-6	0.95	1.68	2.25	12,000	0.28	0.99
5-7	0.95	1.68	2.25	43,200	0.99	3.56
5-8	0.95	1.68	2.25	12,500	0.29	1.03
5-9	0.95	1.68	2.25	8,750	0.20	0.72
5-10	0.95	1.68	2.25	12,000	0.28	0.99
5-11	0.95	1.68	2.25	18,750	0.43	1.55
5-12	0.95	1.68	2.25	27,600	0.63	2.28
5-13	0.5	1.68	2.25	33,000	0.76	1.43
5-14	0.95	1.68	2.25	16,000	0.37	1.32
5-15	0.44	1.68	2.25	45,000	1.03	1.72
5-16	0.95	1.68	2.25	15,000	0.34	1.24
5-17	0.44	1.68	2.25	54,000	1.24	2.06
5-18	0.95	1.68	2.25	18,750	0.43	1.55
5-19	0.95	1.68	2.25	3,680	0.08	0.30
5-20	0.49	1.68	2.25	48,000	1.10	2.04
5-21	0.95	1.68	2.25	17,500	0.40	1.44
5-22	0.51	1.68	2.25	40,400	0.93	1.79
5-23	0.95	1.68	2.25	18,200	0.42	1.50
5-24	0.54	1.68	2.25	67,500	1.55	3.16
5-26	0.95	1.68	2.25	37,360	0.86	3.08
5-27	0.95	1.68	2.25	45,600	1.05	3.76
5-28	0.3	1.68	2.25	50,400	1.16	1.31
5-29	0.95	1.68	2.25	14,000	0.32	1.15
5-30	0.95	1.68	2.25	7,200	0.17	0.59
5-31	0.95	1.68	2.25	24,000	0.55	1.98
5-32	0.6	1.68	2.25	26,400	0.61	1.37
5-33	0.95	1.68	2.25	22,500	0.52	1.85
5-34	0.95	1.68	2.25	7,800	0.18	0.64
5-35	0.95	1.68	2.25	9,900	0.23	0.82
5-36	0.67	1.68	2.25	21,700	0.50	1.26
5-37	0.95	1.68	2.25	10,000	0.23	0.82
5-38	0.95	1.68	2.25	28,000	0.64	2.31
5-39	0.95	1.68	2.25	46,200	1.06	3.81
5-40	0.95	1.68	2.25	8,100	0.19	0.67
5-41	0.95	1.68	2.25	16,800	0.39	1.38
5-42	0.95	1.68	2.25	22,400	0.51	1.85
5-43	0.95	1.68	2.25	19,200	0.44	1.58
5-44	0.95	1.68	2.25	10,000	0.23	0.82
5-45	0.95	1.68	2.25	10,200	0.23	0.84
5-46	0.95	1.68	2.25	11,000	0.25	0.91
5-47	0.95	1.68	2.25	4,000	0.09	0.33
5-48	0.3	1.68	2.25	38,000	0.87	0.99
5-49	0.3	1.68	2.25	5,600	0.13	0.15
Total					26.67	77.61

6-1	0.95	1.68	2.25	9,500	0.22	0.78
6-2	0.95	1.68	2.25	9,450	0.22	0.78
6-3	0.95	1.68	2.25	9,900	0.23	0.82
Total					0.66	2.38
7-1	0.95	1.68	2.25	2,750	0.06	0.23
Total					0.06	0.23
8-1	0.95	1.68	2.25	9,500	0.22	0.78
8-2	0.95	1.68	2.25	10,500	0.24	0.87
8-3	0.95	1.68	2.25	11,000	0.25	0.91
Total					0.71	2.56
9-1	0.95	1.68	2.25	24,000	0.55	1.98
Total					0.55	1.98
10-1	0.95	1.68	2.25	2,700	0.06	0.22
Total					0.06	0.22
11-1	0.95	1.68	2.25	21,150	0.49	1.74
Total					0.49	1.74
12-1	0.95	1.68	2.25	11,250	0.26	0.93
12-2	0.95	1.68	2.25	13,500	0.31	1.11
12-3	0.95	1.68	2.25	9,900	0.23	0.82
12-4	0.95	1.68	2.25	7,700	0.18	0.63
12-5	0.95	1.68	2.25	10,500	0.24	0.87
12-6	0.95	1.68	2.25	11,000	0.25	0.91
12-7	0.95	1.68	2.25	8,000	0.18	0.66
12-8	0.95	1.68	2.25	10,000	0.23	0.82
12-9	0.95	1.68	2.25	30,000	0.69	2.47
12-10	0.95	1.68	2.25	8,000	0.18	0.66
12-11	0.95	1.68	2.25	25,000	0.57	2.06
12-12	0.95	1.68	2.25	7,350	0.17	0.61
12-13	0.95	1.68	2.25	3,500	0.08	0.29
Total					3.57	12.84
13-1	0.95	1.68	2.25	36,000	0.83	2.97
13-2	0.95	1.68	2.25	15,200	0.35	1.25
13-3	0.95	1.68	2.25	22,500	0.52	1.85
13-4	0.95	1.68	2.25	12,500	0.29	1.03
13-5	0.3	1.68	2.25	48,000	1.10	1.25
13-6	0.95	1.68	2.25	23,400	0.54	1.93
13-7	0.95	1.68	2.25	13,000	0.30	1.07
13-8	0.95	1.68	2.25	22,500	0.52	1.85
13-9	0.95	1.68	2.25	12,500	0.29	1.03
13-10	0.95	1.68	2.25	21,500	0.49	1.77
13-11	0.95	1.68	2.25	20,000	0.46	1.65
Total					5.67	17.66

14-1	0.95	1.68	2.25	33,000	0.76	2.72
14-2	0.95	1.68	2.25	14,000	0.32	1.15
14-3	0.95	1.68	2.25	9,000	0.21	0.74
14-4	0.95	1.68	2.25	11,000	0.25	0.91
Total					1.54	5.52
15-1	0.95	1.68	2.25	24,000	0.55	1.98
15-2	0.95	1.68	2.25	10,500	0.24	0.87
15-3	0.95	1.68	2.25	22,100	0.51	1.82
15-4	0.95	1.68	2.25	27,900	0.64	2.30
15-5	0.95	1.68	2.25	10,500	0.24	0.87
15-6	0.95	1.68	2.25	102,900	2.36	8.48
15-7	0.95	1.68	2.25	22,000	0.51	1.81
15-8	0.95	1.68	2.25	10,500	0.24	0.87
15-9	0.95	1.68	2.25	3,000	0.07	0.25
15-10	0.95	1.68	2.25	4,000	0.09	0.33
15-11	0.95	1.68	2.25	2,500	0.06	0.21
15-12	0.95	1.68	2.25	8,400	0.19	0.69
15-13	0.95	1.68	2.25	25,200	0.58	2.08
15-14	0.95	1.68	2.25	12,000	0.28	0.99
15-15	0.95	1.68	2.25	31,000	0.71	2.56
15-16	0.95	1.68	2.25	22,000	0.51	1.81
15-17	0.95	1.68	2.25	6,750	0.15	0.56
15-18	0.4	1.68	2.25	32,000	0.73	1.11
15-19	0.4	1.68	2.25	35,200	0.81	1.22
15-20	0.95	1.68	2.25	7,350	0.17	0.61
15-21	0.95	1.68	2.25	4,900	0.11	0.40
15-22	0.95	1.68	2.25	2,500	0.06	0.21
15-23	0.95	1.68	2.25	8,000	0.18	0.66
15-24	0.95	1.68	2.25	11,700	0.27	0.96
15-25	0.56	1.68	2.25	5,900	0.14	0.29
15-26	0.36	1.68	2.25	16,000	0.37	0.50
15-27	0.4	1.68	2.25	26,900	0.62	0.93
15-28	0.38	1.68	2.25	30,000	0.69	0.99
15-29	0.3	1.68	2.25	15,000	0.34	0.39
15-30	0.3	1.68	2.25	254,500	5.84	6.63
15-31	0.3	1.68	2.25	26,000	0.60	0.68
15-32	0.95	1.68	2.25	5,400	0.12	0.45
Total					18.98	44.48
16-1	0.95	1.68	2.25	30,000	0.69	2.47
16-2	0.95	1.68	2.25	13,300	0.31	1.10
16-3	0.7	1.68	2.25	67,300	1.54	4.09
16-4	0.95	1.68	2.25	25,600	0.59	2.11
16-5	0.4	1.68	2.25	50,000	1.15	1.74
16-6	0.3	1.68	2.25	37,000	0.85	0.96
16-7	0.3	1.68	2.25	6,500	0.15	0.17
16-8	0.95	1.68	2.25	28,000	0.64	2.31

16-9	0.9	1.68	2.25	30,000	0.69	2.34
16-10	0.5	1.68	2.25	51,000	1.17	2.21
16-11	0.95	1.68	2.25	24,000	0.55	1.98
16-12	0.3	1.68	2.25	29,000	0.67	0.75
16-13	0.95	1.68	2.25	21,000	0.48	1.73
16-14	0.6	1.68	2.25	18,000	0.41	0.94
16-15	0.6	1.68	2.25	30,600	0.70	1.59
16-16	0.95	1.68	2.25	20,000	0.46	1.65
16-17	0.95	1.68	2.25	20,000	0.46	1.65
16-18	0.4	1.68	2.25	16,400	0.38	0.57
16-19	0.5	1.68	2.25	33,000	0.76	1.43
16-20	0.95	1.68	2.25	30,000	0.69	2.47
16-21	0.95	1.68	2.25	4,500	0.10	0.37
16-22	0.7	1.68	2.25	39,000	0.90	2.37
16-23	0.95	1.68	2.25	28,000	0.64	2.31
16-24	0.95	1.68	2.25	5,100	0.12	0.42
16-25	0.5	1.68	2.25	44,200	1.01	1.92
Total					16.10	41.65
17-1	0.95	1.68	2.25	29,700	0.68	2.45
17-2	0.95	1.68	2.25	4,350	0.10	0.36
17-3	0.5	1.68	2.25	36,000	0.83	1.56
17-4	0.95	1.68	2.25	26,100	0.60	2.15
17-5	0.6	1.68	2.25	36,400	0.84	1.90
17-6	0.95	1.68	2.25	17,500	0.40	1.44
17-7	0.95	1.68	2.25	31,200	0.72	2.57
17-8	0.95	1.68	2.25	20,000	0.46	1.65
17-9	0.6	1.68	2.25	300,000	6.89	15.62
17-10	0.95	1.68	2.25	11,400	0.26	0.94
17-11	0.95	1.68	2.25	13,500	0.31	1.11
Total					12.08	31.75
18-1	0.95	1.68	2.25	4,800	0.11	0.40
18-2	0.95	1.68	2.25	2,700	0.06	0.22
18-3	0.95	1.68	2.25	3,000	0.07	0.25
18-4	0.95	1.68	2.25	3,000	0.07	0.25
18-5	0.95	1.68	2.25	3,000	0.07	0.25
18-6	0.95	1.68	2.25	3,000	0.07	0.25
18-7	0.95	1.68	2.25	3,000	0.07	0.25
18-8	0.95	1.68	2.25	3,000	0.07	0.25
18-9	0.95	1.68	2.25	3,000	0.07	0.25
18-10	0.95	1.68	2.25	7,200	0.17	0.59
18-11	0.95	1.68	2.25	6,600	0.15	0.54
18-12	0.95	1.68	2.25	7,200	0.17	0.59
18-13	0.95	1.68	2.25	7,200	0.17	0.59
18-14	0.95	1.68	2.25	7,200	0.17	0.59
18-15	0.95	1.68	2.25	18,600	0.43	1.53
18-16	0.95	1.68	2.25	7,200	0.17	0.59
18-17	0.95	1.68	2.25	6,600	0.15	0.54

18-18	0.95	1.68	2.25	1,200	0.03	0.10
18-19	0.95	1.68	2.25	3,000	0.07	0.25
18-20	0.95	1.68	2.25	3,000	0.07	0.25
18-21	0.95	1.68	2.25	3,000	0.07	0.25
18-22	0.95	1.68	2.25	3,000	0.07	0.25
18-23	0.95	1.68	2.25	3,000	0.07	0.25
18-24	0.95	1.68	2.25	3,600	0.08	0.30
18-25	0.95	1.68	2.25	5,400	0.12	0.45
Total					2.79	10.02
19-1	0.95	1.68	2.25	7,200	0.17	0.59
19-2	0.95	1.68	2.25	7,200	0.17	0.59
19-3	0.95	1.68	2.25	6,600	0.15	0.54
19-4	0.95	1.68	2.25	7,200	0.17	0.59
19-5	0.95	1.68	2.25	7,200	0.17	0.59
19-6	0.95	1.68	2.25	7,200	0.17	0.59
19-7	0.95	1.68	2.25	7,200	0.17	0.59
19-8	0.95	1.68	2.25	7,200	0.17	0.59
19-9	0.95	1.68	2.25	7,800	0.18	0.64
19-10	0.95	1.68	2.25	18,000	0.41	1.48
19-11	0.95	1.68	2.25	7,200	0.17	0.59
19-12	0.95	1.68	2.25	6,600	0.15	0.54
19-13	0.95	1.68	2.25	7,200	0.17	0.59
19-14	0.95	1.68	2.25	7,200	0.17	0.59
19-15	0.95	1.68	2.25	6,600	0.15	0.54
19-16	0.95	1.68	2.25	4,200	0.10	0.35
Total					2.80	10.04
20-1	0.95	1.68	2.25	14,400	0.33	1.19
20-2	0.95	1.68	2.25	8,400	0.19	0.69
20-3	0.95	1.68	2.25	18,600	0.43	1.53
20-4	0.95	1.68	2.25	4,000	0.09	0.33
20-5	0.95	1.68	2.25	12,000	0.28	0.99
Total					1.32	4.73
21-1	0.95	1.68	2.25	15,600	0.36	1.29
21-2	0.95	1.68	2.25	15,600	0.36	1.29
21-3	0.95	1.68	2.25	16,200	0.37	1.34
21-4	0.95	1.68	2.25	16,200	0.37	1.34
21-5	0.95	1.68	2.25	16,200	0.37	1.34
21-6	0.95	1.68	2.25	16,200	0.37	1.34
21-7	0.95	1.68	2.25	22,200	0.51	1.83
21-8	0.7	1.68	2.25	22,200	0.51	1.35
21-9	0.8	1.68	2.25	22,500	0.52	1.56
21-10	0.95	1.68	2.25	62,175	1.43	5.13
21-11	0.8	1.68	2.25	22,500	0.52	1.56
21-12	0.95	1.68	2.25	27,000	0.62	2.23
Total					6.30	21.57

22-1	0.95	1.68	2.25	12,000	0.28	0.99
22-2	0.95	1.68	2.25	13,500	0.31	1.11
Total					0.59	2.10
23-1	0.3	1.68	2.25	7,000	0.16	0.18
Total					0.16	0.18
24-1	0.95	1.68	2.25	20,800	0.48	1.71
24-2	0.95	1.68	2.25	26,000	0.60	2.14
24-3	0.95	1.68	2.25	20,800	0.48	1.71
24-4	0.95	1.68	2.25	17,500	0.40	1.44
24-5	0.95	1.68	2.25	53,200	1.22	4.39
24-6	0.95	1.68	2.25	15,000	0.34	1.24
24-7	0.95	1.68	2.25	20,000	0.46	1.65
24-8	0.95	1.68	2.25	20,000	0.46	1.65
24-9	0.95	1.68	2.25	15,600	0.36	1.29
24-10	0.95	1.68	2.25	18,200	0.42	1.50
Total					5.21	18.72
25-1	0.95	1.68	2.25	53,200	1.22	4.39
Total					1.22	4.39
26-1	0.95	1.68	2.25	40,000	0.92	3.30
Total					0.92	3.30
27-1	0.95	1.68	2.25	120,000	2.75	9.89
27-2	0.95	1.68	2.25	32,000	0.73	2.64
27-3	0.95	1.68	2.25	36,000	0.83	2.97
27-4	0.3	1.68	2.25	80,000	1.84	2.08
27-5	0.95	1.68	2.25	25,500	0.59	2.10
27-6	0.95	1.68	2.25	27,200	0.62	2.24
Total					7.36	21.93
28-1	0.95	1.68	2.25	37,500	0.86	3.09
Total					0.86	3.09
29-1	0.8	1.68	2.25	40,000	0.92	2.78
29-2	0.95	1.68	2.25	29,750	0.68	2.45
29-3	0.95	1.68	2.25	43,200	0.99	3.56
Total					2.59	8.79
30-1	0.95	1.68	2.25	72,000	1.65	5.94
Total					1.65	5.94
31-1	0.95	1.68	2.25	26,400	0.61	2.18
31-2	0.95	1.68	2.25	74,800	1.72	6.17
31-3	0.95	1.68	2.25	106,200	2.44	8.75
31-4	0.95	1.68	2.25	104,000	2.39	8.57
31-5	0.3	1.68	2.25	88,900	2.04	2.31

31-6	0.3	1.68	2.25	16,000	0.37	0.42
31-7	0.95	1.68	2.25	20,000	0.46	1.65
Total					10.02	30.05
32-1	0.95	1.68	2.25	29,900	0.69	2.46
32-2	0.95	1.68	2.25	22,800	0.52	1.88
Total					1.21	4.34
33-1	0.95	1.68	2.25	67,200	1.54	5.54
33-2	0.95	1.68	2.25	29,600	0.68	2.44
33-3	0.3	1.68	2.25	60,800	1.40	1.58
33-4	0.95	1.68	2.25	30,400	0.70	2.51
33-5	0.95	1.68	2.25	28,000	0.64	2.31
33-6	0.95	1.68	2.25	65,600	1.51	5.41
33-7	0.95	1.68	2.25	40,000	0.92	3.30
33-8	0.95	1.68	2.25	600	0.01	0.05
33-9	0.95	1.68	2.25	9,000	0.21	0.74
Total					7.60	23.87
34-1	0.8	1.68	2.25	72,000	1.65	5.00
34-2	0.95	1.68	2.25	153,400	3.52	12.65
34-3	0.37	1.68	2.25	69,800	1.60	2.24
34-4	0.95	1.68	2.25	19,800	0.45	1.63
34-5	0.95	1.68	2.25	14,400	0.33	1.19
34-6	0.95	1.68	2.25	16,000	0.37	1.32
Total					7.93	24.02
35-1	0.95	1.68	2.25	42,000	0.96	3.46
35-2	0.95	1.68	2.25	15,600	0.36	1.29
35-3	0.6	1.68	2.25	78,600	1.80	4.09
35-4	0.95	1.68	2.25	51,700	1.19	4.26
Total					4.31	13.10
36-1	0.95	1.68	2.25	14,400	0.33	1.19
36-2	0.8	1.68	2.25	30,000	0.69	2.08
36-3	0.3	1.68	2.25	61,200	1.40	1.59
36-4	0.95	1.68	2.25	51,700	1.19	4.26
Total					3.61	9.13
37-1	0.95	1.68	2.25	66,500	1.53	5.48
Total					1.53	5.48
38-1	0.95	1.68	2.25	80,000	1.84	6.60
38-2	0.6	1.68	2.25	2,000	0.05	0.10
38-3	0.95	1.68	2.25	21,000	0.48	1.73
38-4	0.6	1.68	2.25	36,000	0.83	1.87
38-5	0.6	1.68	2.25	48,000	1.10	2.50
38-6	0.95	1.68	2.25	44,800	1.03	3.69
38-7	0.4	1.68	2.25	22,400	0.51	0.78

38-8	0.65	1.68	2.25	50,400	1.16	2.84
38-9	0.95	1.68	2.25	17,600	0.40	1.45
38-10	0.8	1.68	2.25	16,400	0.38	1.14
38-11	0.3	1.68	2.25	9,000	0.21	0.23
Total					7.98	22.94
39-1	0.95	1.68	2.25	70,400	1.62	5.80
Total					1.62	5.80
40-1	0.95	1.68	2.25	17,600	0.40	1.45
Total					0.40	1.45
41-1	0.95	1.68	2.25	90,000	2.07	7.42
Total					2.07	7.42
42-1	0.95	1.68	2.25	15,750	0.36	1.30
42-2	0.95	1.68	2.25	27,000	0.62	2.23
42-3	0.95	1.68	2.25	54,000	1.24	4.45
Total					2.22	7.98
43-1	0.95	1.68	2.25	30,000	0.69	2.47
43-2	0.95	1.68	2.25	17,250	0.40	1.42
43-3	0.95	1.68	2.25	88,500	2.03	7.30
Total					3.12	11.19
44-1	0.95	1.68	2.25	44,250	1.02	3.65
44-2	0.95	1.68	2.25	15,750	0.36	1.30
44-3	0.95	1.68	2.25	24,000	0.55	1.98
44-4	0.95	1.68	2.25	24,000	0.55	1.98
44-5	0.95	1.68	2.25	67,200	1.54	5.54
Total					4.02	14.44
45-1	0.95	1.68	2.25	41,400	0.95	3.41
Total					0.95	3.41
46-1	0.95	1.68	2.25	69,560	1.60	5.73
46-2	0.75	1.68	2.25	81,550	1.87	5.31
46-3	0.3	1.68	2.25	34,400	0.79	0.90
46-4	0.95	1.68	2.25	26,000	0.60	2.14
46-5	0.95	1.68	2.25	48,000	1.10	3.96
46-6	0.95	1.68	2.25	8,750	0.20	0.72
46-7	0.95	1.68	2.25	4,500	0.10	0.37
46-8	0.95	1.68	2.25	3,600	0.08	0.30
46-9	0.95	1.68	2.25	3,000	0.07	0.25
46-10	0.95	1.68	2.25	2,700	0.06	0.22
46-11	0.95	1.68	2.25	32,400	0.74	2.67
Total					7.22	22.57
47-1	0.6	1.68	2.25	18,100	0.42	0.94

47-2	0.3	1.68	2.25	173,500	3.98	4.52
47-3	0.95	1.68	2.25	23,200	0.53	1.91
47-4	0.95	1.68	2.25	3,600	0.08	0.30
47-5	0.95	1.68	2.25	4,200	0.10	0.35
Total					5.11	8.01
48-1	0.95	1.68	2.25	900	0.02	0.07
48-2	0.95	1.68	2.25	3,900	0.09	0.32
48-3	0.95	1.68	2.25	2,700	0.06	0.22
48-4	0.95	1.68	2.25	2,700	0.06	0.22
48-5	0.95	1.68	2.25	3,300	0.08	0.27
Total					0.31	1.11
49-1	0.95	1.68	2.25	6,400	0.15	0.53
49-2	0.95	1.68	2.25	4,000	0.09	0.33
49-3	0.95	1.68	2.25	3,600	0.08	0.30
49-4	0.95	1.68	2.25	4,000	0.09	0.33
49-5	0.95	1.68	2.25	4,800	0.11	0.40
Total					0.52	1.88
50-1	0.95	1.68	2.25	1,440	0.03	0.12
50-2	0.95	1.68	2.25	4,400	0.10	0.36
50-3	0.95	1.68	2.25	4,400	0.10	0.36
50-4	0.95	1.68	2.25	4,400	0.10	0.36
50-5	0.95	1.68	2.25	3,600	0.08	0.30
50-6	0.95	1.68	2.25	3,200	0.07	0.26
50-7	0.95	1.68	2.25	32,100	0.74	2.65
50-8	0.95	1.68	2.25	27,600	0.63	2.28
50-9	0.3	1.68	2.25	22,400	0.51	0.58
50-10	0.3	1.68	2.25	23,800	0.55	0.62
50-11	0.95	1.68	2.25	11,000	0.25	0.91
Total					3.18	8.80
51-1	0.6	1.68	2.25	87,600	2.01	4.56
Total					2.01	4.56
52-1	0.6	1.68	2.25	42,000	0.96	2.19
52-2	0.6	1.68	2.25	5,400	0.12	0.28
52-3	0.95	1.68	2.25	17,000	0.64	2.29
Total					1.73	4.76
53-1	0.6	1.68	2.25	50,275	1.15	2.62
Total					1.15	2.62
54-1	0.95	1.68	2.25	25,600	0.59	2.11
54-2	0.95	1.68	2.25	13,000	0.30	1.07
Total					0.89	3.18
55-1	0.95	1.68	2.25	4,400	0.10	0.36

55-2	0.7	1.68	2.25	22,000	0.51	1.34
55-3	0.95	1.68	2.25	13,000	0.30	1.07
55-4	0.95	1.68	2.25	6,400	0.15	0.53
55-5	0.95	1.68	2.25	10,720	0.25	0.88
55-6	0.3	1.68	2.25	19,200	0.44	0.50
55-7	0.6	1.68	2.25	40,800	0.94	2.12
55-8	0.95	1.68	2.25	14,400	0.33	1.19
55-9	0.95	1.68	2.25	15,500	0.36	1.28
55-10	0.95	1.68	2.25	11,200	0.26	0.92
55-11	0.95	1.68	2.25	10,800	0.25	0.89
55-12	0.95	1.68	2.25	9,600	0.22	0.79
55-13	0.95	1.68	2.25	17,000	0.39	1.40
55-14	0.95	1.68	2.25	17,600	0.40	1.45
55-15	0.95	1.68	2.25	2,100	0.05	0.17
55-16	0.95	1.68	2.25	39,000	0.90	3.22
Total					5.82	18.12
56-1	0.95	1.68	2.25	7,000	0.16	0.58
56-2	0.95	1.68	2.25	5,250	0.12	0.43
56-3	0.95	1.68	2.25	7,800	0.18	0.64
Total					0.46	1.65
57-1	0.95	1.68	2.25	25,200	0.58	2.08
57-2	0.95	1.68	2.25	3,500	0.08	0.29
57-3	0.95	1.68	2.25	35,200	0.81	2.90
57-4	0.8	1.68	2.25	34,200	0.79	2.37
57-5	0.3	1.68	2.25	18,000	0.41	0.47
57-6	0.95	1.68	2.25	7,400	0.17	0.61
57-7	0.95	1.68	2.25	1,000	0.02	0.08
Total					2.86	8.80
58-1	0.95	1.68	2.25	28,200	0.65	2.32
58-2	0.95	1.68	2.25	11,200	0.26	0.92
58-3	0.95	1.68	2.25	6,650	0.15	0.55
Total					1.06	3.80