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AGRICULTURAL RESEARCH CORPORATION

WESTERN SUDAN AGRICULTURAL RESEARCH PROJECT

EL OBEID WATER SUPPLY/WATER HARVESTING POTENTIAL IN WESTERN SUDAN

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EL OBEID WATER SUPPLY/WATER HARVESTING POTENTIAL IN WESTERN SUDAN

REPORT TO

WESTERN SUDAN AGRICULTURAL RESEARCH PROJECT
WASHINGTON STATE UNIVERSITY
COLLEGE OF AGRICULTURE & HOME ECONOMICS
Ag Sciences, Room 221
Pullman, Washington
99164-6226

By

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OCTOBER 1985

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

COLLEGE OF ENGINEERING
WATER RESOURCES RESEARCH CENTER
A.E. DOUGLASS BUILDING 28

October 16, 1985

Jan C. Noel
Coordinator
WSARP
Washington State University
Ag Science, Room 221
Pullman, Washington
99164-6226

RECEIVED
OCT 21 1985
IPSO

Dear Jan,

Enclosed is the report on my trip to Sudan. It took a little longer than I thought to make the additional runs on the El Obeid system and to make several runs on the water harvesting agrisystem.

I have enclosed a copy of my airline ticket. Since I have spent much more time than I first thought I would on the Sudan I was wondering if you could reimburse me for my travel of $1824 as a project consultant. That way I can use my project funds to reimburse my travel and your funds to hire someone to catch up with the things I should have been doing. You can make your check out to the University of Arizona.

I hope that the report is satisfactory and that we can continue to work together in the future.

C. Brent Cluff

C. Brent Cluff

P.S. Barbara called & said you couldn't change the travel funds to consultant. Please proceed on our original agreement.

CBC

1

INTRODUCTION

A trip was taken from July 3 to July 17, 1985 to Sudan to study the El Obeid compartmented reservoir system. This system supplies most of the domestic water for the city of El Obeid which has a population of 200,000 to 250,000 people. This water supply was exhausted in March of 1985 and the town was out of water until the monsoon rains began July 2, 1985.

Approximately one week was spent in El Obeid and Kadugli. The remainder of the time was spent in Khartoom where the IBM PC was used. Some time was also spent in Khartoom in obtaining flattened ceramic spheres for evaporation control.

EL OBEID WATER SUPPLY

An aerial view of the Baggara and El Ain reservoirs was obtained on the flight to El Obeid. This system is shown in Figure 1. The seven compartmented reservoir system was also visited on the ground with Abdalla Nassan Abdalla of the Water Resources Administration stationed at El Obeid. In addition the Airport Impoundment, Fulla 1, Fulla 2 and the Banou Reservoir was also visited. These reservoirs and their capacities are listed in Table 1.

The falla and haffier are both built next to the main compartment which is called the impoundment. The runoff first goes into the impoundment where it is controlled and diverted into the falla and/or haffier. The maximum elevation of the haffir is equivalent to the maximum elevation of the impoundment. The haffir is deepened by excavation. The impoundment and haffir are connected by a pipe. In contrast the maximum elevation of the falla is higher than the impoundment and most water in the falla is pumped from the impoundment. It may or may not be connected to the impoundment with a gravity pipe.

Mr Abdalla explained the operation of the El Obeid reservoir system. It's operation was similar in most respects to a compartmented reservoir system (Cluff, 1977) that has been studied at the University of Arizona the past ten years.

The gates in the pipe between the impoundments and the haffiers and fullas are opened within 48 hours after runoff into the impoundments if the elevation in the haffirs and fallas is lower than the impoundment. Toward the end of the rainy season the gates are closed and the haffirs and fullas are topped off by pumping. The water is selectively removed and the remaining water concentrated to reduce both evaporation and seepage.

Mr. Abdalla said the water in the Airport and Banou Impoundments was used first, followed by Falla 2 and then Falla 1. Next the El Ain and Baggara Impundments were next used followed by El Ain Haffir 2, Baggara Haffirs 1,2 & 3 with El Ain Haffir 1 being the last one containing water. As stated in the

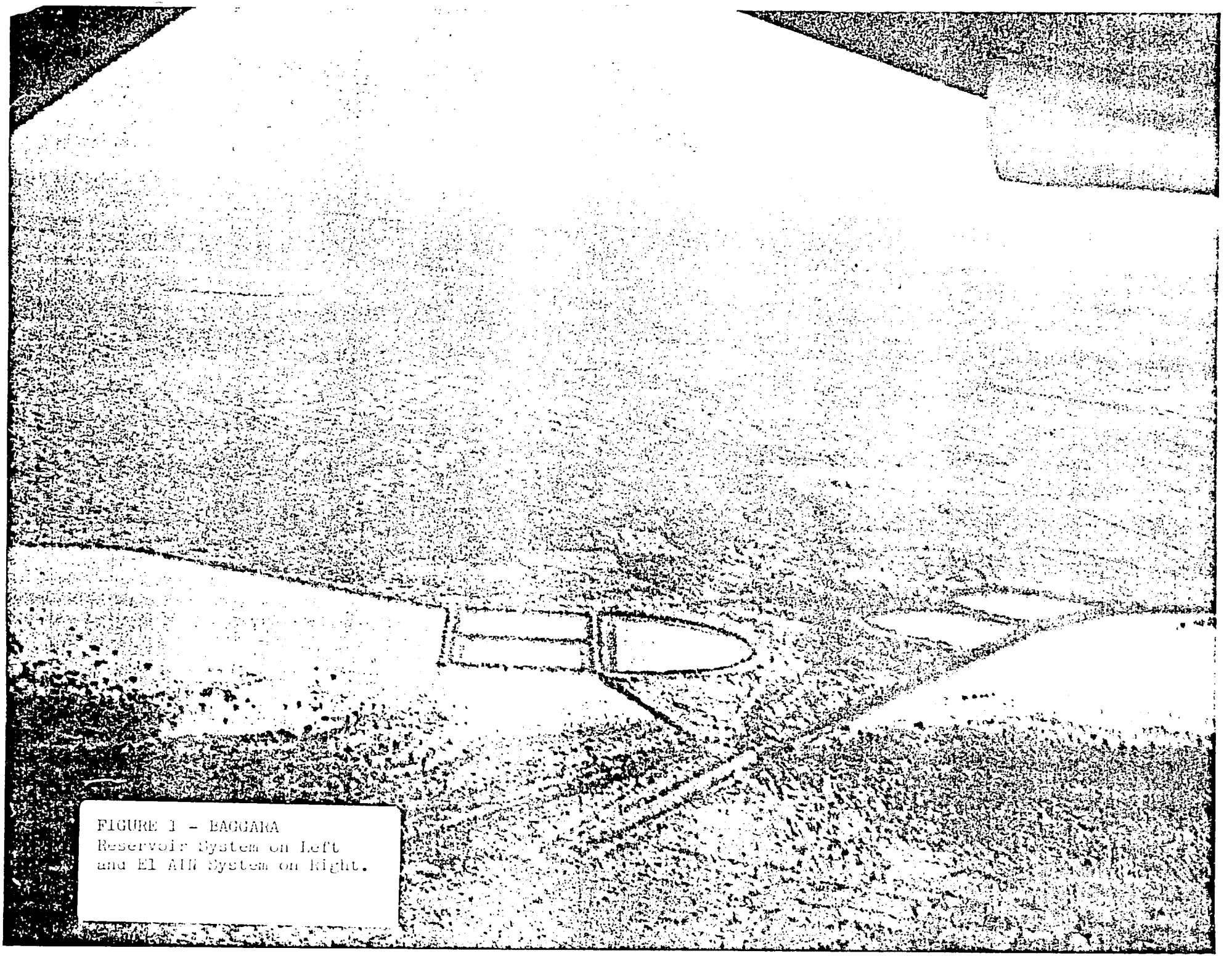


FIGURE 1 - BAGGARA
Reservoir System on Left
and El AIN System on Right.

TABLE I

Current Capacity, Area and Depth of El Obeid City Impoundments and Reservoirs (Hafirs), Kordofan, Sudan

Location	Depth Max	Depth Ave	Area	Volume
	(in m)		(10,000 x m^2)	(millions of m^3)
Baggara				
Impoundment	3.0	1.8	237.8	4.54
Hafir No. 1	6.5	4.4	7.0	.22
Hafir No. 2	6.0	4.2	6.6	.21
Hafir No. 3	7.0	5.2	13.2	.50
			264.6	5.47
El Ain				
Impoundment	3.0	1.3	179.8	2.27
Hafir No. 1	7.5	5.2	8.7	.45
Hafir No. 2	7.5	6.1	8.9	.43
			197.4	3.15
Banou				
Impoundment	3.4	1.4	31.3	.44
El Obeid				
Airport impoundment	-	1.3	11.5	.15
Fula No. 1	-	6.8	1.6	.11
Fula No. 2	-	4.9	3.4	.16
			16.5	.42
		TOTAL	509.8	TOTAL 9.48

Sources: Sir Alexander Gibb & Partners (Africa), 1979, Working Paper Prior to Interim Report, Existing Sources, Management, Yield, Development and Improvement; Feasibility Study for Water Supply to El Obeid.

Associated Consultants & Partners, 1985, Existing Water Supply Facilities - Rehabilitation Report, El Obeid Water Supply System.

introduction this last year they ran out of water in March. The people of the town had to forage for water from wells and from the railroad which hauled water from Lake Rahad. This was done until the the reservoirs received runoff from the first rains in early July, 1985.

COMPUTER MODEL

The compartmented reservoir computer model was modified to model the El Obeid water system. This took several hours of programing and debugging time. Some improvemewnts were also made in the rainfall/runoff model which utilizes daily rainfall as a basic imput. When a threshold value of 10 mm and a runoff coefficient of 0.35 was used in the model a runoff efficiency for the last 30 years of record of about 17% was obtained. This percent runoff was consistent with the other hydrologic studies that have been made in the area. However an attempt will be made to improve the calibration of this model by getting water levels in El Ain and Baggara reservoir systems to go with the rainfall record at Baggara. This information has already been requested from Mr. Abdalla.

The runoff generated by the rainfall model was fed into the compartmented reservoir program with a 6000 cubic meter per day (42,000 cm/wk) domestic demand. This showed 123 dry weeks over the past 31 years. By reducing the seepage rate in Haffir 2 of El Ain the number of dry weeks was reduced to 47. By adding an evaporation cover on the compartment, El Ain Haffir 1, the number of dry weeks was reduced to 30. All but 2 of these dry weeks was in 1970 as a result of the extremely poor runoff predicted by the model in 1969.

Additional computer runs have been made since returning to Tucson. These runs have shown that an evaporation cover on El Ain Haffir 1 & 2 as well as Baggara Hafir 3 would reduce the number of dry weeks to 19. In order to completely drought proof the system an additional reservoir of 800,000 cubic meters was added with a 90% efficient evaporation cover. An evaporation cover was also placed on El Ain Haffier 1&2 and Baggara Haffir 3. The addition of this amount of covered storage made it possible to carry water from 1968 through the dry year of 1969 and use it in the spring of 1970. The three years of this run including the reservoir parameters of the system used is shown in Table 2.

The results of this run show that evaporation covers combined with the compartmented reservoir can drought proof the water supply of El Obeid. Additional data is needed in order to more closely model the system at El Obeid so that a more specific recommendation could be made. This data on water levels has been requested. In the meantime prices on the unit cost of evaporation control for Sudan can be assembled. Evaporation control is discussed in a later section of this report.

TABLE 2.

Results of an Assimulation of a Modified Storage Reservoir System, El Obeid Sudan

PROJECT LOCATION: EL OBEID - SUDAN

RESERVOIR SYSTEM PARAMETERS:

COMPARTMENT	VOLUME(CM)	DEPTH(M)	SLOPE(RUN/RISE)	TOP AREA(SM)	BOTTOM AREA(SM)	EVAP CONTROL	SPF(%)	MAX SEEP(M/MM)	MIN SEEP(M/MM)
1	100000	4.5	1	21022.17	19832.17	0		.05	.01
2	200000	5.6	1	31790.39	27125.62	0		.05	.01
3	300000	1.3	1	154867.5	152828	0		.1	.05
4	400000	5.1	1	63735.39	52435.83	0		.1	.05
5	500000	5.3	1	122353.1	113038.5	90		.002	.01
6	600000	5.1	1	73710.15	67139.38	90		.02	.01
7	445000	5.2	1	82646.34	82561.61	90		.02	.01
8	500000	5.2	1	99405.01	95555	90		.05	.01
9	555000	4.4	1	53143.7	49165.75	0		.05	.01
10	600000	4.5	1	51833.94	48139.35	0		.05	.01
11	800000	1.6	1	1114929	1107362	0		.1	.05
12	850000	1.3	1	1415301	1406638	0		.1	.05
13	2270000	1.3	1	1743551	1742720	0		.1	.05

TOTAL AREA OF THE WATERSHEDS (SQUARE METERS): 3.1E+07 3.2E+08

WEEKLY DOMESTIC DEMAND 42000

TABLE 2
(Continued)

SYSTEM OPERATION FOR THE YEAR 15 (1966)

(VALUES ARE IN CUBIC METERS DIVIDED BY 100 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SAV	SRT	DOMESTIC	OVFL	R(1)	R(2)	R(3)	R(4)	R(5)	R(6)	R(7)	R(8)	R(9)	R(10)	R(11)	R(12)	R(13)
1	0.0	0.0	49.7	47	72	431	0	0	0	0	0	8000	4300	4450	5000	2250	145	0	0	0
2	0.0	0.0	49.7	41	72	430	0	0	0	0	0	8000	4300	4450	5000	1864	0	0	0	0
3	0.0	0.0	49.7	31	45	430	0	0	0	0	0	8000	4300	4450	5000	1358	0	0	0	0
4	0.0	0.0	49.7	33	45	430	0	0	0	0	0	8000	4300	4450	5000	376	0	0	0	0
5	0.0	0.0	53.3	21	45	431	0	0	0	0	0	8000	4300	4450	5000	357	0	0	0	0
6	0.0	0.0	53.3	17	45	430	0	0	0	0	0	8000	4300	4450	4302	0	0	0	0	0
7	0.0	0.0	53.3	5	31	430	0	0	0	0	0	8000	4300	4450	4450	0	0	0	0	0
8	0.0	0.0	57.4	8	33	430	0	0	0	0	0	8000	4300	4450	4200	0	0	0	0	0
9	0.0	0.0	57.4	3	33	430	0	0	0	0	0	8000	4300	4450	3553	0	0	0	0	0
10	0.0	0.0	53.3	7	33	430	0	0	0	0	0	8000	4300	4450	3131	0	0	0	0	0
11	0.0	0.0	51.6	7	33	430	0	0	0	0	0	8000	4300	4450	2647	0	0	0	0	0
12	0.0	0.0	53.3	7	35	430	0	0	0	0	0	8000	4300	4450	2157	0	0	0	0	0
13	0.0	0.0	55.2	5	33	430	0	0	0	0	0	8000	4300	4450	1745	0	0	0	0	0
14	0.0	0.0	53.3	6	34	430	0	0	0	0	0	8000	4300	4450	1255	0	0	0	0	0
15	0.0	0.0	53.3	5	34	430	0	0	0	0	0	8000	4300	4450	647	0	0	0	0	0
16	0.0	0.0	52.2	5	33	430	0	0	0	0	0	8000	4300	4450	339	0	0	0	0	0
17	0.0	0.0	52.2	5	33	430	0	0	0	0	0	8000	4300	4451	0	0	0	0	0	0
18	0.0	0.0	52.2	3	17	430	0	0	0	0	0	8000	4300	3951	0	0	0	0	0	0
19	0.0	0.0	52.2	3	17	430	0	0	0	0	0	8000	4300	3500	0	0	0	0	0	0
20	0.0	0.0	51.6	3	17	430	0	0	0	0	0	8000	4300	3000	0	0	0	0	0	0
21	0.0	0.0	52.2	3	17	430	0	0	0	0	0	8000	4300	2640	0	0	0	0	0	0
22	0.0	0.0	52.2	3	17	430	0	0	0	0	0	8000	4300	2201	0	0	0	0	0	0
23	0.0	0.0	55.3	3	17	430	0	0	0	0	0	8000	4300	1761	0	0	0	0	0	0
24	14.7	0.0	55.3	3	17	430	0	0	0	0	0	8000	4300	1751	0	0	0	0	0	0
25	0.0	0.0	55.3	3	17	430	0	0	0	0	0	8000	4300	1311	0	0	0	0	0	0
26	0.0	0.0	55.3	3	15	430	0	0	0	0	0	8000	4300	874	0	0	0	0	0	0
27	55.0	0.0	55.3	3	15	430	0	0	0	0	0	8000	4300	4300	0	0	0	0	0	0
28	55.0	0.0	55.3	5	13	430	0	431	0	0	0	8000	4300	4450	5000	1285	0	0	0	0
29	47.3	0.0	50.4	32	55	430	0	1000	8000	67	0	8000	4300	4450	5000	2250	2100	15351	0	0
30	0.0	0.0	50.4	1333	723	430	0	1000	1433	0	0	8000	4300	4450	5000	2250	2100	17315	0	0
31	0.0	0.0	41.3	1133	541	430	0	1000	972	0	0	8000	4300	4450	5000	2250	2100	15337	0	0
32	0.0	0.0	41.3	1274	542	430	0	1000	513	0	0	8000	4300	4450	5000	2250	2100	14125	0	0
33	0.0	0.0	41.3	1337	542	430	0	1000	53	0	0	8000	4300	4450	5000	2250	2100	12725	0	0
34	0.0	0.0	41.3	935	539	430	0	935	0	0	0	8000	4300	4450	5000	2250	2100	11343	0	0
35	13.0	0.0	41.3	937	537	430	0	938	0	0	0	8000	4300	4450	5000	2250	2100	10637	0	0
36	0.0	0.0	41.3	975	537	430	0	94	0	0	0	8000	4300	4450	5000	2250	2100	10233	0	0
37	0.0	0.0	44.3	932	571	430	0	0	0	0	0	8000	4300	4450	5000	2250	2100	9432	0	0
38	10.1	0.0	44.3	879	533	430	0	0	0	0	0	8000	4300	4450	5000	2250	2100	8531	0	0
39	0.0	0.0	44.3	835	582	430	0	0	0	0	0	8000	4300	4450	5000	2250	2100	6771	0	0
40	0.0	0.0	44.3	834	533	430	0	0	0	0	0	8000	4300	4450	5000	2250	2100	4335	0	0
41	0.0	0.0	51.6	754	543	430	0	0	0	0	0	8000	4300	4450	5000	2250	2100	3165	0	0
42	0.0	0.0	51.6	733	543	430	0	0	0	0	0	8000	4300	4450	5000	2250	2100	1350	0	0
43	0.0	0.0	51.6	654	646	430	0	0	0	0	0	8000	4300	4450	5000	2250	1771	0	0	0
44	0.0	0.0	51.6	53	74	430	0	0	0	0	0	8000	4300	4450	5000	2250	1250	0	0	0
45	0.0	0.0	51.6	52	74	430	0	0	0	0	0	8000	4300	4450	5000	2250	674	0	0	0
46	0.0	0.0	51.1	46	72	430	0	0	0	0	0	8000	4300	4450	5000	2250	135	0	0	0
47	0.0	0.0	51.1	41	72	430	0	0	0	0	0	8000	4300	4450	5000	1853	0	0	0	0
48	0.0	0.0	51.1	31	46	430	0	0	0	0	0	8000	4300	4450	5000	1355	0	0	0	0
49	0.0	0.0	51.1	25	45	430	0	0	0	0	0	8000	4300	4450	5000	863	0	0	0	0
50	0.0	0.0	49.0	22	44	430	0	0	0	0	0	8000	4300	4450	5000	378	0	0	0	0
51	0.0	0.0	49.0	17	43	430	0	0	0	0	0	8000	4300	4450	4698	0	0	0	0	0
52	0.0	0.0	49.0	8	19	430	0	0	0	0	0	8000	4300	4450	4451	0	0	0	0	0

TOTALS FOR YEAR: RAIN 169.8997 RUNOFF 15.63483 EVAP 2778.301 SEEPAGE 13583.79 EVAP FROM RESERVOIR 9478.101 DOMESTIC 21840 OVERFLOW 0

TABLE 2
(Continued)

SYSTEM OPERATION FOR THE YEAR 15 (1969)

(VALUES ARE IN CUBIC METERS DEVIDED BY 100 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	ERT	ERT	DOMESTIC	OVFL	R(1)	R(2)	R(3)	R(4)	R(5)	R(6)	R(7)	R(8)	R(9)	R(10)	R(11)	R(12)	R(13)
1	0.0	0.0	49.7	6	19	420	0	0	0	0	0	8000	4300	4450	4004	0	0	0	0	0
2	0.0	0.0	49.7	6	19	420	0	0	0	0	0	8000	4300	4450	3557	0	0	0	0	0
3	0.0	0.0	49.7	7	19	420	0	0	0	0	0	8000	4300	4450	3111	0	0	0	0	0
4	0.0	0.0	49.7	7	19	420	0	0	0	0	0	8000	4300	4450	2665	0	0	0	0	0
5	0.0	0.0	53.9	7	21	420	0	0	0	0	0	8000	4300	4450	2218	0	0	0	0	0
6	0.0	0.0	53.9	5	21	420	0	0	0	0	0	8000	4300	4450	1771	0	0	0	0	0
7	0.0	0.0	53.9	6	20	420	0	0	0	0	0	8000	4300	4450	1325	0	0	0	0	0
8	0.0	0.0	57.4	5	22	420	0	0	0	0	0	8000	4300	4450	878	0	0	0	0	0
9	0.0	0.0	57.4	5	22	420	0	0	0	0	0	8000	4300	4450	431	0	0	0	0	0
10	0.0	0.0	65.5	5	25	420	0	0	0	0	0	8000	4300	4431	0	0	0	0	0	0
11	0.0	0.0	65.5	3	19	420	0	0	0	0	0	8000	4300	3988	0	0	0	0	0	0
12	0.0	0.0	65.5	3	19	420	0	0	0	0	0	8000	4300	3546	0	0	0	0	0	0
13	0.0	0.0	65.5	3	19	420	0	0	0	0	0	8000	4300	3104	0	0	0	0	0	0
14	0.0	0.0	62.3	3	18	420	0	0	0	0	0	8000	4300	2663	0	0	0	0	0	0
15	7.4	0.0	62.3	3	18	420	0	0	0	0	0	8000	4300	2224	0	0	0	0	0	0
16	0.0	0.0	62.2	3	17	420	0	0	0	0	0	8000	4300	1784	0	0	0	0	0	0
17	0.0	0.0	62.2	3	17	420	0	0	0	0	0	8000	4300	1345	0	0	0	0	0	0
18	0.0	0.0	62.2	3	17	420	0	0	0	0	0	8000	4300	905	0	0	0	0	0	0
19	0.0	0.0	62.2	3	17	420	0	0	0	0	0	8000	4300	463	0	0	0	0	0	0
20	0.0	0.0	62.2	3	17	420	0	0	0	0	0	8000	4300	26	0	0	0	0	0	0
21	0.0	0.0	62.2	3	17	420	0	0	0	0	0	8000	3867	0	0	0	0	0	0	0
22	0.0	0.0	63.3	2	12	420	0	0	0	0	0	8000	3453	0	0	0	0	0	0	0
23	0.0	0.0	63.3	2	11	420	0	0	0	0	0	8000	3020	0	0	0	0	0	0	0
24	0.0	0.0	63.3	1	11	420	0	0	0	0	0	8000	2587	0	0	0	0	0	0	0
25	0.7	0.0	63.3	1	11	420	0	0	0	0	0	8000	2155	0	0	0	0	0	0	0
26	34.3	1.3	63.3	1	11	420	0	0	0	0	0	8000	4300	874	0	0	0	0	0	0
27	0.0	0.0	55.3	3	16	420	0	0	0	0	0	8000	4300	435	0	0	0	0	0	0
28	3.3	0.0	63.3	3	16	420	0	0	0	0	0	8000	4297	0	0	0	0	0	0	0
29	1.5	0.0	60.4	2	12	420	0	0	0	0	0	8000	3866	0	0	0	0	0	0	0
30	3.3	0.0	60.4	2	12	420	0	0	0	0	0	8000	3453	0	0	0	0	0	0	0
31	7.7	0.0	41.3	2	8	420	0	0	0	0	0	8000	3030	0	0	0	0	0	0	0
32	51.7	3.8	41.3	1	8	420	0	444	0	0	0	8000	4300	4450	554	0	0	0	0	0
33	17.1	0.5	41.3	11	24	420	0	270	0	0	0	8000	4300	4450	2543	0	0	0	0	0
34	11.5	0.0	41.3	11	24	420	0	0	0	0	0	8000	4300	4450	2365	0	0	0	0	0
35	1.4	0.0	41.3	6	15	420	0	0	0	0	0	8000	4300	4450	1924	0	0	0	0	0
36	0.0	0.0	41.3	6	15	420	0	0	0	0	0	8000	4300	4450	1482	0	0	0	0	0
37	0.3	0.0	44.3	6	17	420	0	0	0	0	0	8000	4300	4450	1041	0	0	0	0	0
38	9.0	0.0	44.3	5	17	420	0	0	0	0	0	8000	4300	4450	603	0	0	0	0	0
39	3.5	0.0	44.3	5	17	420	0	0	0	0	0	8000	4300	4450	164	0	0	0	0	0
40	3.3	0.0	44.3	5	17	420	0	0	0	0	0	8000	4300	4174	0	0	0	0	0	0
41	0.0	0.0	51.5	3	15	420	0	0	0	0	0	8000	4300	3736	0	0	0	0	0	0
42	0.0	0.0	51.5	3	15	420	0	0	0	0	0	8000	4300	3293	0	0	0	0	0	0
43	0.0	0.0	51.5	3	15	420	0	0	0	0	0	8000	4300	2852	0	0	0	0	0	0
44	0.0	0.0	51.3	3	15	420	0	0	0	0	0	8000	4300	2412	0	0	0	0	0	0
45	0.0	0.0	51.3	3	15	420	0	0	0	0	0	8000	4300	1965	0	0	0	0	0	0
46	0.0	0.0	51.1	3	14	420	0	0	0	0	0	8000	4300	1547	0	0	0	0	0	0
47	0.0	0.0	51.1	3	14	420	0	0	0	0	0	8000	4300	1118	0	0	0	0	0	0
48	0.0	0.0	51.1	3	14	420	0	0	0	0	0	8000	4300	673	0	0	0	0	0	0
49	0.0	0.0	51.1	3	14	420	0	0	0	0	0	8000	4300	236	0	0	0	0	0	0
50	0.0	0.0	49.0	3	14	420	0	0	0	0	0	8000	4100	0	0	0	0	0	0	0
51	0.0	0.0	49.0	2	10	420	0	0	0	0	0	8000	3668	0	0	0	0	0	0	0
52	7.[illegible]	0.0	49.0	2	10	420	0	0	0	0	0	8000	3237	0	0	0	0	0	0	0

TOTALS FOR YEAR: RAIN 184.1997 RUNOFF 4.948747 EVAP 2778.201 SEEPAGE 203.2875 EVAP FROM RESERVOIR 835.2572 DOMESTIC 21840 OVERFLOW
0

TABLE 2
(Continued)

SYSTEM OPERATION FOR THE YEAR 17 (1973)
(VALUES ARE IN CUBIC METERS DIVIDED BY 100 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	ERT	DOMESTIC	OVFL	R(1)	R(2)	R(3)	R(4)	R(5)	R(6)	R(7)	R(8)	R(9)	R(10)	R(11)	R(12)	R(13)
1	2.2	2.0	45.7	2	10	420	0	0	0	0	0	8000	2826	0	0	0	0	0	0	0
2	2.2	2.2	45.7	1	10	420	0	0	0	0	0	8000	2375	0	0	0	0	0	0	0
3	2.2	2.2	45.7	1	10	420	0	0	0	0	0	8000	1944	0	0	0	0	0	0	0
4	2.2	2.2	45.7	1	10	420	0	0	0	0	0	8000	1513	0	0	0	0	0	0	0
5	2.2	2.2	53.5	1	10	420	0	0	0	0	0	8000	1082	0	0	0	0	0	0	0
6	2.2	2.2	53.5	1	10	420	0	0	0	0	0	8000	650	0	0	0	0	0	0	0
7	2.2	2.2	53.5	1	10	420	0	0	0	0	0	8000	219	0	0	0	0	0	0	0
8	2.2	2.2	57.4	1	11	420	0	0	0	0	0	7787	0	0	0	0	0	0	0	0
9	2.2	2.2	57.4	0	7	420	0	0	0	0	0	7360	0	0	0	0	0	0	0	0
10	2.2	2.2	55.5	0	8	420	0	0	0	0	0	6932	0	0	0	0	0	0	0	0
11	2.2	2.2	66.5	0	8	420	0	0	0	0	0	6503	0	0	0	0	0	0	0	0
12	2.2	2.2	65.5	0	8	420	0	0	0	0	0	6075	0	0	0	0	0	0	0	0
13	2.2	2.2	65.5	0	6	420	0	0	0	0	0	5647	0	0	0	0	0	0	0	0
14	2.2	2.2	62.3	0	7	420	0	0	0	0	0	5219	0	0	0	0	0	0	0	0
15	2.2	2.2	62.3	0	7	420	0	0	0	0	0	4792	0	0	0	0	0	0	0	0
16	2.2	2.2	62.2	0	7	420	0	0	0	0	0	4364	0	0	0	0	0	0	0	0
17	2.2	2.2	62.2	0	7	420	0	0	0	0	0	3937	0	0	0	0	0	0	0	0
18	2.2	2.2	62.2	0	7	420	0	0	0	0	0	3510	0	0	0	0	0	0	0	0
19	2.2	2.2	62.2	0	7	420	0	0	0	0	0	3082	0	0	0	0	0	0	0	0
20	2.2	2.2	62.2	0	7	420	0	0	0	0	0	2655	0	0	0	0	0	0	0	0
21	2.2	2.2	62.2	0	7	420	0	0	0	0	0	2228	0	0	0	0	0	0	0	0
22	2.2	2.2	62.2	0	7	420	0	0	0	0	0	1801	0	0	0	0	0	0	0	0
23	2.2	2.2	55.6	0	7	420	0	0	0	0	0	1374	0	0	0	0	0	0	0	0
24	2.2	2.2	53.5	0	7	420	0	0	0	0	0	947	0	0	0	0	0	0	0	0
25	2.2	2.2	53.5	0	7	420	0	0	0	0	0	520	0	0	0	0	0	0	0	0
26	2.2	2.2	53.5	0	7	420	0	0	0	0	0	94	0	0	0	0	0	0	0	0
27	2.2	2.2	55.5	0	7	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	5.2	2.2	53.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	28.2	1.8	52.4	0	0	420	0	142	0	0	0	4134	0	0	0	0	0	0	0	0
30	50.7	3.5	52.4	3	15	420	0	1000	1342	0	0	8000	4300	4450	5000	1764	0	0	0	0
31	28.9	2.7	41.3	52	53	420	0	1000	1295	0	0	8000	4300	4450	5000	2250	558	0	0	0
32	27.5	3.0	41.3	73	60	420	0	1000	1537	0	0	8000	4300	4450	5000	2250	2100	5755	0	0
33	11.4	2.2	41.3	800	535	420	0	1000	1178	0	0	8000	4300	4450	5000	2250	2100	4982	0	0
34	5.2	2.0	41.3	775	535	420	0	1000	730	0	0	8000	4300	4450	5000	2250	2100	3826	0	0
35	11.5	2.3	41.3	740	533	420	0	1000	362	0	0	8000	4300	4450	5000	2250	2100	3438	0	0
36	18.5	2.3	41.3	727	533	420	0	1000	3	0	0	8000	4300	4450	5000	2250	2100	3293	0	0
37	12.1	2.2	44.6	715	553	420	0	604	0	0	0	8000	4300	4450	5000	2250	2100	2360	0	0
38	2.2	2.2	44.6	686	573	420	0	158	0	0	0	8000	4300	4450	5000	2250	2100	1119	0	0
39	44.5	3.5	44.6	645	563	420	0	955	0	0	0	8000	4300	4450	5000	2250	2100	3415	0	0
40	2.2	2.2	44.6	639	572	420	0	515	0	0	0	8000	4300	4450	5000	2250	2100	7375	0	0
41	2.2	2.2	51.8	644	660	420	0	78	0	0	0	8000	4300	4450	5000	2250	2100	6487	0	0
42	14.2	2.2	51.8	739	659	420	0	0	0	0	0	8000	4300	4450	5000	2250	2100	4868	0	0
43	2.2	2.2	51.8	751	649	420	0	0	0	0	0	8000	4300	4450	5000	2250	2100	3048	0	0
44	2.2	2.2	51.8	733	649	420	0	0	0	0	0	8000	4300	4450	5000	2250	2100	1280	0	0
45	2.2	2.2	51.8	652	648	420	0	0	0	0	0	8000	4300	4450	5000	2250	1661	0	0	0
46	2.2	2.2	51.1	55	73	420	0	0	0	0	0	8000	4300	4450	5000	2250	1112	0	0	0
47	2.2	2.2	51.1	51	72	420	0	0	0	0	0	8000	4300	4450	5000	2250	569	0	0	0
48	2.2	2.2	51.1	45	72	420	0	0	0	0	0	8000	4300	4450	5000	2250	31	0	0	0
49	2.2	2.2	51.1	48	71	420	0	0	0	0	0	8000	4300	4450	5000	1758	0	0	0	0
50	2.2	2.2	49.2	30	44	420	0	0	0	0	0	8000	4300	4450	5000	1255	0	0	0	0
51	2.2	2.2	49.2	35	44	420	0	0	0	0	0	8000	4300	4450	5000	766	0	0	0	0
52	2.2	2.2	49.2	21	44	420	0	0	0	0	0	8000	4300	4450	5000	282	0	0	0	0

TOTALS FOR YEAR: RAIN 261.3997 RUNOFF 18.78874 EVAP 2775.301 SEEPAGE 10134.86 EVAP FROM RESERVOIR 8504.765 DOMESTIC 21086.87
OVERFLOW 0

PROPELLER PUMPS

The present centrifugal pumps that are being used require the use of relatively large motors to operate. With a centrifugal pump the energy requirement is similar whether the pump is used to pump water 2 meters or 10 meters. The propeller pump is made to pump water at relatively low head. There is a large difference in energy required for low lifts with a propeller pump as compared to a centrifugal pump. One company that manufactures a propeller pump is Crisafulli. A description of this pump and a cost estimate delivered to Port Said Sudan is given in the appendix. This 16-inch long-hitch pump will lift 10,000 gpm with a 82 hp tractor with a dynamic pumping head of 10 feet. The tractor can be used for other purposes when it is not used for pumping.

THE METHODS OF EVAPORATION CONTROL

There are two methods of durable evaporation control suitable for Sudan. These are the floating hollow ceramic flattened sphere. The other is the stucco-coated foam platform.

While in Sudan I worked with Jim Riley of the Western Sudan Agricultural Research Project in obtaining a prototype of a hollow ceramic flattened sphere that could be floated on water. One prototype was made out of clay sediment from the Nile River. It was made by hand labor approximately 18 inches in diameter and 10 inches high. The prototype was fired using rubbish in conventional earth kilns used by the local people. One of these prototypes was brought back to Tucson and wax-impregnated before being placed on water. The floatation level was about 50% of the height which is about optimum.

In addition to the hand molded ceramic sphere we also worked with spheres that could be molded in a plaster of paris mold. A mold was made up for us by Tawer Adam of the Khartoom Polyticnic, College of Fine Art. A larger mold was ordered. Additional work will be needed to evaluate these and other sources for the spheres in Sudan. It does appear that a cost effective cover should be possible. The important aspect for Sudan and other developing countries is that all the investment for this type of evaporation cover would stay in Sudan. The investment is almost entirely the labor required to obtain the clay, for molding the ceramic and for obtaining material to fire the kilns.

The ceramic spheres must be wax impregnated to eliminate any water movement through the thin ceramic with subsequent evaporation. This process has been used at the University of Arizona with very good results. It does not require much wax in order to impregnate the spheres. Any small holes otherwise not easily detected will show up in this impregnation process and can be repaired.

The other recommended proceedure for evaporation control is the use of stucco coated foam. Two types of foam are recommended. One is expanded polystyrene available from several sources around the world. The other is an extruded polystyrene that is primarily available through Dow Chemical company. It has a trade name of Strofoam. The expanded polystrene has the advantage of being readily available in large sheets up to several inches thickness 4-foot wide and 16 feet long. The availablity of the styrofoam is more limited particularly in the larger sheets. The advantage of the styrofoam is that it will not absorb water whereas the white foam could absorb as much as 25 percent of its volume. In addition the foam could allow water to pass completely through thus reducing the effectiveness of controling evaporation. The styrofoam is more expensive because it has a greater density.

The University of Arizona has developed a patented method of wax impregnation for eliminating water logging and movement through the expanded polystyrene sheets. The process of constructing a wax-treated cement-coated platform that can be used for both evaporation control and as a tracking platform for mounting solar collectors is shown in Figures 2-9.

The cost of this system is approximately $1.25/square foot in the United States. The system would have a life of 40 years or more and in the Sudan would save more than 60 U.S. gallons per square foot per year. Prices of the system in Sudan are being obtained and will be forwarded as soon as they are available.

The efficiency of the stucco-coated-foam platform would be close to 100% if wax impregnated expanded polystyrene or styrofoam were used. Due to its long trouble free life it should prove to be very cost effective in water short areas in Sudan. The cover will easily support foot traffic if any maintenance were needed.

The cover is particularly suited for shallow water harvesting systems for stockwater supplies, individual homes or small communities. These tanks could be lined with a termite resistant rubber liner and covered with stucco-coated foam platform which would float on the surface of the water. These shallow systems could be built using dikes on top of the ground since they could be fed with the rainfall that landed on the surface of the floating evaporation cover.

WATER HARVESTING AGRISYSTEMS

The clayey pediplain (gardud) soils in the Kordofan, Sudan are suitable for constructing water harvesting agrisystems. Gardud soils have low infiltration rates causing relatively high runoff It has been estimated that 5 % of the basins total rainfall eventually flows into Rahad Lake (Doxiadis 1966 Report DOX-SUD A57).

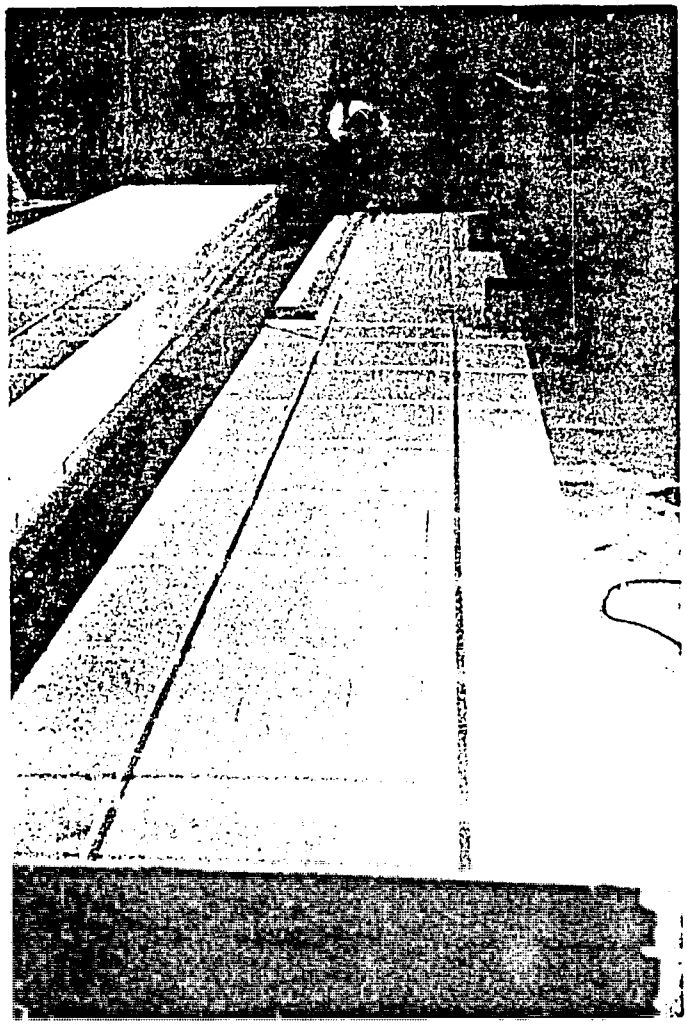


Figure 2. Making Grooves for Reinforced Concrete

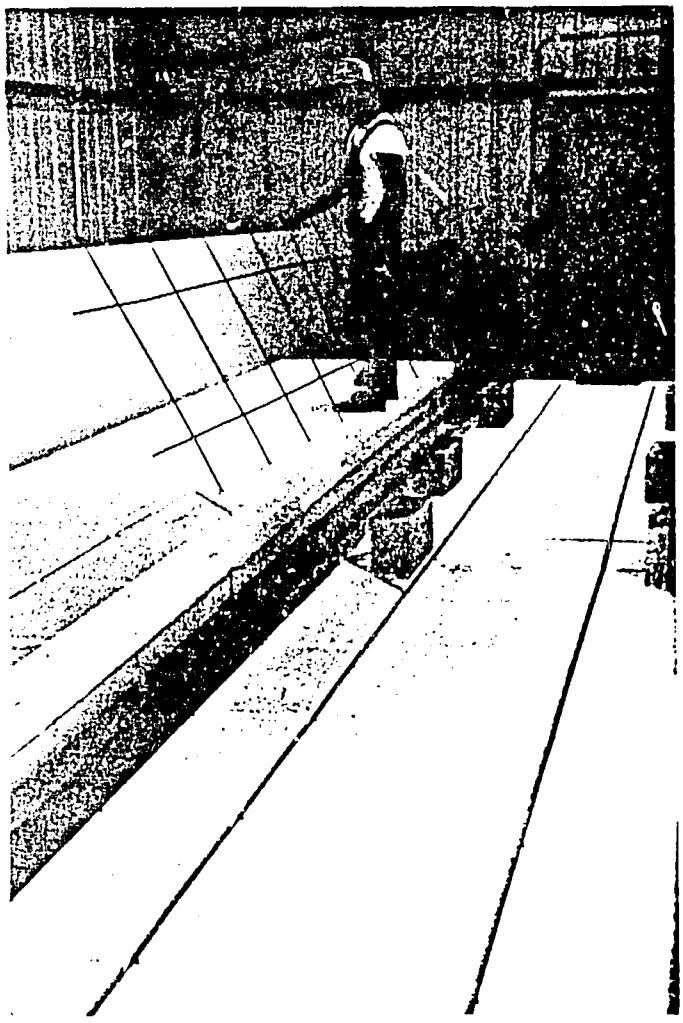


Figure 3. Placing Rebar

Figure 4. Lowering foam section into wax waterproofing chamber

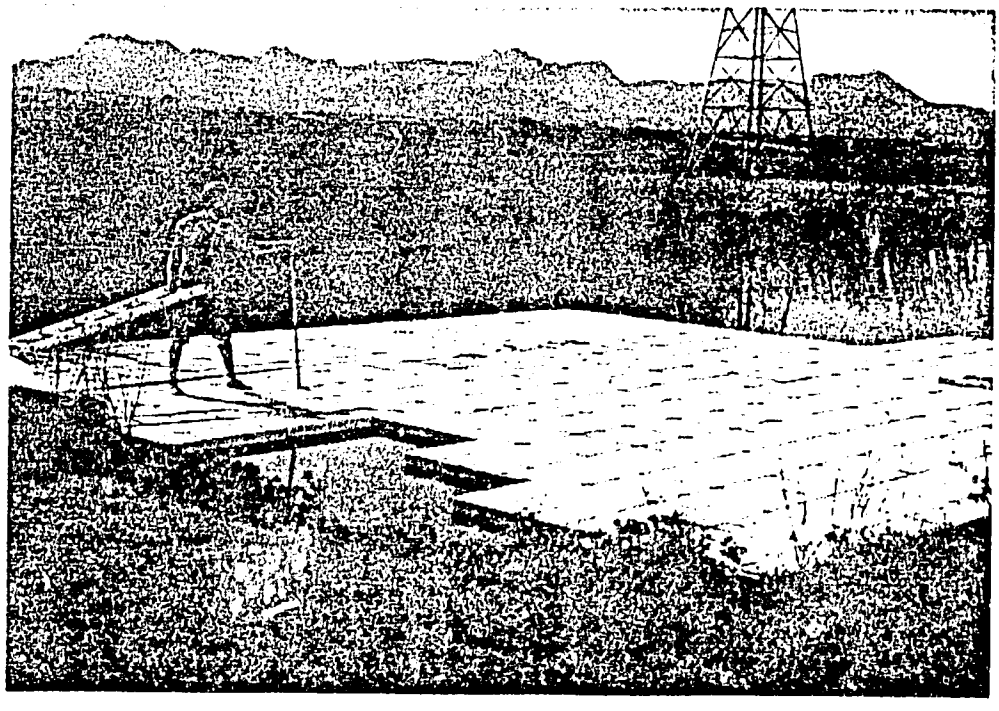


Figure 5. Aligning foam sections on pond

Figure 6. Making intertie between foam sheets

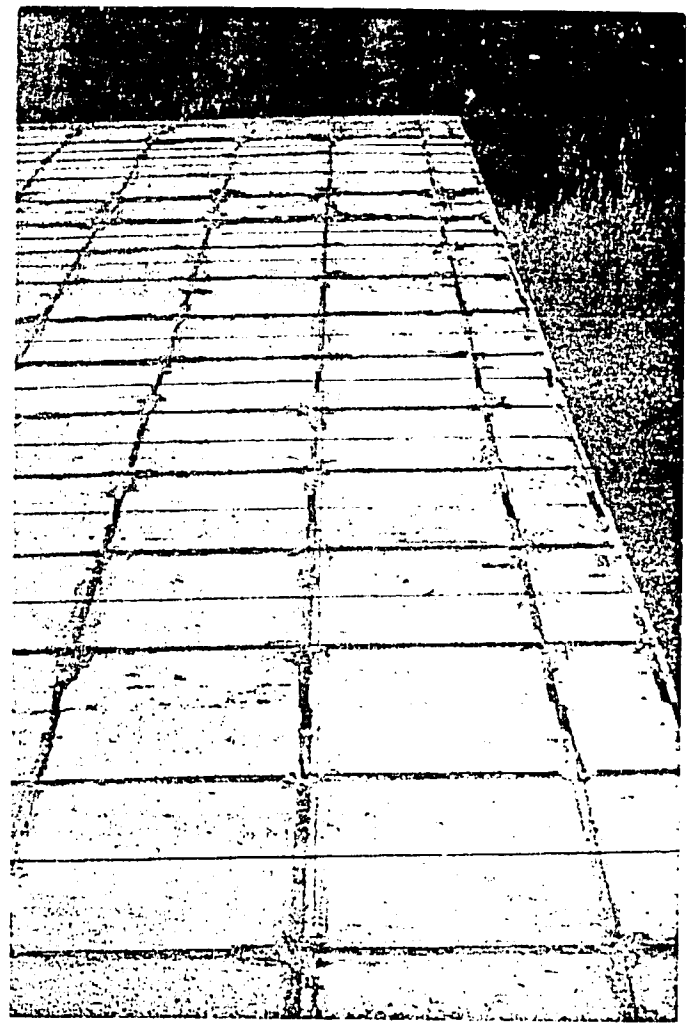


Figure 7. Platform prior to placement of cement filler and wire reinforcement

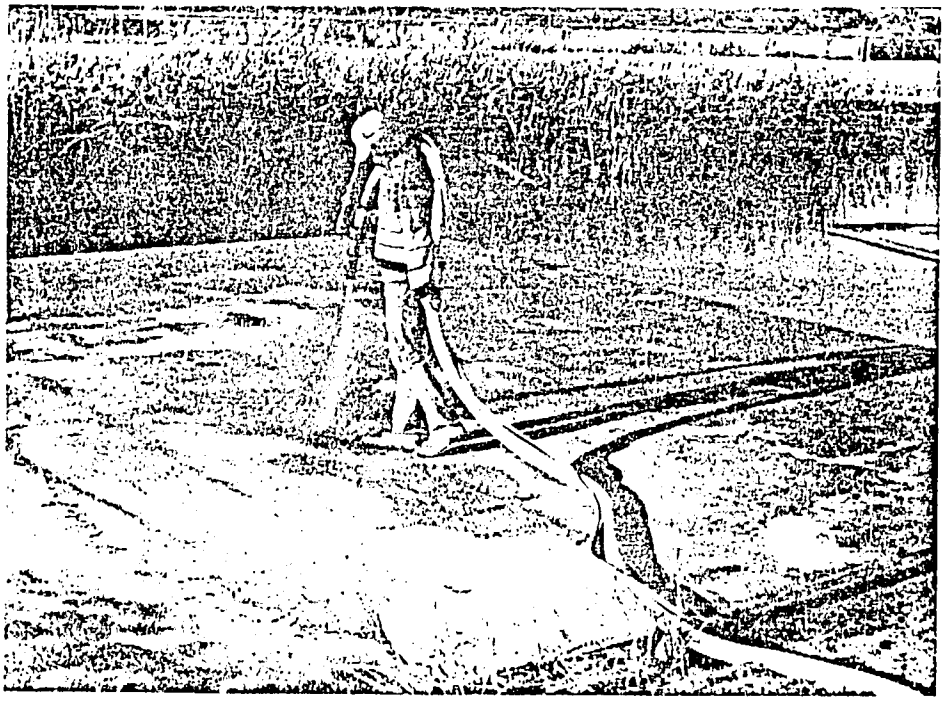


Figure 8. Guniting top surface of platform.

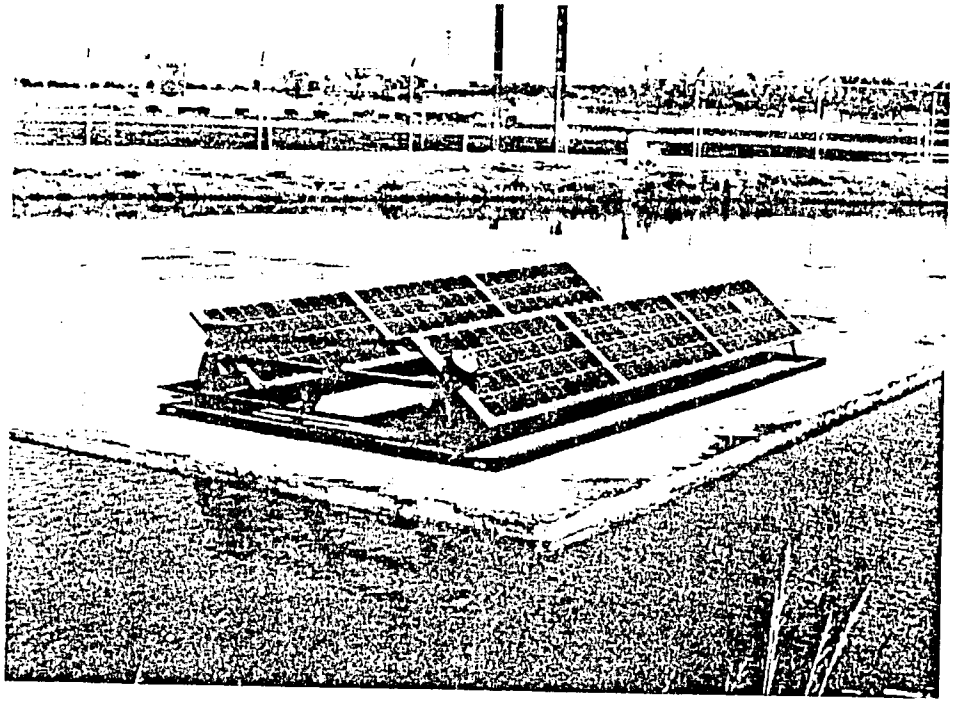


Figure 9. In addition to Evaporation Control Platform can be used for mounting altitude tracking solar arrays to provide dual track capability.

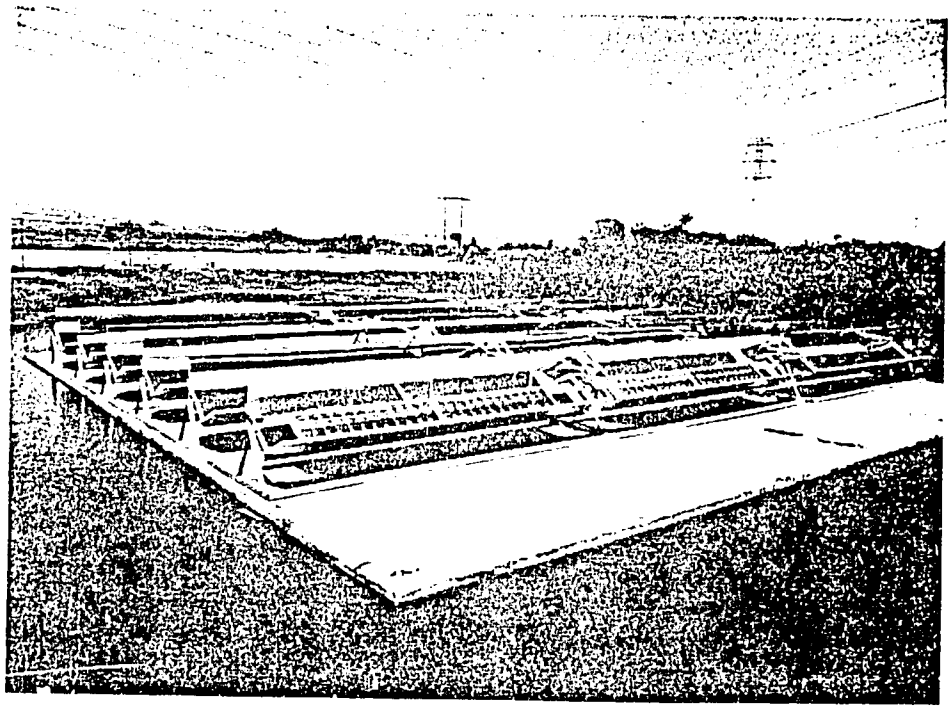


Figure 10. One sun solar panel can be placed in booster mirror arrays and dual tracked for maximum power.

During my trip to the area containing the gardud soils I noticed that runoff started after a few millimeters of rainfall. It has been shown in Arizona that the percent runoff is dependent on the size of watershed. A 16 square mile desert watershed in the Tucson Arizona area converted 3% of its annual rainfall to runoff over a 20 year period, whereas a typical one acre plot in that watershed has produced 16 percent. A cleared one acre watershed produces 30 percent.

On the gardud soils in Africa a corresponding higher runoff efficiency would be expected due to its higher clay content. A 50 percent efficiency would be expected on a shaped and smoothed surface of gardud soils where the distance from the top of the ridge to the planted area was in the order of 2-3 meters and the percent slope was no less than 4-5%.

The water holding capacity of a soil is the difference between field capacity and the permanent wilting point. According to Lalit Arya, Soil and Water Specialist for the Western Sudan Agricultural Project this difference could be from 6 to 17% by volume (See the attached letter.)

A run was made using the rainfall model RAMOD1 and the compartmented reservoir program CROP84. Daily rainfall as measured at El Obeid was converted to runoff in RAMOD1 and then combined into weekly arrays. The weekly data was used in CROP84 together with soil and evaporation data. The agrisystem option keeps track of the evapotranspiration loss, both maximum and actual, the evapotranspiration loss, soil moisture and the level of water in a compartmented reservoir system. The program CROP84 will call for an irrigation from the reservoir if water is available otherwise a deficiency will be calculated.

The simulation was made as shown in the appendix for a system with three 2000 cubic meter compartments each covering 1130 square meters. This reservoir system collected water from 50,000 square meters of catchment supplying water 7500 square meters of groundnuts and 7,500 square meters of sorghum for a 1:3.33 planted to watershed ratio. With this ratio the planted area would be 23 percent of the total area.

This simulation showed that supplementry irrigation was needed in all of the 31 years to maximize production for the crops grown. For example in 1956 above average rainfall provided 649.7 mm but an additional 269 mm of applied irrigation water was also needed. Out of the 269 mm it was assumed by the model that 80% went into the root zone and was available to the crops. Thus a total of 864.7 mm was used by the crop in 1956.

For this design the model showed there were 11 years during the period 1954-1984 that the crops had no water deficiencies and therefore would have had maximum yields unless there was other limiting factors such as pests or fertility. Four years would have had no harvest or extremely poor yields. Two years would have had a small harvest and 5 years would have had a moderate

harvest. The remaining 9 years would have had yields close to the maximum. Thus the application of this water harvesting system with a 1:3.33 cropped to watershed area and a compartmented reservoir storage ratio of 0.4 cubic meter/square meter of planted area would greatly improve the stability of agriculture on gardud soils in the El Obeid area.

The cost of establishing a water harvesting agrisystem would be moderate particularly if several systems were established at one time. A road grader could install several hectares of strip water harvesting systems per day. A D-6 dozer could excavate several of the shallow (2 meter deep) reservoirs in a week.

It is recommended that two or three agrisystems of the size described herein be constructed next year in the El Obeid area. Data from these experimental systems could be used to better calibrate both RAMOD1 and CROP84 so that more exact designs could be made and additional systems installed in the following year.

SUMMARY

The conventional solution for water problems in Sudan is principally the drilling of wells. The aquifers in Africa for the most part are not extensive and therefore will require provision for recharge to prevent them from going dry. In the El Obeid area recharge is presently coming primarily from surface reservoirs. The town water supply reservoirs have considerable seepage. In addition there are livestock watering ponds that provide additional recharge through seepage. With the drilling of new wells additional unlined surface reservoirs will be needed to provide recharge of the ground water aquifer through seepage. The reservoirs should always compartmented to reduce evaporation losses.

In order to assure that El Obeid will not run out of water in times of drought modifications to the water supply system should be made. This includes additional compartments in the reservoirs and evaporation control. The propeller pump should be used for efficient low head pumping.

Before modifications are made additional computer runs with more exact data of the water levels need to be made. Population projections are needed to develop a water supply that will fit future needs.

The additional studies might indicate that Rahad Lake Water might be needed for El Obeid. If this is the case the compartmentalization of Rahad Lake would be needed in order to provide an assured supply for the local area before transporting excess water to El Obeid. In order to stabilize agriculture in the marginal dryland areas of Sudan supplemental irrigation is needed. The wells are too small to provide this irrigation.

Additional development of efficient storage reservoirs is needed. The compartmented reservoir with evaporation cover on the "last" compartment would provide the supplemental irrigation needed to maximize crop production. This system coupled with strip farms to provide concentration of runoff on the planted area appears to be a viable system to investigate further particularly for the gardud soils of Western Sudan.

REFERENCES

Cluff, C. Brent, "Compartmented Reservoir-Efficient Water Storage", Dissertation, Colorado State University, Fort Collins, Colorado, 1977.

PROJECT LOCATION: EL OBEID WATER HARVESTING AGRISYSTEM

PROJECT LOCATION: EL OBEID WATER HARVESTING AGRISYSTEM

PROJECT LOCATION: EL OBEID WATER HARVESTING SYSTEM

RESERVOIR SYSTEM PARAMETERS:

COMPARTMENT	VOLUME(CM)	DEPTH(M)	SLOPE(RUN/RISE)	AREA OF TOP(SM)	AREA OF BOTTOM(SM)	EVAP. CONTROL EFFIC.(%)
1	2000	2	1	1130.491	877.5089	0
2	2000	2	1	1130.491	877.5089	0
3	2000	2	1	1130.491	877.5089	0

TOTAL AREA OF THE WATERSHED (SQUARE METERS): 50000

PARAMETERS FOR CROPS THAT MAY BE USED AT SOME POINT DURING THE SIMULATION:

CROP AREA 2 : GROUNDNUTS
MAXIMUM OR AVERAGE ROOT DEPTH (METERS): 1.5 AVAILABLE WATER HOLDING CAPACITY OF SOIL (BY VOLUME): 10.0%
LENGTH OF GROWING SEASON (WEEKS) 17 AVERAGE RATE OF ROOT GROWTH (MM PER WEEK):108.3

COEFFICIENT VALUES - GROUNDNUTS:

WEEK:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
#:	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.95	1.05	0.95	0.85	0.70	0.60	0.50	0.40	0.30	0.20	0.15	0.14	0.13	0.12	0.11	0.10

WEEK:	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
#:	0.09	0.08	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03

CROP AREA 3 : SORGHUM
MAXIMUM OR AVERAGE ROOT DEPTH (METERS): 2 AVAILABLE WATER HOLDING CAPACITY OF SOIL (BY VOLUME): 10.0%
LENGTH OF GROWING SEASON (WEEKS) 16 AVERAGE RATE OF ROOT GROWTH (MM PER WEEK):138.5

COEFFICIENT VALUES - SORGHUM:

WEEK:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
#:	0.40	0.50	0.60	0.70	0.74	0.78	0.82	0.86	0.90	0.95	1.00	1.05	1.15	1.00	0.85	0.70	0.55	0.45	0.35	0.25	0.15	0.10	0.09	0.08	0.07	0.06

WEEK:	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
#:	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03

CROPS TO BE USED FOR SIMULATION UNTIL CHANGED:

CROP AREA 2 : GROUNDNUTS
SIZE OF CROP AREA (SQUARE METERS): 7500
SOIL MOISTURE CAPACITY VOLUME (CUBIC METERS): 1125
PERCENT VOLUME OF WATER IN RESERVOIR NEEDED TO BEGIN CROPPING: 10
THE PLANTING OF THE CROP IS LIMITED TO WEEKS 26 TO 35

CROP AREA 3 : SORGHUM
SIZE OF CROP AREA (SQUARE METERS): 7500
SOIL MOISTURE CAPACITY VOLUME (CUBIC METERS): 1500
PERCENT VOLUME OF WATER IN RESERVOIR NEEDED TO BEGIN CROPPING: 10
THE PLANTING OF THE CROP IS LIMITED TO WEEKS 26 TO 35

LEGEND

****

ENTRY	DESCRIPTION	UNITS
RA	WEEKLY RAINFALL	MM
RO	WEEKLY RUNOFF, OBTAINED FROM RA-MOD1	MM
EVAP	POND EVAPORATION	MM
SRT	TOTAL SEEPAGE FROM RESERVOIR SYSTEM	M
VST	TOTAL VOLUME OF AVAILIABLE SOIL MOISTURE	M
ERT	EVAPORATION FROM RESERVOIRS	M
ET	EVAPOTRANSPIRATION REQUIRED FOR ALL CROPS	M
ETA	ACTUAL ET TOTAL USED BY THE CROPS	M
IRR	TOTAL IRRIGATION DURING WEEK	M
OVFL	TOTAL WEEKLY RESERVOIR OVERFLOW	M
PER	TOTAL PERCOLATION FROM CROPPED AREA	M
DEFIC	AMOUNT OF WATER NEEDED TO INCREASE THE SOIL MOISTURE TO THE LEVEL THAT IRRIGATION WOULD BE MADE IF WATER WAS AVAILIABLE.	M
R(1),R(2) ETC.	VOLUME OF WATER IN RESPECTIVE COMPARTMENT	M
C(1),C(2) ETC.	VOLUME OF REACHABLE SOIL MOISTURE UNDER THE RESPECTIVE CROP	M

SYSTEM OPERATION FOR THE YEAR 1954

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	84	473	169	52	52	0	0	0	0	2000	2000	1747	0	0	191	281	0	0
2	0.0	0.0	49.7	81	424	167	48	48	0	0	0	0	2000	2000	1499	0	0	162	263	0	0
3	0.0	0.0	49.7	78	380	166	45	45	0	0	0	0	2000	2000	1256	0	0	136	244	0	0
4	0.0	0.0	49.7	74	339	164	41	41	0	0	0	0	2000	2000	1018	0	0	113	225	0	0
5	0.0	0.0	53.9	71	298	176	40	40	0	0	0	0	2000	2000	770	0	0	93	205	0	0
6	0.0	0.0	53.9	68	258	175	40	40	0	0	0	0	2000	2000	528	0	0	73	185	0	0
7	0.0	0.0	53.9	65	217	173	40	40	0	0	0	0	2000	2000	290	0	0	53	165	0	0
8	0.0	0.0	57.4	62	174	182	43	43	0	0	0	0	2000	2000	46	0	0	31	143	0	0
9	0.0	0.0	57.4	59	131	180	43	43	0	0	0	0	2000	1806	0	0	0	9	122	0	0
10	0.0	0.0	66.5	54	82	149	50	50	0	0	0	0	2000	1604	0	0	0	-15	97	0	0
11	0.0	0.0	66.5	51	57	147	50	50	0	0	0	0	2000	1406	0	0	0	-15	72	0	0
12	0.0	0.0	66.5	48	32	146	50	50	0	0	0	0	2000	1212	0	0	0	-15	47	0	0
13	0.0	0.0	66.5	46	7	144	50	50	0	0	0	0	2000	1023	0	0	0	-15	22	0	0
14	0.0	0.0	62.3	43	-16	133	47	46	0	0	0	0	2000	847	0	0	0	-15	-1	0	0
15	0.0	0.0	62.3	41	-15	132	42	41	0	0	0	0	2000	674	0	0	0	-14	-1	0	0
16	0.0	0.0	60.2	39	-13	126	41	39	0	0	0	0	2000	509	0	0	0	-13	-0	0	0
17	13.6	2.4	60.2	36	59	125	41	41	0	0	0	0	2000	504	0	0	0	21	38	0	0
18	0.0	0.0	60.2	36	19	125	41	41	0	0	0	0	2000	343	0	0	0	-2	20	0	0
19	0.0	0.0	60.2	34	1	124	35	36	0	0	0	0	2000	185	0	0	0	-2	2	0	0
20	0.0	0.0	60.2	33	-13	122	32	31	0	0	0	0	2000	30	0	0	0	-2	-11	0	0
21	9.0	1.7	60.2	31	53	121	32	32	0	0	0	0	1994	0	0	0	0	29	24	0	0
22	22.2	9.5	60.2	28	231	68	32	32	0	0	0	0	2000	454	0	0	0	116	115	0	0
23	0.0	0.0	58.8	36	205	122	26	26	0	0	0	0	2000	297	0	0	0	103	102	0	0
24	0.2	0.0	58.8	34	181	120	26	26	0	0	0	0	2000	143	0	0	0	91	90	0	0
25	0.0	0.0	58.8	32	154	119	26	26	0	0	0	0	1991	0	0	0	0	77	77	0	0
26	0.0	0.0	58.8	28	128	66	26	26	0	0	0	0	1897	0	0	0	0	64	63	0	0
27	10.2	1.4	58.8	27	485	66	353	353	879	0	0	0	1018	0	0	0	0	231	254	0	0
28	59.2	28.9	58.8	15	608	59	419	419	0	0	0	0	2000	623	0	0	0	305	304	0	0
29	31.4	17.0	50.4	38	472	105	416	416	0	0	0	0	2000	1500	0	0	0	255	217	0	0
30	2.1	0.0	50.4	49	1040	111	473	473	1264	0	0	0	2000	82	0	0	0	475	565	0	0
31	81.6	45.8	41.3	31	1225	83	415	415	0	0	0	0	2000	2000	694	0	0	556	669	0	0
32	13.3	1.9	41.3	67	935	133	443	443	0	0	0	0	2000	2000	641	0	0	429	526	0	0
33	140.1	139.5	41.3	66	1313	133	471	471	0	6707	0	0	2000	2000	2000	0	0	634	679	0	0
34	1.0	0.0	41.3	64	831	140	499	499	0	0	0	0	2000	2000	1779	0	0	408	423	0	0
35	3.0	0.1	41.3	81	1966	139	527	527	2027	0	0	0	2000	1545	0	0	0	881	1085	0	0
36	28.5	11.4	41.3	50	1686	91	558	558	0	0	0	0	2000	2000	103	0	0	755	932	0	0
37	53.7	21.8	44.8	60	1550	141	655	655	0	0	0	0	2000	2000	1290	0	0	693	857	0	0
38	5.9	0.4	44.8	75	2521	148	706	706	2006	0	0	0	2000	1104	0	0	0	1125	1396	0	0
39	0.6	0.0	44.8	44	1827	96	706	706	0	0	0	0	2000	965	0	0	0	809	1018	0	0
40	0.0	0.0	44.8	42	1214	96	622	613	0	0	0	25	2000	827	0	0	0	532	682	0	0
41	0.1	0.0	51.8	40	659	110	602	556	0	0	0	540	2000	677	0	0	0	268	391	0	0
42	0.0	0.0	51.8	39	275	109	505	384	0	0	0	771	2000	530	0	0	0	83	191	0	0
43	0.0	0.0	51.8	37	132	108	206	143	0	0	0	473	2000	386	0	0	0	-48	180	0	0
44	0.0	0.0	51.8	35	-32	107	186	175	0	0	0	273	2000	244	0	0	0	-48	16	0	0
45	0.0	0.0	51.8	33	-148	106	148	128	0	0	0	273	2000	105	0	0	0	-48	-100	0	0
46	0.0	0.0	51.1	32	-132	103	107	92	0	0	0	273	1970	0	0	0	0	-48	-84	0	0
47	0.0	0.0	51.1	28	-125	58	69	62	0	0	0	273	1885	0	0	0	0	-48	-77	0	0
48	0.0	0.0	51.1	27	-121	57	50	46	0	0	0	272	1801	0	0	0	0	-47	-73	0	0
49	0.0	0.0	51.1	25	-116	57	46	42	0	0	0	272	1719	0	0	0	0	-47	-69	0	0
50	0.0	0.0	49.0	24	-113	54	40	37	0	0	0	272	1641	0	0	0	0	-47	-66	0	0
51	0.0	0.0	49.0	23	-109	53	37	33	0	0	0	271	1565	0	0	0	0	-46	-63	0	0
52	0.0	0.0	49.0	22	-107	53	33	30	0	0	0	271	1490	0	0	0	0	-46	-61	0	0
SUM	472.70	281.80	2778.30																		

TOTALS FOR YEAR: RAIN 472.6996 RUNOFF 281.8031 EVAP 2778.301 SEEPAGE 2384.857 EVAP FROM RESERVOIR 6155.873 EVAPOTRANSPIRATION 10330.01 IRRIGATION 6176.258 OVERFLOW 6706.69 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1955

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	21	-96	53	52	41	0	0	0	0	1416	0	0	0	0	-37	-59	0	0
2	0.0	0.0	49.7	20	-86	53	48	38	0	0	0	0	1343	0	0	0	0	-29	-57	0	0
3	0.0	0.0	49.7	19	-77	52	45	36	0	0	0	0	1272	0	0	0	0	-22	-55	0	0
4	0.0	0.0	49.7	18	-69	52	41	33	0	0	0	0	1202	0	0	0	0	-17	-52	0	0
5	0.0	0.0	53.9	17	-60	56	40	32	0	0	0	0	1129	0	0	0	0	-12	-48	0	0
6	0.0	0.0	53.9	16	-52	55	40	32	0	0	0	0	1058	0	0	0	0	-7	-45	0	0
7	0.0	0.0	53.9	15	-42	55	40	31	0	0	0	0	988	0	0	0	0	-1	-41	0	0
8	0.0	0.0	57.4	14	-30	58	43	31	0	0	0	0	915	0	0	0	0	5	-35	0	0
9	0.0	0.0	57.4	13	-40	57	43	31	0	0	0	0	845	0	0	0	0	-10	-30	0	0
10	0.0	0.0	66.5	13	-23	66	50	33	0	0	0	0	766	0	0	0	0	-0	-23	0	0
11	0.0	0.0	66.5	12	-5	65	50	32	0	0	0	0	690	0	0	0	0	10	-15	0	0
12	0.0	0.0	66.5	11	-11	64	50	31	0	0	0	0	615	0	0	0	0	-5	-6	0	0
13	0.0	0.0	66.5	10	8	64	50	31	0	0	0	0	542	0	0	0	0	6	2	0	0
14	0.0	0.0	62.3	9	-21	59	47	29	0	0	0	0	474	0	0	0	0	-8	-13	0	0
15	6.2	0.8	62.3	8	23	59	42	26	0	0	0	0	457	0	0	0	0	14	9	0	0
16	0.0	0.0	60.2	8	-3	56	41	25	0	0	0	0	393	0	0	0	0	1	-4	0	0
17	0.0	0.0	60.2	7	-10	56	41	25	0	0	0	0	330	0	0	0	0	-11	1	0	0
18	0.0	0.0	60.2	6	-12	55	41	25	0	0	0	0	268	0	0	0	0	-1	-11	0	0
19	0.0	0.0	60.2	5	1	55	36	23	0	0	0	0	208	0	0	0	0	7	-5	0	0
20	0.0	0.0	60.2	5	-6	55	32	21	0	0	0	0	149	0	0	0	0	-4	-2	0	0
21	1.2	0.0	60.2	4	-12	54	32	20	0	0	0	0	92	0	0	0	0	-7	-5	0	0
22	0.0	0.0	60.2	3	-0	54	32	20	0	0	0	0	35	0	0	0	0	1	-1	0	0
23	8.6	0.3	58.8	3	83	52	26	18	0	0	0	0	5	0	0	0	0	43	40	0	0
24	3.1	0.1	58.8	2	102	52	26	18	0	0	0	0	0	0	0	0	0	53	49	0	0
25	0.0	0.0	58.8	0	84	0	26	18	0	0	0	0	0	0	0	0	0	44	40	0	0
26	4.4	0.2	58.8	0	118	0	26	17	0	0	0	0	14	0	0	0	0	62	56	0	0
27	0.0	0.0	58.8	2	101	52	26	17	0	0	0	0	0	0	0	0	0	54	47	0	0
28	51.9	21.8	58.8	0	566	0	26	26	0	0	0	0	1220	0	0	0	0	287	280	0	0
29	31.8	13.0	50.4	17	485	52	302	302	404	0	0	0	1507	0	0	0	0	231	254	0	0
30	8.4	0.5	50.4	21	247	54	359	359	0	0	0	0	1470	0	0	0	0	125	122	0	0
31	45.8	19.2	41.3	21	362	44	341	341	0	0	0	0	2000	531	0	0	0	156	166	0	0
32	46.6	20.3	41.3	37	433	86	387	387	0	0	0	0	2000	1641	0	0	0	248	185	0	0
33	11.8	2.1	41.3	51	1225	92	415	415	1324	0	0	0	2000	317	0	0	0	556	669	0	0
34	0.9	0.0	41.3	34	813	85	443	443	0	0	0	0	2000	200	0	0	0	360	452	0	0
35	24.1	5.4	41.3	33	1065	84	471	471	558	0	0	0	1874	0	0	0	0	719	346	0	0
36	45.2	22.7	41.3	26	1670	46	499	499	848	0	0	0	2000	274	0	0	0	690	981	0	0
37	59.8	49.0	44.8	34	1542	92	571	571	0	0	0	0	2000	2000	1014	0	0	633	910	0	0
38	13.6	2.7	44.8	71	1646	146	605	605	677	0	0	0	2000	2000	314	0	0	963	683	0	0
39	18.4	4.2	44.8	62	2033	142	655	655	1035	0	0	0	2000	1370	0	0	0	741	1292	0	0
40	11.3	2.5	44.8	48	2144	98	706	706	845	0	0	0	2000	542	0	0	0	1125	1019	0	0
41	16.1	2.6	51.8	37	2345	108	816	816	1024	0	0	0	1552	0	0	0	0	845	1500	0	0
42	0.0	0.0	51.8	22	1638	56	719	706	0	0	0	85	1475	0	0	0	0	527	1112	0	0
43	0.0	0.0	51.8	21	1044	55	602	595	0	0	0	276	1398	0	0	0	0	262	781	0	0
44	0.0	0.0	51.8	20	569	55	505	474	0	0	0	477	1324	0	0	0	0	34	535	0	0
45	0.0	0.0	51.8	19	397	54	206	173	0	0	0	552	1251	0	0	0	0	-127	523	0	0
46	0.0	0.0	51.1	18	224	53	184	184	0	0	0	352	1180	0	0	0	0	-127	351	0	0
47	0.0	0.0	51.1	17	96	53	146	140	0	0	0	352	1110	0	0	0	0	-127	222	0	0
48	0.0	0.0	51.1	16	8	52	107	99	0	0	0	352	1042	0	0	0	0	-127	135	0	0
49	0.0	0.0	51.1	15	-44	52	69	64	0	0	0	351	975	0	0	0	0	-126	82	0	0
50	0.0	0.0	49.0	14	-79	49	48	45	0	0	0	351	912	0	0	0	0	-126	48	0	0
51	0.0	0.0	49.0	13	-109	49	44	41	0	0	0	351	849	0	0	0	0	-126	17	0	0
52	0.0	0.0	49.0	13	-135	48	40	38	0	0	0	351	788	0	0	0	0	-126	-9	0	0
SUM	409.20	167.33	2778.30																		

TOTALS FOR YEAR: RAIN 409.1995 RUNOFF 167.3301 EVAP 2778.301 SEEPAGE 940.5219 EVAP FROM RESERVOIR 3111.939 EVAPOTRANSPIRATION 10333.25 IRRIGATION 6716.744 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1956

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(
1	0.0	0.0	49.7	12	-128	49	52	45	0	0	0	0	728	0	0	0	0	-120	-8	0	
2	0.0	0.0	49.7	11	-122	48	48	42	0	0	0	0	668	0	0	0	0	-115	-7	0	
3	0.0	0.0	49.7	10	-115	48	45	38	0	0	0	0	610	0	0	0	0	-110	-5	0	
4	0.0	0.0	49.7	10	-110	48	41	35	0	0	0	0	553	0	0	0	0	-106	-4	0	
5	0.0	0.0	53.9	9	-104	51	40	34	0	0	0	0	493	0	0	0	0	-103	-1	0	
6	0.0	0.0	53.9	8	-97	51	40	34	0	0	0	0	434	0	0	0	0	-99	2	0	
7	0.0	0.0	53.9	7	-110	50	40	33	0	0	0	0	376	0	0	0	0	-94	-15	0	
8	0.0	0.0	57.4	7	-100	53	43	34	0	0	0	0	316	0	0	0	0	-89	-11	0	
9	0.0	0.0	57.4	6	-90	53	43	33	0	0	0	0	258	0	0	0	0	-83	-7	0	
10	0.0	0.0	66.5	5	-76	61	50	35	0	0	0	0	192	0	0	0	0	-75	-0	0	
11	0.0	0.0	66.5	4	-60	60	50	34	0	0	0	0	127	0	0	0	0	-67	6	0	
12	0.0	0.0	66.5	4	-69	59	50	34	0	0	0	0	64	0	0	0	0	-57	-11	0	
13	0.0	0.0	66.5	3	-52	59	50	33	0	0	0	0	2	0	0	0	0	-48	-4	0	
14	0.0	0.0	62.3	2	-52	55	93	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
15	0.0	0.0	62.3	0	-52	0	93	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
16	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
17	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
18	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
19	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
20	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
21	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
22	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-48	-4	0	
23	1.9	0.0	58.8	0	-40	0	57	11	0	0	0	0	0	0	0	0	0	-37	-4	0	
24	5.9	0.4	58.8	0	20	0	26	21	0	0	0	0	23	0	0	0	0	1	20	0	
25	0.5	0.0	58.8	2	5	52	26	21	0	0	0	0	0	0	0	0	0	-6	12	0	
26	0.0	0.0	58.8	0	-6	0	57	11	0	0	0	0	0	0	0	0	0	-6	1	0	
27	103.6	116.5	58.8	0	512	0	26	26	0	523	0	0	2000	2000	2000	0	0	252	260	0	
28	23.2	6.6	53.8	84	438	199	353	353	445	0	0	0	2000	2000	1722	0	0	231	206	0	
29	85.5	50.1	50.4	81	670	169	359	359	0	2565	0	0	2000	2000	2000	0	0	313	358	0	
30	92.5	69.2	50.4	84	855	171	415	416	0	3932	0	0	2000	2000	2000	0	0	394	462	0	
31	23.5	8.3	41.3	84	719	140	387	387	0	323	0	0	2000	2000	2000	0	0	342	376	0	
32	36.3	19.1	41.3	84	648	140	415	415	0	972	0	0	2000	2000	2000	0	0	330	328	0	
33	117.3	104.8	41.3	84	1002	140	443	443	0	6042	0	0	2000	2000	2000	0	0	508	494	0	
34	24.1	5.8	41.3	84	804	140	471	471	0	180	0	0	2000	2000	2000	0	0	418	386	0	
35	5.6	0.7	41.3	84	1781	140	499	499	1743	0	0	0	2000	2000	91	0	0	800	981	0	
36	46.0	14.5	41.3	60	1737	130	527	527	0	0	0	0	2000	2000	858	0	0	785	952	0	
37	32.9	11.0	44.8	69	1479	146	605	605	0	0	0	0	2000	2000	1367	0	0	663	816	0	
38	1.0	0.0	44.8	76	2336	148	655	655	1853	0	0	0	2000	1293	0	0	0	1044	1292	0	
39	33.8	17.4	44.8	47	1949	97	706	706	0	0	0	0	2000	2000	200	0	0	841	1108	0	
40	15.6	5.2	44.8	61	1418	142	706	706	0	0	0	0	2000	2000	337	0	0	620	818	0	
41	0.0	0.0	51.8	63	767	165	719	651	0	0	0	594	2000	2000	110	0	0	282	484	0	
42	0.0	0.0	51.8	60	332	163	602	434	0	0	0	867	2000	1887	0	0	0	76	257	0	
43	0.0	0.0	51.8	55	24	116	505	308	0	0	0	1022	2000	1716	0	0	0	-71	95	0	
44	0.0	0.0	51.8	52	12	115	23	23	0	0	0	296	2000	1548	0	0	0	-71	83	0	
45	0.0	0.0	51.8	50	-151	114	186	175	0	0	0	296	2000	1384	0	0	0	-71	-80	0	
46	0.0	0.0	51.1	48	-132	112	146	126	0	0	0	296	2000	1224	0	0	0	-71	-61	0	
47	0.0	0.0	51.1	46	-116	111	107	92	0	0	0	296	2000	1068	0	0	0	-71	-46	0	
48	0.0	0.0	51.1	44	-109	110	69	62	0	0	0	295	2000	915	0	0	0	-70	-38	0	
49	0.0	0.0	51.1	42	-105	109	50	46	0	0	0	295	2000	764	0	0	0	-70	-35	0	
50	0.0	0.0	49.0	40	-101	103	44	40	0	0	0	295	2000	621	0	0	0	-70	-31	0	
51	0.0	0.0	49.0	38	-97	102	40	37	0	0	0	295	2000	481	0	0	0	-70	-28	0	
52	0.0	0.0	49.0	36	-94	102	37	33	0	0	0	294	2000	342	0	0	0	-69	-25	0	
SUM	649.70	429.70	2778.30																		

TOTALS FOR YEAR: RAIN 649.6996 RUNOFF 429.6988 EVAP 2778.301 SEEPAGE 1655.923 EVAP FROM RESERVOIR 4121.888 EVAPOTRANSPIRATION 10675.24 IRRIGATION 4040.504 OVERFLOW 14535.99 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1957

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	34	-84	102	52	43	0	0	0	0	2000	207	0	0	0	-61	-23	0	0
2	0.0	0.0	49.7	33	-75	101	48	39	0	0	0	0	2000	73	0	0	0	-54	-21	0	0
3	0.0	0.0	49.7	31	-67	100	45	37	0	0	0	0	1942	0	0	0	0	-48	-19	0	0
4	0.0	0.0	49.7	27	-60	56	41	34	0	0	0	0	1858	0	0	0	0	-43	-17	0	0
5	0.0	0.0	53.9	26	-53	60	40	33	0	0	0	0	1772	0	0	0	0	-39	-14	0	0
6	0.0	0.0	53.9	25	-44	59	40	32	0	0	0	0	1688	0	0	0	0	-34	-10	0	0
7	0.0	0.0	53.9	24	-36	59	40	32	0	0	0	0	1605	0	0	0	0	-29	-7	0	0
8	0.0	0.0	57.4	23	-25	62	43	32	0	0	0	0	1520	0	0	0	0	-23	-2	0	0
9	0.0	0.0	57.4	21	-13	62	43	31	0	0	0	0	1437	0	0	0	0	-16	3	0	0
10	4.2	0.2	66.5	20	2	71	50	34	0	0	0	0	1362	0	0	0	0	-8	10	0	0
11	0.0	0.0	66.5	19	-5	70	50	33	0	0	0	0	1273	0	0	0	0	2	-7	0	0
12	0.0	0.0	66.5	18	-12	69	50	32	0	0	0	0	1185	0	0	0	0	-13	1	0	0
13	0.0	0.0	66.5	17	-19	69	50	31	0	0	0	0	1100	0	0	0	0	-3	-16	0	0
14	0.0	0.0	62.3	16	-2	64	47	30	0	0	0	0	1020	0	0	0	0	7	-6	0	0
15	0.0	0.0	62.3	15	-10	63	42	27	0	0	0	0	943	0	0	0	0	-7	-3	0	0
16	0.0	0.0	60.2	14	5	60	41	26	0	0	0	0	869	0	0	0	0	3	2	0	0
17	0.0	0.0	60.2	13	-21	60	41	25	0	0	0	0	796	0	0	0	0	-10	-11	0	0
18	0.0	0.0	60.2	12	-5	59	41	25	0	0	0	0	725	0	0	0	0	0	-5	0	0
19	6.8	0.8	60.2	11	48	59	36	23	0	0	0	0	709	0	0	0	0	28	21	0	0
20	0.0	0.0	60.2	11	27	58	32	21	0	0	0	0	640	0	0	0	0	17	10	0	0
21	15.8	5.1	60.2	10	165	58	32	21	0	0	0	0	873	0	0	0	0	86	80	0	0
22	0.0	0.0	60.2	13	145	60	32	20	0	0	0	0	800	0	0	0	0	75	70	0	0
23	2.1	0.0	58.8	12	152	58	26	18	0	0	0	0	732	0	0	0	0	79	73	0	0
24	0.0	0.0	58.8	11	134	57	26	18	0	0	0	0	664	0	0	0	0	71	63	0	0
25	18.6	3.8	58.8	10	316	57	26	18	0	0	0	0	826	0	0	0	0	163	154	0	0
26	17.7	3.8	58.8	12	480	58	26	26	0	0	0	0	983	0	0	0	0	244	235	0	0
27	0.0	0.0	58.8	14	485	59	353	353	686	0	0	0	224	0	0	0	0	231	254	0	0
28	1.2	0.0	58.8	5	264	53	419	389	167	0	0	33	0	0	0	0	0	186	78	0	0
29	12.8	1.8	50.4	0	112	0	416	394	101	0	0	192	0	0	0	0	0	157	-45	0	0
30	45.5	17.3	50.4	0	875	0	473	473	970	0	0	0	0	0	0	0	0	475	400	0	0
31	12.2	2.4	41.3	0	608	0	415	415	0	0	0	0	134	0	0	0	0	355	253	0	0
32	28.2	12.1	41.3	4	1060	37	443	443	766	0	0	0	30	0	0	0	0	287	773	0	0
33	24.7	7.2	41.3	3	1193	36	471	471	418	0	0	0	0	0	0	0	0	531	662	0	0
34	33.6	11.2	41.3	0	1047	0	499	499	0	0	0	0	628	0	0	0	0	467	580	0	0
35	28.7	13.5	41.3	10	1330	40	527	527	663	0	0	0	658	0	0	0	0	881	449	0	0
36	1.1	0.0	41.3	11	1321	40	558	558	649	0	0	0	0	0	0	0	0	625	696	0	0
37	14.7	2.7	44.8	0	1026	0	655	593	152	0	0	106	0	0	0	0	0	520	506	0	0
38	1.3	0.0	44.8	0	583	0	706	475	0	0	0	702	0	0	0	0	0	282	301	0	0
39	22.1	6.9	44.8	0	768	0	706	366	389	0	0	576	0	0	0	0	0	533	235	0	0
40	0.2	0.0	44.8	0	493	0	622	277	0	0	0	733	0	0	0	0	0	405	89	0	0
41	2.7	0.1	51.8	0	298	0	602	228	0	0	0	901	5	0	0	0	0	316	-19	0	0
42	0.0	0.0	51.8	2	213	45	505	84	0	0	0	252	0	0	0	0	0	232	-19	0	0
43	0.0	0.0	51.8	0	140	0	408	74	0	0	0	267	0	0	0	0	0	158	-19	0	0
44	0.0	0.0	51.8	0	128	0	186	12	0	0	0	0	0	0	0	0	0	147	-19	0	0
45	0.0	0.0	51.8	0	11	0	253	117	0	0	0	0	0	0	0	0	0	30	-19	0	0
46	0.0	0.0	51.1	0	-65	0	172	76	0	0	0	0	0	0	0	0	0	-46	-19	0	0
47	0.0	0.0	51.1	0	-65	0	96	0	0	0	0	0	0	0	0	0	0	-46	-19	0	0
48	0.0	0.0	51.1	0	-65	0	77	0	0	0	0	0	0	0	0	0	0	-46	-19	0	0
49	0.0	0.0	51.1	0	-65	0	73	0	0	0	0	0	0	0	0	0	0	-46	-19	0	0
50	0.0	0.0	49.0	0	-65	0	66	0	0	0	0	0	0	0	0	0	0	-46	-19	0	0
51	0.0	0.0	49.0	0	-65	0	62	0	0	0	0	0	0	0	0	0	0	-46	-19	0	0
52	0.0	0.0	49.0	0	-65	0	59	0	0	0	0	0	0	0	0	0	0	-46	-19	0	0
SUM	294.20	88.96	2778.30																		

TOTALS FOR YEAR: RAIN 294.1936 RUNOFF 88.96301 EVAP 2778.301 SEEPAGE 527.3136 EVAP FROM RESERVOIR 2020.832 EVAPOTRANSPIRATION 10859.73 IRRIGATION 4960.595 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1958

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
2	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
3	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
4	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
5	0.6	0.0	53.9	0	-65	0	81	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
6	0.0	0.0	53.9	0	-65	0	81	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
7	0.0	0.0	53.9	0	-65	0	81	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
8	0.0	0.0	57.4	0	-65	0	86	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
9	0.0	0.0	57.4	0	-65	0	86	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
10	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
11	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
12	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
13	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
14	0.0	0.0	62.3	0	-65	0	93	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
15	0.0	0.0	62.3	0	-65	0	93	0	0	0	0	0	0	0	0	0	0	-46	-19	0	[illegible]
16	1.2	0.0	60.2	0	-51	0	90	0	0	0	0	0	0	0	0	0	0	-39	-12	0	[illegible]
17	0.0	0.0	60.2	0	-51	0	90	0	0	0	0	0	0	0	0	0	0	-39	-12	0	[illegible]
18	9.6	2.0	60.2	0	12	0	41	41	0	0	0	0	111	0	0	0	0	-10	22	0	[illegible]
19	0.0	0.0	60.2	3	-6	54	36	36	0	0	0	0	54	0	0	0	0	-10	4	0	[illegible]
20	0.0	0.0	60.2	3	-20	53	59	14	0	0	0	0	0	0	0	0	0	-10	-10	0	[illegible]
21	2.7	0.0	60.2	0	-19	0	32	32	0	0	0	0	0	0	0	0	0	-12	-7	0	[illegible]
22	5.7	0.8	60.2	0	13	0	32	32	0	0	0	0	43	0	0	0	0	2	11	0	[illegible]
23	23.7	7.7	58.8	3	225	52	26	26	0	0	0	0	440	0	0	0	0	108	117	0	[illegible]
24	0.0	0.0	58.8	7	199	55	26	26	0	0	0	0	377	0	0	0	0	95	104	0	[illegible]
25	11.0	2.6	58.8	7	289	55	26	26	0	0	0	0	472	0	0	0	0	140	149	0	[illegible]
26	13.2	2.4	58.8	8	406	55	26	26	0	0	0	0	557	0	0	0	0	198	208	0	[illegible]
27	28.7	12.5	58.8	9	649	56	26	26	0	0	0	0	1220	0	0	0	0	320	329	0	[illegible]
28	40.0	13.5	58.8	17	485	61	353	353	427	0	0	0	1846	0	0	0	0	231	254	0	[illegible]
29	15.5	5.1	50.4	26	308	56	359	359	0	0	0	0	2000	69	0	0	0	155	152	0	[illegible]
30	63.3	37.0	50.4	31	455	102	416	416	0	0	0	0	2000	2000	137	0	0	245	209	0	[illegible]
31	23.4	10.5	41.3	60	753	130	387	387	555	0	0	0	2000	2000	53	0	0	188	565	0	[illegible]
32	16.0	2.4	41.3	59	1004	130	415	415	582	0	0	0	2000	1470	0	0	0	556	448	0	[illegible]
33	20.6	4.1	41.3	49	806	91	443	443	0	0	0	0	2000	1606	0	0	0	466	340	0	[illegible]
34	15.4	2.8	41.3	51	1210	91	471	471	855	0	0	0	2000	800	0	0	0	333	877	0	[illegible]
35	15.9	3.8	41.3	40	1517	87	499	499	769	0	0	0	2000	151	0	0	0	800	717	0	[illegible]
36	65.7	49.3	41.3	32	1506	84	527	527	0	0	0	0	2000	2000	928	0	0	739	708	0	[illegible]
37	7.5	1.3	44.8	70	1743	146	605	605	920	0	0	0	2000	1888	0	0	0	554	1188	0	[illegible]
38	15.4	1.9	44.8	55	2006	101	655	655	903	0	0	0	2000	971	0	0	0	1044	962	0	[illegible]
39	0.0	0.0	44.8	42	2087	96	706	706	955	0	0	0	1877	0	0	0	0	631	1395	0	[illegible]
40	1.6	0.0	44.8	26	2167	50	706	706	930	0	0	0	873	0	0	0	0	1125	1042	0	[illegible]
41	0.0	0.0	51.8	13	1460	51	719	707	0	0	0	83	809	0	0	0	0	795	666	0	[illegible]
42	0.0	0.0	51.8	12	931	51	602	494	0	0	0	268	746	0	0	0	0	523	408	0	[illegible]
43	0.0	0.0	51.8	11	587	51	505	344	0	0	0	459	684	0	0	0	0	359	229	0	[illegible]
44	0.0	0.0	51.8	10	457	50	206	131	0	0	0	185	624	0	0	0	0	240	217	0	[illegible]
45	0.0	0.0	51.8	10	270	50	186	186	0	0	0	0	564	0	0	0	0	228	42	0	[illegible]
46	0.0	0.0	51.1	9	22	49	249	248	0	0	0	0	506	0	0	0	0	113	-91	0	[illegible]
47	0.0	0.0	51.1	8	-55	48	172	172	0	0	0	0	450	0	0	0	0	36	-91	0	[illegible]
48	0.0	0.0	51.1	8	-111	48	115	113	0	0	0	0	394	0	0	0	0	-21	-90	0	[illegible]
49	0.0	0.0	51.1	7	-108	48	92	89	0	0	0	0	340	0	0	0	0	-18	-89	0	[illegible]
50	0.0	0.0	49.0	6	-103	45	81	76	0	0	0	0	289	0	0	0	0	-15	-88	0	[illegible]
51	0.0	0.0	49.0	6	-98	45	74	68	0	0	0	0	238	0	0	0	0	-11	-87	0	[illegible]
52	0.0	0.0	49.0	5	-91	45	66	60	0	0	0	0	189	0	0	0	0	-6	-86	0	[illegible]
SUM	396.10	165.75	2778.30																		

TOTALS FOR YEAR: RAIN 396.0996 RUNOFF 165.7518 EVAP 2778.301 SEEPAGE 704.1855 EVAP FROM RESERVOIR 2183.615 EVAPOTRANSPIRATION 11417.96 IRRIGATION 6896.344 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1959

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	4	-87	45	52	47	0	0	0	0	139	0	0	0	0	-1	-85	0	0
2	0.0	0.0	49.7	4	-82	45	48	44	0	0	0	0	91	0	0	0	0	2	-84	0	0
3	0.0	0.0	49.7	3	-104	44	45	40	0	0	0	0	43	0	0	0	0	-20	-83	0	0
4	0.0	0.0	49.7	3	-104	44	75	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
5	0.0	0.0	53.9	0	-104	0	81	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
6	0.0	0.0	53.9	0	-104	0	81	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
7	0.0	0.0	53.9	0	-104	0	81	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
8	0.0	0.0	57.4	0	-104	0	86	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
9	0.0	0.0	57.4	0	-104	0	86	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
10	0.0	0.0	66.5	0	-104	0	100	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
11	0.0	0.0	66.5	0	-104	0	100	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
12	0.0	0.0	66.5	0	-104	0	100	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
13	0.0	0.0	66.5	0	-104	0	100	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
14	0.0	0.0	62.3	0	-104	0	93	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
15	0.0	0.0	62.3	0	-104	0	93	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
16	0.0	0.0	60.2	0	-104	0	90	0	0	0	0	0	0	0	0	0	0	-20	-83	0	0
17	2.8	0.0	60.2	0	-70	0	90	0	0	0	0	0	0	0	0	0	0	-3	-66	0	0
18	0.0	0.0	60.2	0	-70	0	90	0	0	0	0	0	0	0	0	0	0	-3	-66	0	0
19	0.0	0.0	60.2	0	-70	0	90	0	0	0	0	0	0	0	0	0	0	-3	-66	0	0
20	0.1	0.0	60.2	0	-69	0	90	0	0	0	0	0	0	0	0	0	0	-3	-66	0	0
21	0.0	0.0	60.2	0	-69	0	90	0	0	0	0	0	0	0	0	0	0	-3	-66	0	0
22	0.0	0.0	60.2	0	-69	0	90	0	0	0	0	0	0	0	0	0	0	-3	-66	0	0
23	0.0	0.0	58.8	0	-69	0	88	0	0	0	0	0	0	0	0	0	0	-3	-66	0	0
24	15.7	2.0	58.8	0	81	0	26	26	0	0	0	0	114	0	0	0	0	72	9	0	0
25	1.4	0.0	58.8	4	71	53	26	26	0	0	0	0	60	0	0	0	0	67	4	0	0
26	0.0	0.0	58.8	3	45	52	26	26	0	0	0	0	5	0	0	0	0	54	-9	0	0
27	37.2	15.7	58.8	2	370	52	26	26	0	0	0	0	864	0	0	0	0	217	154	0	0
28	9.4	1.3	58.8	13	485	58	353	353	731	0	0	0	144	0	0	0	0	231	254	0	0
29	10.3	1.5	50.4	4	257	45	359	359	0	0	0	0	188	0	0	0	0	130	127	0	0
30	2.4	0.3	50.4	4	88	45	416	324	141	0	0	205	0	0	0	0	0	91	-3	0	0
31	43.4	22.8	41.3	0	1040	0	387	387	1180	0	0	0	59	0	0	0	0	475	565	0	0
32	104.2	90.1	41.3	3	1225	37	415	415	0	0	0	0	2000	2000	1196	0	0	556	669	0	0
33	15.3	4.2	41.3	73	952	136	443	443	0	0	0	0	2000	2000	1270	0	0	434	518	0	0
34	53.3	19.8	41.3	74	1012	136	471	471	0	346	0	0	2000	2000	2000	0	0	478	535	0	0
35	0.0	0.0	41.3	84	1781	140	499	499	1571	0	0	0	2000	2000	205	0	0	800	981	0	0
36	6.4	0.9	41.3	61	1337	131	527	527	0	0	0	0	2000	2000	81	0	0	588	748	0	0
37	42.0	23.8	44.8	59	1103	141	605	605	0	0	0	0	2000	2000	1348	0	0	483	620	0	0
38	0.0	0.0	44.8	75	2336	148	655	655	2347	0	0	0	2000	778	0	0	0	1044	1232	0	0
39	0.0	0.0	44.8	40	1641	95	706	706	0	0	0	0	2000	643	0	0	0	691	950	0	0
40	0.0	0.0	44.8	38	2625	94	706	706	2099	0	0	0	413	0	0	0	0	1125	1500	0	0
41	31.3	17.3	51.8	7	2178	48	719	719	0	0	0	0	1356	0	0	0	0	931	1247	0	0
42	0.0	0.0	51.8	19	1576	55	602	602	0	0	0	0	1283	0	0	0	0	659	917	0	0
43	0.0	0.0	51.8	18	1076	54	505	500	0	0	0	54	1210	0	0	0	0	431	645	0	0
44	0.0	0.0	51.8	17	873	54	206	203	0	0	0	185	1139	0	0	0	0	240	634	0	0
45	0.0	0.0	51.8	16	687	53	186	186	0	0	0	0	1070	0	0	0	0	228	459	0	0
46	0.0	0.0	51.1	15	438	52	249	249	0	0	0	0	1002	0	0	0	0	113	325	0	0
47	0.0	0.0	51.1	15	265	52	172	172	0	0	0	0	936	0	0	0	0	36	229	0	0
48	0.0	0.0	51.1	14	150	51	115	115	0	0	0	0	872	0	0	0	0	-21	171	0	0
49	0.0	0.0	51.1	13	112	51	92	92	0	0	0	0	808	0	0	0	0	-21	133	0	0
50	0.0	0.0	49.0	12	79	48	81	31	0	0	0	0	746	0	0	0	0	-21	100	0	0
51	0.0	0.0	49.0	11	50	48	74	73	0	0	0	0	689	0	0	0	0	-21	70	0	0
52	0.0	0.0	49.0	11	24	47	66	66	0	0	0	0	631	0	0	0	0	-21	45	0	0
SUM	375.20	199.50	2778.30																		

TOTALS FOR YEAR: RAIN 375.1996 RUNOFF 199.501 EVAP 2778.301 SEEPAGE 722.3428 EVAP FROM RESERVOIR 2152.463 EVAPOTRANSPIRATION 11654.27 IRRIGATION 8067.689 OVERFLOW 346.1719 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1960

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(
1	0.0	0.0	49.7	10	5	48	52	52	0	0	0	0	573	0	0	0	0	-21	26	0	
2	0.0	0.0	49.7	9	-13	47	48	48	0	0	0	0	517	0	0	0	0	-21	7	0	
3	0.0	0.0	49.7	8	-32	47	45	45	0	0	0	0	461	0	0	0	0	-21	-11	0	
4	0.0	0.0	49.7	8	-32	47	41	41	0	0	0	0	407	0	0	0	0	-21	-11	0	
5	0.0	0.0	53.9	7	-31	50	40	40	0	0	0	0	350	0	0	0	0	-20	-11	0	
6	0.0	0.0	53.9	6	-31	50	40	40	0	0	0	0	293	0	0	0	0	-20	-11	0	
7	0.0	0.0	53.9	6	-29	49	40	39	0	0	0	0	238	0	0	0	0	-19	-10	0	
8	0.0	0.0	57.4	5	-27	52	43	41	0	0	0	0	181	0	0	0	0	-18	-9	0	
9	0.0	0.0	57.4	4	-25	52	43	40	0	0	0	0	125	0	0	0	0	-17	-8	0	
10	0.0	0.0	66.5	4	-20	59	50	45	0	0	0	0	62	0	0	0	0	-14	-6	0	
11	0.0	0.0	66.5	3	-14	59	50	44	0	0	0	0	0	0	0	0	0	-10	-4	0	
12	0.0	0.0	66.5	2	-14	58	100	0	0	0	0	0	0	0	0	0	0	-10	-4	0	
13	0.0	0.0	66.5	0	-14	0	100	0	0	0	0	0	0	0	0	0	0	-10	-4	0	
14	0.0	0.0	62.3	0	-14	0	93	0	0	0	0	0	0	0	0	0	0	-10	-4	0	
15	0.0	0.0	62.3	0	-14	0	93	0	0	0	0	0	0	0	0	0	0	-10	-4	0	
16	0.0	0.0	60.2	0	-14	0	90	0	0	0	0	0	0	0	0	0	0	-10	-4	0	
17	0.0	0.0	60.2	0	-14	0	90	0	0	0	0	0	0	0	0	0	0	-10	-4	0	
18	0.0	0.0	60.2	0	-14	0	90	0	0	0	0	0	0	0	0	0	0	-10	-4	0	
19	2.0	0.0	60.2	0	-23	0	36	33	0	0	0	0	0	0	0	0	0	-15	-8	0	
20	0.0	0.0	60.2	0	-23	0	90	0	0	0	0	0	0	0	0	0	0	-15	-8	0	
21	0.0	0.0	60.2	0	-23	0	90	0	0	0	0	0	0	0	0	0	0	-15	-8	0	
22	0.0	0.0	60.2	0	-23	0	90	0	0	0	0	0	0	0	0	0	0	-15	-8	0	
23	0.0	0.0	58.8	0	-23	0	88	0	0	0	0	0	0	0	0	0	0	-15	-8	0	
24	8.7	1.6	58.8	0	45	0	26	25	0	0	0	0	91	0	0	0	0	19	26	0	
25	2.4	0.0	58.8	3	47	52	26	26	0	0	0	0	38	0	0	0	0	21	27	0	
26	5.3	0.1	58.8	3	84	52	26	26	0	0	0	0	0	0	0	0	0	39	45	0	
27	12.7	3.5	58.8	0	189	0	26	26	0	0	0	0	196	0	0	0	0	91	98	0	
28	24.8	6.9	58.8	4	418	53	26	26	0	0	0	0	549	0	0	0	0	206	212	0	
29	0.9	0.0	50.4	9	406	48	23	23	0	0	0	0	493	0	0	0	0	200	206	0	
30	35.6	18.2	50.4	8	702	48	23	23	0	0	0	0	1489	0	0	0	0	348	354	0	
31	10.4	1.8	41.3	21	485	44	248	248	355	0	0	0	1182	0	0	0	0	231	254	0	
32	58.0	45.8	41.3	17	633	43	294	294	0	0	0	0	2000	1750	0	0	0	313	320	0	
33	36.8	12.4	41.3	53	686	92	341	341	0	0	0	0	2000	2000	382	0	0	352	334	0	
34	1.8	0.0	41.3	63	762	132	387	387	520	0	0	0	2000	1673	0	0	0	197	565	0	
35	2.9	0.0	41.3	52	934	92	415	415	660	0	0	0	2000	876	0	0	0	556	378	0	
36	18.1	4.7	41.3	41	1222	88	443	443	647	0	0	0	2000	404	0	0	0	449	773	0	
37	32.3	9.8	44.8	35	1065	92	511	511	0	0	0	0	2000	892	0	0	0	379	686	0	
38	0.8	0.0	44.8	41	1227	95	541	541	836	0	0	0	1921	0	0	0	0	800	427	0	
39	34.8	11.0	44.8	27	1792	50	571	571	950	0	0	0	1547	0	0	0	0	707	1085	0	
40	11.2	1.6	44.8	22	1336	48	605	605	0	0	0	0	1577	0	0	0	0	484	852	0	
41	14.6	4.9	51.8	22	2182	56	758	758	1791	0	0	0	0	0	0	0	0	1044	1138	0	
42	0.0	0.0	51.8	0	1412	0	816	794	0	0	0	38	0	0	0	0	0	657	755	0	
43	0.0	0.0	51.8	0	712	0	816	725	0	0	0	771	0	0	0	0	0	305	407	0	
44	0.0	0.0	51.6	0	225	0	719	487	0	0	0	1135	0	0	0	0	0	69	156	0	
45	0.0	0.0	51.8	0	-114	0	602	339	0	0	0	1313	0	0	0	0	0	-96	-24	0	
46	0.0	0.0	51.1	0	-114	0	498	0	0	0	0	0	0	0	0	0	0	-90	-24	0	
47	0.0	0.0	51.1	0	-114	0	402	0	0	0	0	0	0	0	0	0	0	-90	-24	0	
48	0.0	0.0	51.1	0	-114	0	326	0	0	0	0	0	0	0	0	0	0	-90	-24	0	
49	0.0	0.0	51.1	0	-114	0	249	0	0	0	0	0	0	0	0	0	0	-90	-24	0	
50	0.0	0.0	49.0	0	-114	0	165	0	0	0	0	0	0	0	0	0	0	-90	-24	0	
51	0.0	0.0	49.0	0	-114	0	110	0	0	0	0	0	0	0	0	0	0	-90	-24	0	
52	0.0	0.0	49.0	0	-114	0	88	0	0	0	0	0	0	0	0	0	0	-90	-24	0	
SUM	314.10	122.46	2778.30																		

TOTALS FOR YE: RAIN 314.0996 RUNOFF 122.4579 EVAP 2778.301 SEEPAGE 493.8013 EVAP FROM RESERVOIR 1703.403 EVAPOTRANSPIRATION 11628.85 IRRIGATION 5758.852 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1961

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-114	0	75	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
2	0.0	0.0	49.7	0	-114	0	75	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
3	0.0	0.0	49.7	0	-114	0	75	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
4	0.0	0.0	49.7	0	-114	0	75	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
5	0.0	0.0	53.9	0	-114	0	81	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
6	0.0	0.0	53.9	0	-114	0	81	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
7	0.0	0.0	53.9	0	-114	0	81	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
8	0.0	0.0	57.4	0	-114	0	86	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
9	0.0	0.0	57.4	0	-114	0	86	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
10	0.0	0.0	66.5	0	-114	0	100	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
11	0.0	0.0	66.5	0	-114	0	100	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
12	0.0	0.0	66.5	0	-114	0	100	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
13	0.0	0.0	66.5	0	-114	0	100	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
14	0.0	0.0	62.3	0	-114	0	93	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
15	0.0	0.0	62.3	0	-114	0	93	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
16	0.0	0.0	60.2	0	-114	0	90	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
17	0.0	0.0	60.2	0	-114	0	90	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
18	0.0	0.0	60.2	0	-114	0	90	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
19	0.0	0.0	60.2	0	-114	0	90	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
20	0.0	0.0	60.2	0	-114	0	90	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
21	0.0	0.0	60.2	0	-114	0	90	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
22	0.8	0.0	60.2	0	-104	0	90	0	0	0	0	0	0	0	0	0	0	-90	-24	0	0
23	2.9	0.1	58.8	0	-70	0	26	26	0	0	0	0	7	0	0	0	0	-68	-2	0	0
24	25.4	7.5	58.8	2	164	52	26	26	0	0	0	0	394	0	0	0	0	49	115	0	0
25	4.5	0.0	58.8	7	192	55	26	26	0	0	0	0	338	0	0	0	0	63	129	0	0
26	59.6	29.9	58.8	6	702	54	26	26	0	0	0	619	2000	6	0	0	0	318	384	0	0
27	6.8	0.6	58.8	30	483	118	353	353	428	0	0	0	1477	0	0	0	0	231	252	0	0
28	15.1	2.2	58.8	21	261	63	419	419	0	0	0	0	1532	0	0	0	0	133	127	0	0
29	43.4	19.7	50.4	22	617	54	416	416	428	0	0	0	2000	179	0	0	0	156	462	0	0
30	61.4	42.3	50.4	32	655	102	473	473	0	0	0	0	2000	2000	539	0	0	193	461	0	0
31	11.3	1.4	41.3	65	879	133	415	415	607	0	0	0	2000	1852	0	0	0	556	322	0	0
32	6.9	0.6	41.3	54	1167	93	443	443	783	0	0	0	2000	974	0	0	0	334	773	0	0
33	7.9	1.1	41.3	42	1309	88	471	471	621	0	0	0	2000	298	0	0	0	719	550	0	0
34	110.9	53.0	41.3	34	1656	85	499	499	0	0	0	0	2000	2000	1374	0	0	800	856	0	0
35	58.6	35.8	41.3	76	1645	137	527	527	0	1361	0	0	2000	2000	2000	0	0	796	848	0	0
36	15.8	4.3	41.3	84	1277	140	558	558	0	72	0	0	2000	2000	2000	0	0	615	662	0	0
37	0.0	0.0	44.8	84	2336	152	655	655	2139	0	0	0	2000	1654	0	0	0	1044	1292	0	0
38	6.0	0.7	44.8	51	1725	99	706	706	0	0	0	0	2000	1558	0	0	0	725	1000	0	0
39	0.0	0.0	44.8	50	2025	99	706	706	1974	0	0	0	1435	0	0	0	0	1125	1500	0	0
40	0.0	0.0	44.8	20	2003	48	622	622	0	0	0	0	1367	0	0	0	0	839	1164	0	0
41	9.4	1.0	51.8	19	1508	55	602	602	0	0	0	0	1358	0	0	0	0	621	887	0	0
42	0.0	0.0	51.8	19	1008	55	505	500	0	0	0	92	1284	0	0	0	0	393	615	0	0
43	0.0	0.0	51.8	18	805	54	206	203	0	0	0	223	1212	0	0	0	0	202	604	0	0
44	0.0	0.0	51.8	17	[illegible]	54	186	186	0	0	0	0	1141	0	0	0	0	190	429	0	0
45	0.0	0.0	51.8	16	366	53	253	253	0	0	0	0	1071	0	0	0	0	74	293	0	0
46	0.0	0.0	51.1	15	194	52	172	172	0	0	0	0	1004	0	0	0	0	-3	197	0	0
47	0.0	0.0	51.1	15	137	52	115	115	0	0	0	0	938	0	0	0	0	-3	140	0	0
48	0.0	0.0	51.1	14	99	51	92	92	0	0	0	0	873	0	0	0	0	-3	101	0	0
49	0.0	0.0	51.1	13	64	51	84	84	0	0	0	0	809	0	0	0	0	-3	67	0	0
50	0.0	0.0	49.0	12	35	48	74	73	0	0	0	0	749	0	0	0	0	-3	37	0	0
51	0.0	0.0	49.0	11	9	48	66	66	0	0	0	0	690	0	0	0	0	-3	12	0	0
52	0.0	0.0	49.0	11	-13	47	59	59	0	0	0	0	632	0	0	0	0	-3	-10	0	0
SUM	446.70	200.36	2778.30																		

TOTALS FOR YEAR: RAIN 446.6995 RUNOFF 200.3591 EVAP 2778.301 SEEPAGE 864.4058 EVAP FROM RESERVOIR 2189.053 EVAPOTRANSPIRATION 11710.81 IRRIGATION 6950.744 OVERFLOW 1433.345 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1962

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	10	-13	48	52	52	0	0	0	0	574	0	0	0	0	-2	-10	0	0
2	0.0	0.0	49.7	9	-12	47	48	48	0	0	0	0	518	0	0	0	0	-1	-10	0	0
3	0.0	0.0	49.7	8	-10	47	45	44	0	0	0	0	462	0	0	0	0	-1	-10	0	0
4	0.0	0.0	49.7	8	-9	47	41	40	0	0	0	0	408	0	0	0	0	0	-10	0	0
5	0.0	0.0	53.9	7	-28	50	40	39	0	0	0	0	351	0	0	0	0	-13	-9	0	0
6	0.0	0.0	53.9	6	-25	50	40	38	0	0	0	0	295	0	0	0	0	-17	-8	0	0
7	0.0	0.0	53.9	6	-22	49	40	38	0	0	0	0	239	0	0	0	0	-16	-7	0	0
8	0.0	0.0	57.4	5	-18	52	43	39	0	0	0	0	182	0	0	0	0	-13	-5	0	0
9	0.0	0.0	57.4	4	-14	52	43	38	0	0	0	0	126	0	0	0	0	-11	-3	0	0
10	0.0	0.0	66.5	4	-6	59	50	42	0	0	0	0	63	0	0	0	0	-6	0	0	0
11	0.0	0.0	66.5	3	-22	59	50	41	0	0	0	0	1	0	0	0	0	-1	-21	0	0
12	0.0	0.0	66.5	2	-22	58	100	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
13	0.0	0.0	66.5	0	-22	0	100	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
14	0.0	0.0	62.3	0	-22	0	93	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
15	0.0	0.0	62.3	0	-22	0	93	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
16	0.0	0.0	60.2	0	-22	0	90	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
17	0.0	0.0	60.2	0	-22	0	90	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
18	0.0	0.0	60.2	0	-22	0	90	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
19	0.0	0.0	60.2	0	-22	0	90	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
20	0.0	0.0	60.2	0	-22	0	90	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
21	0.0	0.0	60.2	0	-22	0	90	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
22	0.0	0.0	60.2	0	-22	0	90	0	0	0	0	0	0	0	0	0	0	-1	-21	0	0
23	8.0	1.7	58.8	0	37	0	26	26	0	0	0	0	93	0	0	0	0	28	9	0	0
24	9.7	1.2	58.8	3	120	52	26	26	0	0	0	0	111	0	0	0	0	70	50	0	0
25	3.8	0.4	58.8	3	137	52	26	26	0	0	0	0	80	0	0	0	0	78	59	0	0
26	3.1	0.0	58.8	3	147	52	26	26	0	0	0	0	29	0	0	0	0	84	64	0	0
27	0.0	0.0	58.8	3	121	52	26	26	0	0	0	0	0	0	0	0	0	70	51	0	0
28	122.1	95.9	58.8	0	978	0	26	26	0	0	0	0	2000	2000	1429	0	0	499	479	0	0
29	56.6	44.1	50.4	77	485	167	302	302	350	1491	0	0	2000	2000	2000	0	0	231	254	0	0
30	22.1	6.3	50.4	84	394	171	359	359	0	170	0	0	2000	2000	2000	0	0	201	193	0	0
31	72.9	33.4	41.3	84	760	140	341	341	0	1891	0	0	2000	2000	2000	0	0	394	366	0	0
32	25.2	6.9	41.3	84	668	140	387	387	0	250	0	0	2000	2000	2000	0	0	360	309	0	0
33	72.7	43.7	41.3	84	879	140	415	415	0	2635	0	0	2000	2000	2000	0	0	470	409	0	0
34	9.5	0.9	41.3	84	1096	140	443	443	648	0	0	0	2000	2000	1209	0	0	323	773	0	0
35	14.1	2.2	41.3	74	1349	136	471	471	668	0	0	0	2000	2000	499	0	0	719	630	0	0
36	23.3	6.2	41.3	64	1126	132	499	499	0	0	0	0	2000	2000	723	0	0	608	518	0	0
37	11.9	2.4	44.8	67	1966	145	571	571	1562	0	0	0	2000	1121	0	0	0	881	1085	0	0
38	5.3	0.6	44.8	44	1454	96	605	605	0	0	0	0	2000	1024	0	0	0	626	829	0	0
39	2.4	0.0	44.8	43	2336	96	655	655	1844	0	0	0	1047	0	0	0	0	1044	1292	0	0
40	26.1	11.9	44.8	15	1905	45	706	706	0	0	0	0	1679	0	0	0	0	812	1094	0	0
41	0.0	0.0	51.8	24	2402	57	816	816	1599	0	0	0	0	0	0	0	0	1125	1277	0	0
42	0.0	0.0	51.8	0	1683	0	719	719	0	0	0	0	0	0	0	0	0	795	888	0	0
43	0.0	0.0	51.8	0	1127	0	602	556	0	0	0	-72	0	0	0	0	0	538	597	0	0
44	0.0	0.0	51.8	0	743	0	505	384	0	0	0	304	0	0	0	0	0	345	397	0	0
45	0.0	0.0	51.8	0	600	0	206	143	0	0	0	211	0	0	0	0	0	214	386	0	0
46	0.0	0.0	51.1	0	416	0	184	184	0	0	0	0	0	0	0	0	0	203	213	0	0
47	0.0	0.0	51.1	0	167	0	249	249	0	0	0	0	6	0	0	0	0	88	79	0	0
48	0.0	0.0	51.1	0	-6	0	172	172	0	0	0	0	0	0	0	0	0	11	-16	0	0
49	0.0	0.0	51.1	0	-62	0	96	57	0	0	0	0	0	0	0	0	0	-46	-16	0	0
50	0.0	0.0	49.0	0	-62	0	74	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
51	0.0	0.0	49.0	0	-62	0	74	0	0	0	0	0	6	0	0	9	0	-46	-16	0	0
52	0.0	0.0	49.0	0	-62	0	74	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
SUM	488.80	261.56	2778.30																		

TOTALS FOR YEAR: RAIN 488.7397 RUNOFF 261.5623 EVAP 2773.301 SEEPAGE 915.2175 EVAP FROM RESERVOIR 2433.857 EVAPOTRANSPIRATION 11194.05 IRRIGATION 6669.576 OVERFLOW 6436.731 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1963

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-62	0	75	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
2	0.0	0.0	49.7	0	-62	0	75	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
3	0.0	0.0	49.7	0	-62	0	75	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
4	0.0	0.0	49.7	0	-62	0	75	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
5	0.0	0.0	53.9	0	-62	0	81	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
6	0.0	0.0	53.9	0	-62	0	81	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
7	0.0	0.0	53.9	0	-62	0	81	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
8	0.0	0.0	57.4	0	-62	0	86	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
9	0.0	0.0	57.4	0	-62	0	86	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
10	0.0	0.0	66.5	0	-62	0	100	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
11	0.0	0.0	66.5	0	-62	0	100	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
12	0.0	0.0	66.5	0	-62	0	100	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
13	0.0	0.0	66.5	0	-62	0	100	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
14	0.0	0.0	62.3	0	-62	0	93	0	0	0	0	0	0	0	0	0	0	-46	-16	0	0
15	3.3	0.0	62.3	0	-41	0	65	19	0	0	0	0	0	0	0	0	0	-26	-15	0	0
16	0.0	0.0	60.2	0	-41	0	90	0	0	0	0	0	0	0	0	0	0	-26	-15	0	0
17	0.0	0.0	60.2	0	-41	0	90	0	0	0	0	0	0	0	0	0	0	-26	-15	0	0
18	0.0	0.0	60.2	0	-41	0	90	0	0	0	0	0	0	0	0	0	0	-26	-15	0	0
19	3.6	0.1	60.2	0	-17	0	36	36	0	0	0	0	7	0	0	0	0	-5	-12	0	0
20	0.8	0.0	60.2	2	-25	53	63	18	0	0	0	0	0	0	0	0	0	-18	-7	0	0
21	2.6	0.0	60.2	0	-7	0	59	13	0	0	0	0	0	0	0	0	0	-2	-5	0	0
22	0.0	0.0	60.2	0	-7	0	90	0	0	0	0	0	0	0	0	0	0	-2	-5	0	0
23	0.0	0.0	58.8	0	-7	0	88	0	0	0	0	0	0	0	0	0	0	-2	-5	0	0
24	2.1	0.0	58.8	0	-8	0	26	26	0	0	0	0	0	0	0	0	0	-3	-5	0	0
25	14.3	2.7	58.8	0	120	0	26	26	0	0	0	0	154	0	0	0	0	62	59	0	0
26	0.0	0.0	58.8	4	94	53	26	26	0	0	0	0	97	0	0	0	0	48	45	0	0
27	36.6	9.1	58.8	3	452	52	26	26	0	0	0	0	583	0	0	0	0	228	225	0	0
28	2.3	0.0	58.8	9	453	56	26	26	0	0	0	0	520	0	0	0	0	228	225	0	0
29	0.3	0.0	50.4	8	434	48	23	23	0	0	0	0	464	0	0	0	0	219	216	0	0
30	32.6	16.9	50.4	8	702	47	23	23	0	0	0	0	1384	0	0	0	0	352	349	0	0
31	12.5	2.3	41.3	20	485	44	248	248	353	0	0	0	1108	0	0	0	0	231	254	0	0
32	46.7	21.9	41.3	16	637	42	294	294	0	0	0	0	2000	322	0	0	0	313	324	0	0
33	0.6	0.0	41.3	34	330	85	341	341	0	0	0	0	2000	205	0	0	0	173	158	0	0
34	30.6	12.4	41.3	33	1040	84	387	387	974	0	0	0	1870	0	0	0	0	475	565	0	0
35	28.6	11.0	41.3	26	927	46	415	415	0	0	0	0	2000	444	0	0	0	428	499	0	0
36	26.3	8.3	41.3	36	774	85	443	443	0	0	0	0	2000	840	0	0	0	359	415	0	0
37	2.7	0.0	44.8	41	1596	95	511	511	1595	0	0	0	1116	0	0	0	0	719	877	0	0
38	46.2	24.3	44.8	16	1487	46	541	541	0	0	0	0	2000	465	0	0	0	671	816	0	0
39	15.6	4.8	44.8	36	1099	93	571	571	0	0	0	0	2000	635	0	0	0	481	617	0	0
40	0.3	0.0	44.8	38	2151	94	605	605	2036	0	0	0	467	0	0	0	0	963	1188	0	0
41	4.1	0.2	51.8	8	1465	49	758	758	0	0	0	0	428	0	0	0	0	617	848	0	0
42	0.0	0.0	51.8	7	1060	48	816	727	372	0	0	738	0	0	0	0	0	529	531	0	0
43	0.0	0.0	51.8	0	560	0	816	524	0	0	0	923	0	0	0	0	0	276	284	0	0
44	0.0	0.0	51.8	0	190	0	719	370	0	0	0	1170	0	0	0	0	0	101	89	0	0
45	0.0	0.0	51.8	0	-83	0	602	274	0	0	0	1282	0	0	0	0	0	-26	-57	0	0
46	0.0	0.0	51.1	0	-83	0	498	0	0	0	0	0	0	0	0	0	0	-26	-57	0	0
47	0.0	0.0	51.1	0	-83	0	402	0	0	0	0	0	0	0	0	0	0	-26	-57	0	0
48	0.0	0.0	51.1	0	-83	0	326	0	0	0	0	0	0	0	0	0	0	-26	-57	0	0
49	0.0	0.0	51.1	0	-83	0	249	0	0	0	0	0	0	0	0	0	0	-26	-57	0	0
50	0.0	0.0	49.0	0	-83	0	165	0	0	0	0	0	0	0	0	0	0	-26	-57	0	0
51	0.0	0.0	49.0	0	-83	0	110	0	0	0	0	0	0	0	0	0	0	-26	-57	0	0
52	0.0	0.0	49.0	0	-83	0	88	0	0	0	0	0	0	0	0	0	0	-26	-57	0	0
SUM	312.70	113.95	2778.30																		

TOTALS FOR YEAR: RAIN 312.6996 RUNOFF 113.9477 EVAP 2778.301 SEEPAGE 345.2383 EVAP FROM RESERVOIR 1119.273 EVAPOTRANSPIRATION 11961.07 IRRIGATION 5330.861 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1964

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(
1	0.0	0.0	49.7	0	-83	0	75	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
2	0.0	0.0	49.7	0	-83	0	75	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
3	0.0	0.0	49.7	0	-83	0	75	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
4	0.0	0.0	49.7	0	-83	0	75	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
5	0.0	0.0	53.9	0	-83	0	81	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
6	0.0	0.0	53.9	0	-83	0	81	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
7	0.0	0.0	53.9	0	-83	0	81	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
8	0.0	0.0	57.4	0	-83	0	86	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
9	0.0	0.0	57.4	0	-83	0	86	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
10	0.0	0.0	66.5	0	-83	0	100	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
11	0.0	0.0	66.5	0	-83	0	100	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
12	0.0	0.0	66.5	0	-83	0	100	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
13	0.0	0.0	66.5	0	-83	0	100	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
14	0.0	0.0	62.3	0	-83	0	93	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
15	0.0	0.0	62.3	0	-83	0	93	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
16	0.0	0.0	60.2	0	-83	0	90	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
17	0.0	0.0	60.2	0	-83	0	90	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
18	0.0	0.0	60.2	0	-83	0	90	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
19	0.0	0.0	60.2	0	-83	0	90	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
20	0.0	0.0	60.2	0	-83	0	90	0	0	0	0	0	0	0	0	0	0	-26	-57	0	
21	1.2	0.0	60.2	0	-69	0	90	0	0	0	0	0	0	0	0	0	0	-19	-50	0	
22	0.0	0.0	60.2	0	-69	0	90	0	0	0	0	0	0	0	0	0	0	-19	-50	0	
23	0.0	0.0	58.8	0	-69	0	88	0	0	0	0	0	0	0	0	0	0	-19	-50	0	
24	0.0	0.0	58.8	0	-69	0	88	0	0	0	0	0	0	0	0	0	0	-19	-50	0	
25	4.0	0.0	58.8	0	-34	0	57	13	0	0	0	0	0	0	0	0	0	-8	-26	0	
26	4.3	0.3	58.8	0	3	0	26	26	0	0	0	0	18	0	0	0	0	4	-1	0	
27	59.8	22.6	58.8	2	559	52	26	26	0	0	0	762	1284	0	0	0	0	282	277	0	
28	20.5	5.6	58.8	18	442	61	353	353	437	0	0	0	1102	0	0	0	0	231	211	0	
29	32.4	9.0	50.4	16	441	51	359	359	0	0	0	0	1573	0	0	0	0	243	197	0	
30	74.3	52.4	50.4	22	624	54	416	416	0	0	0	0	2000	2000	509	0	0	352	272	0	
31	28.5	7.8	41.3	65	552	132	387	387	0	0	0	0	2000	2000	840	0	0	333	219	0	
32	58.2	50.2	41.3	69	1015	134	415	415	577	1060	0	0	2000	2000	2000	0	0	345	669	0	
33	73.1	43.8	41.3	84	1205	140	443	443	0	2474	0	0	2000	2000	2000	0	0	451	754	0	
34	31.7	9.3	41.3	84	1078	140	471	471	0	405	0	0	2000	2000	2000	0	0	397	681	0	
35	26.0	9.6	41.3	84	1361	140	499	499	636	0	0	0	2000	2000	1768	0	0	800	561	0	
36	27.4	12.4	41.3	81	1108	139	527	527	0	334	0	0	2000	2000	2000	0	0	679	429	0	
37	28.9	15.5	44.8	84	1709	152	605	605	1166	0	0	0	2000	2000	1562	0	0	521	1188	0	
38	13.2	3.7	44.8	78	1983	150	655	655	968	0	0	0	2000	2000	618	0	0	1044	940	0	
39	5.6	0.6	44.8	66	2119	144	706	706	948	0	0	0	2000	1513	0	0	0	723	1336	0	
40	0.0	0.0	44.8	50	2154	99	706	706	902	0	0	0	2000	463	0	0	0	1125	1029	0	
41	1.6	0.0	51.8	36	1466	107	719	707	0	0	0	87	2000	323	0	0	0	804	662	0	
42	27.9	12.1	51.8	34	1135	106	602	594	0	0	0	189	2000	915	0	0	0	664	471	0	
43	2.3	0.0	51.8	42	732	110	505	430	0	0	0	314	2000	768	0	0	0	470	262	0	
44	1.3	0.0	51.8	40	591	109	206	157	0	0	0	93	2000	622	0	0	0	332	259	0	
45	0.0	0.0	51.8	38	404	108	186	186	0	0	0	0	2000	476	0	0	0	321	84	0	
46	0.0	0.0	51.1	35	156	106	249	248	0	0	0	0	2000	334	0	0	0	206	-50	0	
47	0.0	0.0	51.1	34	79	105	172	172	0	0	0	0	2000	195	0	0	0	129	-50	0	
48	0.0	0.0	51.1	33	22	104	115	115	0	0	0	0	2000	58	0	0	0	71	-49	0	
49	0.0	0.0	51.1	31	-32	103	92	92	0	0	0	0	1924	0	0	0	0	18	-49	0	
50	0.0	0.0	49.0	27	-79	55	81	80	0	0	0	0	1842	0	0	0	0	-30	-49	0	
51	0.0	0.0	49.0	26	-77	54	74	72	0	0	0	0	1762	0	0	0	0	-28	-49	0	
52	0.0	0.0	49.0	25	-74	54	66	63	0	0	0	0	1683	0	0	0	0	-26	-48	0	
SUM	522.20	254.90	2778.30																		

TOTALS FOR YEAR: RAIN 522.1996 RUNOFF 254.8983 EVAP 2778.301 SEEPAGE 1206.344 EVAP FROM RESERVOIR 2710.73 EVAPOTRANSPIRATION 11825.15 IRRIGATION 5632.853 OVERFLOW 4272.953 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1965

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	24	-72	54	52	50	0	0	0	0	1605	0	0	0	0	-24	-48	0	0
2	0.0	0.0	49.7	23	-69	54	48	46	0	0	0	0	1528	0	0	0	0	-21	-47	0	0
3	0.0	0.0	49.7	22	-66	53	45	42	0	0	0	0	1453	0	0	0	0	-19	-47	0	0
4	0.0	0.0	49.7	21	-63	53	41	38	0	0	0	0	1380	0	0	0	0	-17	-46	0	0
5	0.0	0.0	53.9	20	-60	57	40	37	0	0	0	0	1304	0	0	0	0	-15	-45	0	0
6	0.0	0.0	53.9	19	-56	56	40	37	0	0	0	0	1229	0	0	0	0	-13	-43	0	0
7	0.0	0.0	53.9	18	-52	56	40	36	0	0	0	0	1155	0	0	0	0	-11	-41	0	0
8	0.0	0.0	57.4	17	-46	59	43	37	0	0	0	0	1080	0	0	0	0	-7	-39	0	0
9	0.0	0.0	57.4	16	-40	58	43	37	0	0	0	0	1006	0	0	0	0	-4	-36	0	0
10	0.0	0.0	66.5	15	-30	67	50	40	0	0	0	0	924	0	0	0	0	2	-32	0	0
11	0.0	0.0	66.5	14	-44	66	50	39	0	0	0	0	844	0	0	0	0	-17	-27	0	0
12	0.0	0.0	66.5	13	-32	66	50	38	0	0	0	0	766	0	0	0	0	-10	-22	0	0
13	0.0	0.0	66.5	12	-19	65	50	37	0	0	0	0	689	0	0	0	0	-3	-17	0	0
14	0.0	0.0	62.3	11	-8	60	47	35	0	0	0	0	618	0	0	0	0	4	-12	0	0
15	0.0	0.0	62.3	10	-21	60	42	32	0	0	0	0	549	0	0	0	0	-12	-8	0	0
16	0.0	0.0	60.2	9	-10	57	41	30	0	0	0	0	483	0	0	0	0	-5	-5	0	0
17	0.0	0.0	60.2	8	1	57	41	30	0	0	0	0	419	0	0	0	0	2	-2	0	0
18	0.0	0.0	60.2	7	-11	56	41	29	0	0	0	0	355	0	0	0	0	-13	2	0	0
19	0.0	0.0	60.2	6	-19	56	36	27	0	0	0	0	293	0	0	0	0	-7	-12	0	0
20	0.0	0.0	60.2	6	-12	55	32	24	0	0	0	0	232	0	0	0	0	-2	-10	0	0
21	0.0	0.0	60.2	5	-4	55	32	24	0	0	0	0	172	0	0	0	0	4	-8	0	0
22	0.0	0.0	60.2	4	-14	54	32	23	0	0	0	0	114	0	0	0	0	-6	-5	0	0
23	0.0	0.0	58.8	4	-8	52	26	21	0	0	0	0	58	0	0	0	0	-5	-3	0	0
24	6.5	0.2	58.8	3	42	52	26	26	0	0	0	0	19	0	0	0	0	20	22	0	0
25	0.0	0.0	58.8	2	16	52	26	26	0	0	0	0	0	0	0	0	0	7	9	0	0
26	0.0	0.0	58.8	0	-10	0	26	26	0	0	0	0	0	0	0	0	0	-6	-4	0	0
27	2.7	0.0	58.8	0	-4	0	26	26	0	0	0	0	0	0	0	0	0	-3	-1	0	0
28	11.5	2.1	58.8	0	94	0	26	26	0	0	0	0	119	0	0	0	0	46	48	0	0
29	66.1	39.9	50.4	4	625	45	23	23	0	0	0	0	2000	365	0	0	0	311	314	0	0
30	3.3	0.1	50.4	35	418	104	302	302	398	0	0	0	1842	0	0	0	0	231	187	0	0
31	33.1	10.9	41.3	26	482	46	294	294	0	0	0	0	2000	415	0	0	0	274	237	0	0
32	70.3	45.0	41.3	35	716	85	341	341	0	0	0	0	2000	2000	961	0	0	394	323	0	0
33	4.6	0.5	41.3	70	819	135	387	387	518	0	0	0	2000	2000	278	0	0	253	565	0	0
34	41.2	12.8	41.3	62	843	131	415	415	0	0	0	0	2000	2000	931	0	0	276	567	0	0
35	48.9	23.5	41.3	70	868	135	443	443	0	204	0	0	2000	2000	2000	0	0	298	570	0	0
36	27.1	13.7	41.3	84	1178	140	471	471	645	0	0	0	2000	2000	1990	0	0	719	459	0	0
37	10.8	2.5	44.8	84	1505	152	541	541	915	0	0	0	2000	2000	1017	0	0	524	981	0	0
38	9.8	2.3	44.8	71	1633	147	571	571	718	0	0	0	2000	2000	242	0	0	881	752	0	0
39	19.5	7.0	44.8	61	1242	142	605	605	0	0	0	0	2000	2000	491	0	0	692	551	0	0
40	1.8	0.0	44.8	64	2336	143	655	655	2132	0	0	0	2000	157	0	0	0	1044	1292	0	0
41	0.9	0.0	51.8	32	2037	105	816	816	605	0	0	0	1417	0	0	0	0	1125	912	0	0
42	0.8	0.0	51.8	20	2261	55	816	816	1261	0	0	0	82	0	0	0	0	761	1500	0	0
43	0.0	0.0	51.8	3	1554	46	719	706	0	0	0	169	33	0	0	0	0	443	1112	0	0
44	0.0	0.0	51.8	3	960	46	602	595	0	0	0	360	0	0	0	0	0	178	781	0	0
45	0.0	0.0	51.8	0	485	0	505	474	0	0	0	561	0	0	0	0	0	-50	535	0	0
46	0.0	0.0	51.1	0	474	0	203	11	0	0	0	0	0	0	0	0	0	-50	523	0	0
47	0.0	0.0	51.1	0	301	0	326	172	0	0	0	0	0	0	0	0	0	-50	351	0	0
48	0.0	0.0	51.1	0	167	0	249	134	0	0	0	0	0	0	0	0	0	-50	217	0	0
49	0.0	0.0	51.1	0	71	0	172	96	0	0	0	0	0	0	0	0	0	-50	121	0	0
50	0.0	0.0	49.0	0	16	0	110	55	0	0	0	0	0	0	0	0	0	-50	66	0	0
51	0.0	0.0	49.0	0	-21	0	88	37	0	0	0	0	0	0	0	0	0	-50	29	0	0
52	0.0	0.0	49.0	0	-54	0	81	33	0	0	0	0	0	0	0	0	0	-50	-4	0	0
SUM	358.90	160.50	2778.30																		

TOTALS FOR YEAR: RAIN 358.8996 RUNOFF 160.5046 EVAP 2778.301 SEEPAGE 1028.148 EVAP FROM RESERVOIR 3087.078 EVAPOTRANSPIRATION 10829.28 IRRIGATION 7191.75 OVERFLOW 204.437 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1966

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-54	0	75	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
2	0.0	0.0	49.7	0	-54	0	75	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
3	0.0	0.0	49.7	0	-54	0	75	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
4	0.0	0.0	49.7	0	-54	0	75	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
5	0.0	0.0	53.9	0	-54	0	81	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
6	0.0	0.0	53.9	0	-54	0	81	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
7	0.0	0.0	53.9	0	-54	0	81	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
8	0.0	0.0	57.4	0	-54	0	86	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
9	0.0	0.0	57.4	0	-54	0	86	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
10	0.0	0.0	66.5	0	-54	0	100	0	0	0	0	0	0	0	0	0	0	-50	-4	0	0
11	0.4	0.0	66.5	0	-49	0	100	0	0	0	0	0	0	0	0	0	0	-47	-2	0	0
12	0.0	0.0	66.5	0	-49	0	100	0	0	0	0	0	0	0	0	0	0	-47	-2	0	0
13	0.0	0.0	66.5	0	-49	0	100	0	0	0	0	0	0	0	0	0	0	-47	-2	0	0
14	0.0	0.0	62.3	0	-49	0	93	0	0	0	0	0	0	0	0	0	0	-47	-2	0	0
15	0.0	0.0	62.3	0	-49	0	93	0	0	0	0	0	0	0	0	0	0	-47	-2	0	0
16	0.1	0.0	60.2	0	-48	0	90	0	0	0	0	0	0	0	0	0	0	-47	-1	0	0
17	0.0	0.0	60.2	0	-48	0	90	0	0	0	0	0	0	0	0	0	0	-47	-1	0	0
18	2.6	0.0	60.2	0	-34	0	63	18	0	0	0	0	0	0	0	0	0	-31	-3	0	0
19	0.0	0.0	60.2	0	-34	0	90	0	0	0	0	0	0	0	0	0	0	-31	-3	0	0
20	4.5	0.2	60.2	0	5	0	32	32	0	0	0	0	11	0	0	0	0	-5	9	0	0
21	2.5	0.0	60.2	2	3	53	32	32	0	0	0	0	0	0	0	0	0	-8	11	0	0
22	25.0	9.9	60.2	0	213	0	32	32	0	0	0	0	552	0	0	0	0	95	118	0	0
23	2.0	0.0	58.8	9	210	56	26	26	0	0	0	0	489	0	0	0	0	94	117	0	0
24	4.3	0.4	58.8	8	233	55	26	26	0	0	0	0	450	0	0	0	0	105	128	0	0
25	2.3	0.0	58.8	8	216	55	26	26	0	0	0	0	388	0	0	0	0	97	120	0	0
26	2.3	0.0	58.8	7	190	55	26	26	0	0	0	0	327	0	0	0	0	83	106	0	0
27	4.3	0.7	58.8	6	231	54	26	26	0	0	0	0	313	0	0	0	0	104	127	0	0
28	0.2	0.0	58.8	6	207	54	26	26	0	0	0	0	253	0	0	0	0	92	115	0	0
29	10.4	1.2	50.4	5	302	46	23	23	0	0	0	0	277	0	0	0	0	139	162	0	0
30	1.6	0.0	50.4	5	298	46	23	23	0	0	0	0	227	0	0	0	0	138	161	0	0
31	45.0	19.9	41.3	5	701	37	19	19	0	0	0	0	1339	0	0	0	0	339	362	0	0
32	56.2	44.4	41.3	19	485	43	248	248	357	0	0	0	2000	1462	0	0	0	231	254	0	0
33	3.0	0.1	41.3	49	255	91	294	294	0	0	0	0	2000	1335	0	0	0	127	128	0	0
34	16.2	2.6	41.3	47	855	90	341	341	919	0	0	0	2000	459	0	0	0	334	462	0	0
35	0.0	0.0	41.3	36	494	85	387	387	0	0	0	0	2000	337	0	0	0	227	267	0	0
36	0.0	0.0	41.3	34	1225	85	415	415	1402	0	0	0	816	0	0	0	0	556	669	0	0
37	17.9	6.3	44.0	12	947	44	480	480	0	0	0	0	1130	0	0	0	0	426	521	0	0
38	11.1	2.7	44.8	16	1561	46	511	511	1228	0	0	0	0	0	0	0	0	719	842	0	0
39	0.1	0.0	44.8	0	1046	0	541	541	0	0	0	0	0	0	0	0	0	467	579	0	0
40	0.0	0.0	44.8	0	561	0	571	511	0	0	0	302	0	0	0	0	0	209	351	0	0
41	1.0	0.0	51.8	0	162	0	699	436	0	0	0	932	0	0	0	0	0	-5	167	0	0
42	5.9	0.7	51.8	0	-66	0	758	350	38	0	0	1319	0	0	0	0	0	-116	50	0	0
43	0.0	0.0	51.8	0	-209	0	816	168	0	0	0	815	0	0	0	0	0	-116	-93	0	0
44	0.0	0.0	51.8	0	-209	0	816	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
45	0.0	0.0	51.8	0	-209	0	719	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
46	0.0	0.0	51.1	0	-209	0	594	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
47	0.0	0.0	51.1	0	-209	0	498	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
48	0.0	0.0	51.1	0	-209	0	402	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
49	0.0	0.0	51.1	0	-209	0	326	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
50	0.0	0.0	49.0	0	-209	0	239	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
51	0.0	0.0	49.0	0	-209	0	165	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
52	0.0	0.0	49.0	0	-209	0	110	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
SUM	216.80	88.852772.30																			

TOTALS FOR YEAR: RAIN 216.7996 RUNOFF 88.85044 EVAP 2778.301 SEEPAGE 274.7172 EVAP FROM RESERVOIR 995.9519 EVAPOTRANSPIRATION 11881.12 IRRIGATION 3943.631 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1967

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	EWT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
2	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
3	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
4	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
5	0.0	0.0	53.9	0	-209	0	81	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
6	0.0	0.0	53.9	0	-209	0	81	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
7	0.0	0.0	53.9	0	-209	0	81	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
8	0.0	0.0	57.4	0	-209	0	86	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
9	0.0	0.0	57.4	0	-209	0	86	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
10	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
11	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
12	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
13	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
14	0.0	0.0	62.3	0	-209	0	93	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
15	0.0	0.0	62.3	0	-209	0	93	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
16	0.0	0.0	60.2	0	-209	0	90	0	0	0	0	0	0	0	0	0	0	-116	-93	0	0
17	9.4	1.7	60.2	0	-105	0	41	39	0	0	0	0	93	0	0	0	0	-64	-41	0	0
18	0.0	0.0	60.2	3	-103	54	41	39	0	0	0	0	36	0	0	0	0	-63	-41	0	0
19	0.0	0.0	60.2	3	-103	53	90	0	0	0	0	0	0	0	0	0	0	-63	-41	0	0
20	0.0	0.0	60.2	0	-103	0	90	0	0	0	0	0	0	0	0	0	0	-63	-41	0	0
21	1.2	0.0	60.2	0	-89	0	90	0	0	0	0	0	0	0	0	0	0	-55	-34	0	0
22	2.1	0.0	60.2	0	-64	0	90	0	0	0	0	0	0	0	0	0	0	-43	-21	0	0
23	7.1	1.3	58.8	0	1	0	26	26	0	0	0	0	75	0	0	0	0	-4	5	0	0
24	4.6	0.3	58.8	3	29	52	26	26	0	0	0	0	39	0	0	0	0	10	19	0	0
25	9.9	2.2	58.8	3	109	52	26	25	0	0	0	0	115	0	0	0	0	50	59	0	0
26	18.6	7.2	58.8	4	264	53	26	25	0	0	0	0	479	0	0	0	0	128	136	0	0
27	35.4	14.3	58.8	8	578	55	26	25	0	0	0	866	1249	0	0	0	0	285	293	0	0
28	28.0	7.2	58.8	18	485	61	353	353	437	0	0	0	1166	0	0	0	0	231	254	0	0
29	4.7	0.1	50.4	17	414	52	359	359	261	0	0	0	848	0	0	0	0	313	101	0	0
30	13.1	3.8	50.4	13	661	50	416	416	633	0	0	0	378	0	0	0	0	200	462	0	0
31	19.7	7.4	41.3	7	833	38	387	387	433	0	0	0	334	0	0	0	0	475	358	0	0
32	0.5	0.0	41.3	6	677	38	415	415	291	0	0	0	0	0	0	0	0	392	365	0	0
33	34.8	10.2	41.3	0	610	0	443	443	0	0	0	0	571	0	0	0	0	269	341	0	0
34	4.0	0.1	41.3	9	643	39	471	460	531	0	0	167	0	0	0	0	0	531	142	0	0
35	56.8	46.6	41.3	0	1450	0	499	499	1106	0	0	0	1517	0	0	0	0	469	981	0	0
36	8.9	1.9	41.3	21	1651	44	527	527	766	0	0	0	803	0	0	0	0	881	770	0	0
37	0.2	0.0	44.8	12	1666	44	605	605	747	0	0	0	0	0	0	0	0	597	1069	0	0
38	0.0	0.0	44.8	0	1044	0	655	642	0	0	0	265	0	0	0	0	0	290	754	0	0
39	0.0	0.0	44.8	0	423	0	706	642	0	0	0	863	0	0	0	0	0	-48	470	0	0
40	0.0	0.0	44.8	0	155	0	706	298	0	0	0	543	0	0	0	0	0	-48	203	0	0
41	8.4	1.5	51.8	0	95	0	400	231	85	0	0	879	0	0	0	0	0	66	29	0	0
42	0.0	0.0	51.8	0	-209	0	602	303	0	0	0	1408	0	0	0	0	0	-75	-133	0	0
43	0.0	0.0	51.8	0	-209	0	505	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
44	0.0	0.0	51.8	0	-209	0	408	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
45	0.0	0.0	51.8	0	-209	0	330	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
46	0.0	0.0	51.1	0	-209	0	249	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
47	0.0	0.0	51.1	0	-209	0	172	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
48	0.0	0.0	51.1	0	-209	0	115	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
49	0.0	0.0	51.1	0	-209	0	92	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
50	0.0	0.0	49.0	0	-209	0	81	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
51	0.0	0.0	49.0	0	-209	0	74	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
52	0.0	0.0	49.0	0	-209	0	66	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
SUM	267.40	106.0	42778.30																		

TOTALS FOR YEAR: RAIN 267.3996 RUNOFF 106.0351 EVAP 2778.301 SEEPAGE 125.5857 EVAP FROM RESERVOIR 685.4596 EVAPOTRANSPIRATION 11598.67 IRRIGATION 5288.131 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1968

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
2	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
3	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
4	0.0	0.0	49.7	0	-209	0	75	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
5	0.0	0.0	53.9	0	-209	0	81	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
6	0.0	0.0	53.9	0	-209	0	81	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
7	0.0	0.0	53.9	0	-209	0	81	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
8	0.0	0.0	57.4	0	-209	0	86	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
9	0.0	0.0	57.4	0	-209	0	86	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
10	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
11	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
12	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
13	0.0	0.0	66.5	0	-209	0	100	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
14	0.0	0.0	62.3	0	-209	0	93	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
15	0.0	0.0	62.3	0	-209	0	93	0	0	0	0	0	0	0	0	0	0	-75	-133	0	0
16	0.5	0.0	60.2	0	-203	0	90	0	0	0	0	0	0	0	0	0	0	-72	-130	0	0
17	0.0	0.0	60.2	0	-203	0	90	0	0	0	0	0	0	0	0	0	0	-72	-130	0	0
18	0.0	0.0	60.2	0	-203	0	90	0	0	0	0	0	0	0	0	0	0	-72	-130	0	0
19	0.0	0.0	60.2	0	-203	0	90	0	0	0	0	0	0	0	0	0	0	-72	-130	0	0
20	0.0	0.0	60.2	0	-203	0	90	0	0	0	0	0	0	0	0	0	0	-72	-130	0	0
21	0.0	0.0	60.2	0	-203	0	90	0	0	0	0	0	0	0	0	0	0	-72	-130	0	0
22	3.8	0.2	60.2	0	-157	0	32	31	0	0	0	0	9	0	0	0	0	-50	-128	0	0
23	1.4	0.0	58.8	2	-141	52	88	0	0	0	0	0	0	0	0	0	0	-41	-100	0	0
24	14.7	3.0	58.8	0	5	0	26	26	0	0	0	0	168	0	0	0	0	25	-20	0	0
25	0.9	0.0	58.8	4	3	53	26	26	0	0	0	0	111	0	0	0	0	16	-14	0	0
26	5.5	0.1	58.8	3	43	52	26	26	0	0	0	0	68	0	0	0	0	37	5	0	0
27	28.0	8.8	58.8	3	300	52	26	25	0	0	0	0	532	0	0	0	0	166	134	0	0
28	33.5	14.3	58.8	9	591	56	26	25	0	0	0	729	1301	0	0	0	0	312	279	0	0
29	47.8	33.9	50.4	19	485	53	302	302	398	0	0	0	2000	781	0	0	0	231	254	0	0
30	0.0	0.0	50.4	40	670	106	359	359	649	0	0	0	1985	0	0	0	0	313	358	0	0
31	0.0	0.0	41.3	28	352	47	341	341	0	0	0	0	1911	0	0	0	0	163	184	0	0
32	0.9	0.0	41.3	27	1040	46	387	387	1305	0	0	0	533	0	0	0	0	475	565	0	0
33	8.8	1.0	41.3	9	744	39	415	415	0	0	0	0	548	0	0	0	0	339	405	0	0
34	2.1	0.0	41.3	9	759	39	443	431	502	0	0	54	0	0	0	0	0	552	207	0	0
35	18.3	6.6	41.3	0	762	0	471	471	338	0	0	0	0	0	0	0	0	427	335	0	0
36	5.8	0.7	41.3	0	432	0	499	446	39	0	0	273	6	0	0	0	0	267	164	0	0
37	3.0	0.1	44.8	0	119	0	571	370	3	0	0	745	0	0	0	0	0	101	18	0	0
38	13.1	3.3	44.8	0	121	0	605	301	183	0	0	864	0	0	0	0	0	168	-47	0	0
39	1.6	0.0	44.8	0	13	0	655	127	0	0	0	506	0	0	0	0	0	50	-37	0	0
40	0.0	0.0	44.8	0	-111	0	706	125	0	0	0	712	0	0	0	0	0	-74	-37	0	0
41	0.2	0.0	51.8	0	-109	0	816	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
42	0.0	0.0	51.8	0	-109	0	719	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
43	0.0	0.0	51.8	0	-109	0	602	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
44	0.0	0.0	51.8	0	-109	0	505	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
45	0.0	0.0	51.8	0	-109	0	408	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
46	0.0	0.0	51.1	0	-109	0	326	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
47	0.0	0.0	51.1	0	-109	0	249	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
48	0.0	0.0	51.1	0	-109	0	172	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
49	0.0	0.0	51.1	0	-109	0	115	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
50	0.0	0.0	49.0	0	-109	0	88	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
51	0.0	0.0	49.0	0	-109	0	81	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
52	0.0	0.0	49.0	0	-109	0	74	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
SUM	189.90	71.39	2778.30																		

TOTALS FOR YEAR: RAIN 189.8997 RUNOFF 71.38531 EVAP 2778.301 SEEPAGE 152.1568 EVAP FROM RESERVOIR 595.2163 EVAPOTRANSPIRATION 12001.08 IRRIGATION 3418.511 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1969

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-109	0	75	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
2	0.0	0.0	49.7	0	-109	0	75	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
3	0.0	0.0	49.7	0	-109	0	75	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
4	0.0	0.0	49.7	0	-109	0	75	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
5	0.0	0.0	53.9	0	-109	0	81	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
6	0.0	0.0	53.9	0	-109	0	81	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
7	0.0	0.0	53.9	0	-109	0	81	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
8	0.0	0.0	57.4	0	-109	0	86	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
9	0.0	0.0	57.4	0	-109	0	86	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
10	0.0	0.0	66.5	0	-109	0	100	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
11	0.0	0.0	66.5	0	-109	0	100	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
12	0.0	0.0	66.5	0	-109	0	100	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
13	0.0	0.0	66.5	0	-109	0	100	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
14	0.0	0.0	62.3	0	-109	0	93	0	0	0	0	0	0	0	0	0	0	-73	-36	0	0
15	7.4	1.2	62.3	0	-45	0	42	41	0	0	0	0	65	0	0	0	0	-31	-13	0	0
16	0.0	0.0	60.2	3	-43	53	41	39	0	0	0	0	9	0	0	0	0	-30	-13	0	0
17	0.0	0.0	60.2	2	-43	53	90	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
18	0.0	0.0	60.2	0	-43	0	90	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
19	0.0	0.0	60.2	0	-43	0	90	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
20	0.0	0.0	60.2	0	-43	0	90	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
21	0.0	0.0	60.2	0	-43	0	90	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
22	0.0	0.0	60.2	0	-43	0	90	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
23	0.0	0.0	58.8	0	-43	0	88	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
24	0.0	0.0	58.8	0	-43	0	88	0	0	0	0	0	0	0	0	0	0	-30	-13	0	0
25	0.7	0.0	58.8	0	-34	0	88	0	0	0	0	0	0	0	0	0	0	-26	-8	0	0
26	24.8	8.4	58.8	0	187	0	26	26	0	0	0	0	470	0	0	0	0	65	102	0	0
27	0.0	0.0	58.8	8	161	55	26	26	0	0	0	0	407	0	0	0	0	72	89	0	0
28	3.8	0.3	58.8	7	180	55	26	25	0	0	0	0	362	0	0	0	0	82	99	0	0
29	1.8	0.0	50.4	7	180	47	23	22	0	0	0	0	311	0	0	0	0	82	98	0	0
30	8.3	1.6	50.4	6	248	46	23	22	0	0	0	0	358	0	0	0	0	116	132	0	0
31	7.7	0.7	41.3	6	318	38	19	18	0	0	0	0	361	0	0	0	0	151	167	0	0
32	51.7	15.5	41.3	6	228	38	19	18	0	0	0	448	1230	0	0	0	0	426	422	0	0
33	17.1	5.5	41.3	18	485	43	248	248	340	0	0	0	1157	0	0	0	0	231	254	0	0
34	11.9	1.4	41.3	17	359	42	294	294	0	0	0	0	1190	0	0	0	0	180	179	0	0
35	1.4	0.0	41.3	17	855	43	341	341	985	0	0	0	146	0	0	0	0	394	462	0	0
36	0.0	0.0	41.3	4	498	37	387	387	0	0	0	0	105	0	0	0	0	228	270	0	0
37	5.3	0.5	44.8	3	287	40	450	378	96	0	0	161	0	0	0	0	0	145	142	0	0
38	9.2	0.9	44.8	0	179	0	480	281	49	0	0	364	0	0	0	0	0	96	83	0	0
39	9.8	1.3	44.8	0	146	0	511	228	71	0	0	497	0	0	0	0	0	95	52	0	0
40	3.3	0.2	44.8	0	24	0	541	198	9	0	0	727	0	0	0	0	0	25	-1	0	0
41	0.0	0.0	51.8	0	-65	0	660	89	0	0	0	524	0	0	0	0	0	-63	-1	0	0
42	0.0	0.0	51.8	0	-65	0	699	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
43	0.0	0.0	51.8	0	-65	0	758	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
44	0.0	0.0	51.8	0	-65	0	816	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
45	0.0	0.0	51.8	0	-65	0	816	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
46	0.0	0.0	51.1	0	-65	0	709	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
47	0.0	0.0	51.1	0	-65	0	594	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
48	0.0	0.0	51.1	0	-65	0	498	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
49	0.0	0.0	51.1	0	-65	0	402	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
50	0.0	0.0	49.0	0	-65	0	312	0	0	0	0	0	0	0	9	0	0	-63	-1	0	0
51	0.0	0.0	49.0	0	-65	0	239	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
52	0.0	0.0	49.0	0	-65	0	165	0	0	0	0	0	0	0	0	0	0	-63	-1	0	0
SUM	164.20	37.40	2778.30																		

TOTALS FOR YEAR: RAIN 164.1997 RUNOFF 37.39983 EVAP 2778.301 SEEPAGE 103.9665 EVAP FROM RESERVOIR 590.5551 EVAPOTRANSPIRATION 12178.11 IRRIGATION 1550.144 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1970

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5
1	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
2	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
3	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
4	0.0	0.0	49.7	0	-65	0	75	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
5	0.0	0.0	53.9	0	-65	0	81	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
6	0.0	0.0	53.9	0	-65	0	81	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
7	0.0	0.0	53.9	0	-65	0	81	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
8	0.0	0.0	57.4	0	-65	0	86	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
9	0.0	0.0	57.4	0	-65	0	86	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
10	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
11	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
12	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
13	0.0	0.0	66.5	0	-65	0	100	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
14	0.0	0.0	62.3	0	-65	0	93	0	0	0	0	0	0	0	0	0	0	-63	-1	0	
15	0.5	0.0	62.3	0	-77	0	65	18	0	0	0	0	0	0	0	0	0	-60	-17	0	
16	0.0	0.0	60.2	0	-77	0	90	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
17	0.0	0.0	60.2	0	-77	0	90	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
18	0.0	0.0	60.2	0	-77	0	90	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
19	0.0	0.0	60.2	0	-77	0	90	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
20	0.0	0.0	60.2	0	-77	0	90	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
21	0.0	0.0	60.2	0	-77	0	90	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
22	0.0	0.0	60.2	0	-77	0	90	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
23	0.0	0.0	58.8	0	-77	0	88	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
24	0.0	0.0	58.8	0	-77	0	88	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
25	0.0	0.0	58.8	0	-77	0	88	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
26	0.0	0.0	58.8	0	-77	0	88	0	0	0	0	0	0	0	0	0	0	-60	-17	0	
27	0.2	0.0	58.8	0	-74	0	88	0	0	0	0	0	0	0	0	0	0	-59	-15	0	
28	6.8	0.2	58.8	0	-6	0	26	26	0	0	0	0	10	0	0	0	0	-18	12	0	
29	23.0	9.0	50.4	2	193	44	23	22	0	0	0	0	496	0	0	0	0	82	112	0	
30	60.7	33.2	50.4	8	700	47	23	22	0	0	0	222	2000	348	0	0	0	335	365	0	
31	20.9	4.9	41.3	34	485	85	248	248	358	0	0	0	2000	182	0	0	0	231	254	0	
32	27.5	13.8	41.3	33	467	84	294	294	0	0	0	0	2000	901	0	0	0	233	234	0	
33	11.4	2.8	41.3	41	273	88	341	341	0	0	0	0	2000	954	0	0	0	149	124	0	
34	9.2	1.5	41.3	42	1040	88	387	387	1284	0	0	0	1644	0	0	0	0	475	565	0	
35	11.9	3.2	41.3	23	774	45	415	415	0	0	0	0	1766	0	0	0	0	351	423	0	
36	18.5	3.7	41.3	25	556	46	443	443	0	0	0	0	1923	0	0	0	0	250	307	0	
37	12.1	1.8	44.8	27	1596	50	511	511	1738	0	0	0	224	0	0	0	0	719	877	0	
38	0.0	0.0	44.8	5	1080	41	541	541	0	0	0	0	178	0	0	0	0	467	613	0	
39	44.5	18.0	44.8	4	1430	40	571	571	588	0	0	0	595	0	0	0	0	881	549	0	
40	0.0	0.0	44.8	9	1285	43	605	605	543	0	0	0	0	0	0	0	0	596	689	0	
41	0.0	0.0	51.8	0	638	0	758	672	0	0	0	615	0	0	0	0	0	245	393	0	
42	14.2	2.3	51.8	0	408	0	816	517	131	0	0	1010	0	0	0	0	0	160	247	0	
43	0.0	0.0	51.8	0	43	0	816	390	0	0	0	1440	0	0	0	0	0	-24	66	0	
44	0.0	0.0	51.8	0	-131	0	719	173	0	0	0	856	0	0	0	0	0	-24	-107	0	
45	0.0	0.0	51.8	0	-131	0	602	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
46	0.0	0.0	51.1	0	-131	0	498	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
47	0.0	0.0	51.1	0	-131	0	402	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
48	0.0	0.0	51.1	0	-131	0	326	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
49	0.0	0.0	51.1	0	-131	0	249	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
50	0.0	0.0	49.0	0	-131	0	165	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
51	0.0	0.0	49.0	0	-131	0	110	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
52	0.0	0.0	49.0	0	-131	0	88	0	0	0	0	0	0	0	0	0	0	-24	-107	0	
SUM	261.40	94.4	72778.30																		

TOTALS FOR YEAR: RAIN 261.3997 RUNOFF 94.46713 EVAP 2778.301 SEEPAGE 254.5131 EVAP FROM RESERVOIR 700.9218 EVAPOTRANSPIRATION 12320.91 IRRIGATION 4641.804 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1971

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-131	0	75	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
2	0.0	0.0	49.7	0	-131	0	75	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
3	0.0	0.0	49.7	0	-131	0	75	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
4	0.0	0.0	49.7	0	-131	0	75	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
5	0.0	0.0	53.9	0	-131	0	81	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
6	0.0	0.0	53.9	0	-131	0	81	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
7	0.0	0.0	53.9	0	-131	0	81	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
8	0.0	0.0	57.4	0	-131	0	86	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
9	0.0	0.0	57.4	0	-131	0	86	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
10	0.0	0.0	66.5	0	-131	0	100	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
11	0.0	0.0	66.5	0	-131	0	100	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
12	0.0	0.0	66.5	0	-131	0	100	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
13	0.0	0.0	66.5	0	-131	0	100	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
14	0.0	0.0	62.3	0	-131	0	93	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
15	0.0	0.0	62.3	0	-131	0	93	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
16	0.0	0.0	60.2	0	-131	0	90	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
17	0.0	0.0	60.2	0	-131	0	90	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
18	0.0	0.0	60.2	0	-131	0	90	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
19	0.0	0.0	60.2	0	-131	0	90	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
20	0.0	0.0	60.2	0	-131	0	90	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
21	0.0	0.0	60.2	0	-131	0	90	0	0	0	0	0	0	0	0	0	0	-24	-107	0	0
22	16.3	5.7	60.2	0	13	0	32	31	0	0	0	0	318	0	0	0	0	39	-26	0	0
23	0.0	0.0	58.8	6	0	54	26	26	0	0	0	0	258	0	0	0	0	26	-26	0	0
24	0.0	0.0	58.8	5	-12	54	26	26	0	0	0	0	199	0	0	0	0	14	-26	0	0
25	19.6	7.8	58.8	5	151	53	26	26	0	0	0	0	594	0	0	0	0	95	56	0	0
26	35.4	16.1	58.8	9	454	56	26	25	0	0	0	1044	1463	0	0	0	0	247	207	0	0
27	7.0	0.7	58.8	21	305	63	353	353	446	0	0	0	978	0	0	0	0	231	74	0	0
28	35.1	21.4	58.8	14	550	59	419	419	440	0	0	0	1696	0	0	0	0	192	358	0	0
29	8.6	1.7	50.4	24	581	55	416	416	420	0	0	0	1300	0	0	0	0	394	167	0	0
30	53.3	36.0	50.4	19	966	53	473	473	524	0	0	0	2000	776	0	0	0	401	565	0	0
31	7.2	0.5	41.3	40	649	87	415	415	0	0	0	0	2000	692	0	0	0	256	392	0	0
32	52.4	28.1	41.3	39	680	87	443	443	0	0	0	0	2000	2000	253	0	0	285	395	0	0
33	18.5	5.8	41.3	61	1596	131	471	471	1482	0	0	0	2000	964	0	0	0	719	877	0	0
34	19.6	6.9	41.3	42	1305	88	499	499	0	0	0	0	2000	1261	0	0	0	593	722	0	0
35	4.1	0.2	41.3	46	1363	90	527	527	652	0	0	0	2000	494	0	0	0	881	481	0	0
36	13.9	3.2	41.3	36	1880	86	558	558	1142	0	0	0	1438	0	0	0	0	692	1188	0	0
37	17.6	3.4	44.8	20	2006	48	655	655	720	0	0	0	862	0	0	0	0	1044	962	0	0
38	17.9	6.7	44.8	13	1489	44	706	706	0	0	0	0	1197	0	0	0	0	778	711	0	0
39	0.0	0.0	44.8	17	1717	46	706	694	1134	0	0	154	0	0	0	0	0	1125	592	0	0
40	5.5	0.8	44.8	0	1165	0	622	613	0	0	0	375	44	0	0	0	0	870	295	0	0
41	0.7	0.0	51.8	3	579	46	602	594	0	0	0	684	0	0	0	0	0	602	-24	0	0
42	0.0	0.0	51.8	0	371	0	505	208	0	0	0	90	0	0	0	0	0	394	-24	0	0
43	0.0	0.0	51.8	0	210	0	408	161	0	0	0	191	0	0	0	0	0	234	-24	0	0
44	0.0	0.0	51.8	0	198	0	186	12	0	0	0	0	0	0	0	0	0	222	-24	0	0
45	0.0	0.0	51.8	0	82	0	253	117	0	0	0	0	0	0	0	0	0	105	-24	0	0
46	0.0	0.0	51.1	0	5	0	172	77	0	0	0	0	0	0	0	0	0	29	-24	0	0
47	0.0	0.0	51.1	0	-52	0	115	57	0	0	0	0	0	0	0	0	0	-29	-24	0	0
48	0.0	0.0	51.1	0	-52	0	77	0	0	0	0	0	0	0	0	0	0	-29	-24	0	0
49	0.0	0.0	51.1	0	-52	0	73	0	0	0	0	0	0	0	0	0	0	-29	-24	0	0
50	0.0	0.0	49.0	0	-52	0	66	0	0	0	0	0	0	0	0	0	0	-29	-24	0	0
51	0.0	0.0	49.0	0	-52	0	62	0	0	0	0	0	0	0	0	0	0	-29	-24	0	0
52	0.0	0.0	49.0	0	-52	0	59	0	0	0	0	0	0	0	0	0	0	-29	-24	0	0
SUM	332.70	144.90	2778.30																		

TOTALS FOR YEAR: RAIN 332.6996 RUNOFF 144.8957 EVAP 2778.301 SEEPAGE 420.1777 EVAP FROM RESERVOIR 1198.786 EVAPOTRANSPIRATION 11816.28 IRRIGATION 6958.94 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1972

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(
1	0.0	0.0	49.7	0	-52	0	75	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
2	0.0	0.0	49.7	0	-52	0	75	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
3	0.0	0.0	49.7	0	-52	0	75	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
4	0.0	0.0	49.7	0	-52	0	75	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
5	0.0	0.0	53.9	0	-52	0	81	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
6	0.0	0.0	53.9	0	-52	0	81	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
7	0.0	0.0	53.9	0	-52	0	81	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
8	0.0	0.0	57.4	0	-52	0	86	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
9	0.0	0.0	57.4	0	-52	0	86	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
10	0.0	0.0	66.5	0	-52	0	100	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
11	0.0	0.0	66.5	0	-52	0	100	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
12	0.0	0.0	66.5	0	-52	0	100	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
13	0.0	0.0	66.5	0	-52	0	100	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
14	0.0	0.0	62.3	0	-52	0	93	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
15	0.0	0.0	62.3	0	-52	0	93	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
16	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
17	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
18	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
19	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
20	0.0	0.0	60.2	0	-52	0	90	0	0	0	0	0	0	0	0	0	0	-29	-24	0	
21	7.7	0.2	60.2	0	7	0	32	32	0	0	0	0	14	0	0	0	0	-1	8	0	
22	6.4	1.1	60.2	2	46	53	32	32	0	0	0	0	26	0	0	0	0	16	30	0	
23	0.0	0.0	58.8	2	19	52	26	26	0	0	0	0	0	0	0	0	0	3	17	0	
24	0.0	0.0	58.8	0	-7	0	26	26	0	0	0	0	0	0	0	0	0	-11	3	0	
25	0.0	0.0	58.8	0	-20	0	57	13	0	0	0	0	0	0	0	0	0	-11	-10	0	
26	44.8	19.8	58.8	0	372	0	26	26	0	0	0	0	1109	0	0	0	0	185	186	0	
27	18.1	5.8	58.8	16	335	60	353	353	462	0	0	0	914	0	0	0	0	231	104	0	
28	3.1	0.1	53.8	13	653	59	419	419	953	0	0	0	0	0	0	0	0	313	338	0	
29	16.2	3.7	50.4	0	427	0	416	416	0	0	0	0	153	0	0	0	0	218	209	0	
30	10.9	2.8	50.4	4	320	45	473	450	269	0	0	172	0	0	0	0	0	285	35	0	
31	34.2	14.5	41.3	0	891	0	415	415	812	0	0	0	0	0	0	0	0	261	630	0	
32	7.0	0.6	41.3	0	578	0	443	434	35	0	0	111	0	0	0	0	0	137	442	0	
33	33.0	19.2	41.3	0	1060	0	471	471	823	0	0	0	254	0	0	0	0	719	341	0	
34	50.9	25.1	41.3	5	1697	38	499	499	829	0	0	0	834	0	0	0	0	717	981	0	
35	22.9	6.6	41.3	12	1419	41	527	527	0	0	0	0	1176	0	0	0	0	586	832	0	
36	6.1	0.4	41.3	17	1549	43	558	558	755	0	0	0	388	0	0	0	0	963	587	0	
37	5.4	0.6	44.8	7	1270	42	655	655	378	0	0	0	0	0	0	0	0	674	537	0	
38	6.0	0.8	44.8	0	743	0	706	642	42	0	0	542	0	0	0	0	0	403	340	0	
39	0.8	0.0	44.8	0	285	0	706	481	0	0	0	1060	0	0	0	0	0	178	107	0	
40	19.0	6.6	44.8	0	129	0	622	345	0	0	0	1098	367	0	0	0	0	109	20	0	
41	42.3	25.8	51.8	7	208	48	602	274	0	0	0	991	1795	0	0	0	0	158	50	0	
42	0.0	0.0	51.8	25	-5	57	505	213	0	0	0	1052	1713	0	0	0	0	60	-65	0	
43	2.1	0.0	51.8	24	-59	57	208	90	0	0	0	634	1634	0	0	0	0	-7	-52	0	
44	0.0	0.0	51.8	23	-58	56	23	22	0	0	0	433	1555	0	0	0	0	-6	-52	0	
45	0.0	0.0	51.8	22	-57	56	23	22	0	0	0	432	1477	0	0	0	0	-6	-51	0	
46	0.0	0.0	51.1	21	-56	55	23	22	0	0	0	431	1402	0	0	0	0	-5	-50	0	
47	0.0	0.0	51.1	20	-54	54	23	21	0	0	0	429	1328	0	0	0	0	-4	-50	0	
48	0.0	0.0	51.1	19	-52	54	23	21	0	0	0	427	1255	0	0	0	0	-3	-49	0	
49	0.0	0.0	51.1	18	-50	53	23	21	0	0	0	425	1184	0	0	0	0	-2	-48	0	
50	0.0	0.0	49.0	17	-48	51	22	20	0	0	0	423	1117	0	0	0	0	-1	-47	0	
51	0.0	0.0	49.0	16	-45	50	22	20	0	0	0	421	1050	0	0	0	0	-0	-46	0	
52	0.0	0.0	49.0	15	-43	50	22	19	0	0	0	418	986	0	0	0	0	1	-44	0	
SUM	336.90	132.77	2778.30																		

TOTALS FOR YEAR: RAIN 336.8996 RUNOFF 132.7666 EVAP 2778.301 SEEPAGE 306.331 EVAP FROM RESERVOIR 1070.899 EVAPOTRANSPIRATION 10727.85 IRRIGATION 5259.115 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1973

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	14	-57	50	52	33	0	0	0	0	921	0	0	0	0	-17	-40	0	0
2	0.0	0.0	49.7	14	-40	50	48	31	0	0	0	0	858	0	0	0	0	-4	-36	0	0
3	0.0	0.0	49.7	13	-24	49	45	29	0	0	0	0	796	0	0	0	0	6	-31	0	0
4	0.0	0.0	49.7	12	-33	49	41	27	0	0	0	0	735	0	0	0	0	-7	-26	0	0
5	0.0	0.0	53.9	11	-19	53	40	27	0	0	0	0	672	0	0	0	0	0	-20	0	0
6	0.0	0.0	53.9	10	-26	52	40	26	0	0	0	0	609	0	0	0	0	-12	-13	0	0
7	0.0	0.0	53.9	10	-11	52	40	26	0	0	0	0	548	0	0	0	0	-4	-7	0	0
8	0.0	0.0	57.4	9	6	55	43	26	0	0	0	0	485	0	0	0	0	5	1	0	0
9	0.0	0.0	57.4	8	-20	54	43	26	0	0	0	0	423	0	0	0	0	-7	-13	0	0
10	0.0	0.0	65.5	7	3	62	50	27	0	0	0	0	354	0	0	0	0	5	-2	0	0
11	0.0	0.0	65.5	6	2	61	50	27	0	0	0	0	286	0	0	0	0	-7	9	0	0
12	0.0	0.0	65.5	6	1	61	50	26	0	0	0	0	219	0	0	0	0	6	-5	0	0
13	0.0	0.0	65.5	5	0	60	50	25	0	0	0	0	154	0	0	0	0	-6	6	0	0
14	4.1	0.2	62.3	4	24	56	47	24	0	0	0	0	111	0	0	0	0	7	17	0	0
15	0.0	0.0	62.3	3	1	56	42	22	0	0	0	0	52	0	0	0	0	-4	6	0	0
16	0.0	0.0	60.2	3	-10	53	63	11	0	0	0	0	0	0	0	0	0	-4	-6	0	0
17	0.0	0.0	60.2	0	-10	0	90	0	0	0	0	0	0	0	0	0	0	-4	-6	0	0
18	0.0	0.0	60.2	0	-10	0	90	0	0	0	0	0	0	0	0	0	0	-4	-6	0	0
19	0.0	0.0	60.2	0	-10	0	90	0	0	0	0	0	0	0	0	0	0	-4	-6	0	0
20	0.0	0.0	60.2	0	-10	0	90	0	0	0	0	0	0	0	0	0	0	-4	-6	0	0
21	15.3	4.8	60.2	0	126	0	32	19	0	0	0	0	267	0	0	0	0	64	63	0	0
22	2.2	0.0	60.2	5	134	55	32	19	0	0	0	0	209	0	0	0	0	67	67	0	0
23	14.2	4.7	58.8	5	259	53	26	17	0	0	0	0	428	0	0	0	0	130	129	0	0
24	0.0	0.0	58.8	7	243	55	26	17	0	0	0	0	366	0	0	0	0	123	120	0	0
25	0.0	0.0	58.8	7	226	54	26	16	0	0	0	0	305	0	0	0	0	115	111	0	0
26	3.9	0.1	58.8	6	256	54	26	16	0	0	0	0	257	0	0	0	0	130	126	0	0
27	0.0	0.0	58.8	5	240	54	26	16	0	0	0	0	198	0	0	0	0	123	117	0	0
28	31.2	11.9	58.8	5	517	53	26	26	0	0	0	0	836	0	0	0	0	261	256	0	0
29	45.4	19.4	50.4	12	485	50	302	302	411	0	0	0	1494	0	0	0	0	231	254	0	0
30	34.3	11.6	50.4	21	489	54	359	359	0	0	0	0	2000	108	0	0	0	246	243	0	0
31	12.9	3.2	41.3	32	304	84	341	341	0	0	0	0	2000	196	0	0	0	167	137	0	0
32	0.8	0.0	41.3	33	1040	84	387	387	1369	0	0	0	712	0	0	0	0	475	565	0	0
33	1.8	0.0	41.3	11	665	40	415	415	0	0	0	0	663	0	0	0	0	300	365	0	0
34	0.0	0.0	41.3	10	741	40	443	431	612	0	0	109	0	0	0	0	0	589	152	0	0
35	0.0	0.0	41.3	0	298	0	471	460	0	0	0	383	0	0	0	0	0	372	-74	0	0
36	43.1	15.4	41.3	0	932	0	499	499	862	0	0	0	0	0	0	0	0	352	580	0	0
37	40.3	22.7	44.8	0	1350	0	571	571	781	0	0	0	489	0	0	0	0	881	469	0	0
38	0.0	0.0	44.8	8	1115	42	605	605	439	0	0	0	0	0	0	0	0	596	519	0	0
39	22.5	9.6	44.8	0	1131	0	655	645	539	0	0	259	0	0	0	0	0	814	317	0	0
40	11.3	1.6	44.8	0	730	0	706	554	89	0	0	556	0	0	0	0	0	595	135	0	0
41	4.6	0.4	51.8	0	368	0	816	449	21	0	0	1116	0	0	0	0	0	424	-57	0	0
42	0.6	0.0	51.8	0	221	0	719	154	0	0	0	338	0	0	0	0	0	274	-53	0	0
43	0.0	0.0	51.8	0	94	0	602	127	0	0	0	392	0	0	0	0	0	147	-53	0	0
44	0.0	0.0	51.8	0	-13	0	505	108	0	0	0	445	0	0	0	0	0	40	-53	0	0
45	0.0	0.0	51.8	0	-105	0	408	92	0	0	0	477	0	0	0	0	0	-52	-53	0	0
46	0.0	0.0	51.1	0	-105	0	326	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
47	0.0	0.0	51.1	0	-105	0	249	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
48	0.0	0.0	51.1	0	-105	0	172	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
49	0.0	0.0	51.1	0	-105	0	115	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
50	0.0	0.0	49.0	0	-105	0	88	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
51	0.0	0.0	49.0	0	-105	0	81	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
52	0.0	0.0	49.0	0	-105	0	74	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
SUM	288.50	105.66	2778.30															-52	-53	0	0

TOTALS FOR YEAR: RAIN 288.4997 RUNOFF 105.6625 EVAP 2778.301 SEEPAGE 300.9278 EVAP FROM RESERVOIR 1643.699 EVAPOTRANSPIRATION 11236.73 IRRIGATION 5123.607 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1974

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-105	0	75	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
2	0.0	0.0	49.7	0	-105	0	75	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
3	0.0	0.0	49.7	0	-105	0	75	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
4	0.0	0.0	49.7	0	-105	0	75	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
5	0.0	0.0	53.9	0	-105	0	81	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
6	0.0	0.0	53.9	0	-105	0	81	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
7	0.0	0.0	53.9	0	-105	0	81	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
8	0.0	0.0	57.4	0	-105	0	86	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
9	0.0	0.0	57.4	0	-105	0	86	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
10	0.0	0.0	66.5	0	-105	0	100	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
11	0.0	0.0	66.5	0	-105	0	100	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
12	0.0	0.0	66.5	0	-105	0	100	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
13	0.0	0.0	66.5	0	-105	0	100	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
14	0.0	0.0	62.3	0	-105	0	93	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
15	0.0	0.0	62.3	0	-105	0	93	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
16	0.0	0.0	60.2	0	-105	0	90	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
17	0.0	0.0	60.2	0	-105	0	90	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
18	0.0	0.0	60.2	0	-105	0	90	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
19	0.0	0.0	60.2	0	-105	0	90	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
20	0.0	0.0	60.2	0	-105	0	90	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
21	0.0	0.0	60.2	0	-105	0	90	0	0	0	0	0	0	0	0	0	0	-52	-53	0	0
22	1.4	0.0	60.2	0	-88	0	90	0	0	0	0	0	0	0	0	0	0	-44	-45	0	0
23	0.0	0.0	58.8	0	-88	0	88	0	0	0	0	0	0	0	0	0	0	-44	-45	0	0
24	0.0	0.0	58.8	0	-88	0	88	0	0	0	0	0	0	0	0	0	0	-44	-45	0	0
25	0.0	0.0	58.8	0	-88	0	88	0	0	0	0	0	0	0	0	0	0	-44	-45	0	0
26	5.4	0.1	58.8	0	-23	0	26	26	0	0	0	0	5	0	0	0	0	-11	-12	0	0
27	68.9	37.5	58.8	2	552	52	26	26	0	0	0	298	2000	112	0	0	0	277	276	0	0
28	27.2	8.4	58.8	32	473	119	353	353	439	0	0	0	2000	48	0	0	0	231	241	0	0
29	53.3	31.6	50.4	31	586	102	359	359	0	0	0	0	2000	1794	0	0	0	300	286	0	0
30	53.7	25.4	50.4	53	741	113	416	416	0	0	0	0	2000	2000	1183	0	0	394	347	0	0
31	0.0	0.0	41.3	73	792	136	387	387	523	0	0	0	2000	2000	451	0	0	227	565	0	0
32	17.9	3.8	41.3	64	1008	132	415	415	524	0	0	0	2000	2000	0	0	0	556	451	0	0
33	24.5	7.6	41.3	59	832	130	443	443	0	0	0	0	2000	2000	316	0	0	479	353	0	0
34	38.6	19.7	41.3	62	1312	131	471	471	733	0	0	0	2000	2000	614	0	0	435	877	0	0
35	12.0	3.5	41.3	66	1491	133	499	499	670	0	0	0	2000	1982	0	0	0	800	691	0	0
36	0.0	0.0	41.3	56	983	93	527	527	0	0	0	0	2000	1833	0	0	0	552	431	0	0
37	23.7	6.9	44.8	54	2151	100	605	605	1888	0	0	0	2000	231	0	0	0	963	1188	0	0
38	10.0	2.2	44.8	33	1622	91	655	655	0	0	0	0	2000	248	0	0	0	697	925	0	0
39	4.7	0.4	44.8	33	2521	91	706	706	1915	0	0	0	241	0	0	0	0	1125	1396	0	0
40	0.0	0.0	44.8	5	1835	41	706	706	0	0	0	0	195	0	0	0	0	806	1029	0	0
41	0.3	0.0	51.8	4	1187	47	719	651	0	0	0	174	144	0	0	0	0	490	697	0	0
42	0.0	0.0	51.8	4	753	46	602	434	0	0	0	446	93	0	0	0	0	283	473	0	0
43	0.0	0.0	51.8	3	444	46	505	308	0	0	0	602	44	0	0	0	0	137	308	0	0
44	0.0	0.0	51.8	3	324	46	206	120	0	0	0	397	0	0	0	0	0	28	296	0	0
45	0.0	0.0	51.8	0	138	0	186	186	0	0	0	0	0	0	0	0	0	16	121	0	0
46	0.0	0.0	51.1	0	-107	0	249	244	0	0	0	0	0	0	0	0	0	-98	-9	0	0
47	0.0	0.0	51.1	0	-107	0	77	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
48	0.0	0.0	51.1	0	-107	0	77	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
49	0.0	0.0	51.1	0	-107	0	77	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
50	0.0	0.0	49.0	0	-107	0	74	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
51	0.0	0.0	49.0	0	-107	0	74	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
52	0.0	0.0	49.0	0	-107	0	74	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
SUM	346.60	147.16	2778.30																		

TOTALS FOR YEAR: RAIN 346.5997 RUNOFF 147.1622 EVAP 2778.301 SEEPAGE 637.8603 EVAP FROM RESERVOIR 1648.908 EVAPOTRANSPIRATION 11706.56 IRRIGATION 6691.656 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1975

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-107	0	75	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
2	0.0	0.0	49.7	0	-107	0	75	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
3	0.0	0.0	49.7	0	-107	0	75	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
4	0.0	0.0	49.7	0	-107	0	75	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
5	0.0	0.0	53.9	0	-107	0	81	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
6	0.0	0.0	53.9	0	-107	0	81	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
7	0.0	0.0	53.9	0	-107	0	81	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
	0.0	0.0	57.4	0	-107	0	86	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
9	0.0	0.0	57.4	0	-107	0	86	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
10	0.0	0.0	66.5	0	-107	0	100	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
11	0.0	0.0	66.5	0	-107	0	100	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
12	0.0	0.0	66.5	0	-107	0	100	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
13	0.0	0.0	66.5	0	-107	0	100	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
14	0.0	0.0	62.3	0	-107	0	93	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
15	0.0	0.0	62.3	0	-107	0	93	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
16	0.0	0.0	60.2	0	-107	0	90	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
17	0.0	0.0	60.2	0	-107	0	90	0	0	0	0	0	0	0	0	0	0	-98	-9	0	0
18	3.9	0.2	60.2	0	-79	0	41	40	0	0	0	0	11	0	0	0	0	-75	-4	0	0
19	0.0	0.0	60.2	2	-79	53	90	0	0	0	0	0	0	0	0	0	0	-75	-4	0	0
20	0.0	0.0	60.2	0	-79	0	90	0	0	0	0	0	0	0	0	0	0	-75	-4	0	0
21	0.0	0.0	60.2	0	-79	0	90	0	0	0	0	0	0	0	0	0	0	-75	-4	0	0
22	0.0	0.0	60.2	0	-79	0	90	0	0	0	0	0	0	0	0	0	0	-75	-4	0	0
23	1.7	0.0	58.8	0	-72	0	57	13	0	0	0	0	0	0	0	0	0	-65	-7	0	0
24	5.1	0.6	58.8	0	-27	0	26	26	0	0	0	0	32	0	0	0	0	-36	3	0	0
25	1.7	0.0	58.8	3	-20	52	57	13	0	0	0	0	0	0	0	0	0	-26	6	0	0
26	4.1	0.2	58.8	0	15	0	26	26	0	0	0	0	13	0	0	0	0	-2	17	0	0
27	5.8	0.3	58.8	2	56	52	26	26	0	0	0	0	0	0	0	0	0	19	37	0	0
28	25.1	12.2	58.8	0	270	0	26	26	0	0	0	0	684	0	0	0	0	126	144	0	0
29	34.2	20.7	50.4	10	369	49	302	302	446	0	0	0	1373	0	0	0	0	231	138	0	0
30	0.1	0.0	50.4	19	670	53	359	359	810	0	0	0	490	0	0	0	0	313	358	0	0
31	26.0	8.8	41.3	8	623	39	341	341	0	0	0	0	964	0	0	0	0	303	320	0	0
32	9.7	0.9	41.3	14	755	41	387	387	498	0	0	0	473	0	0	0	0	190	565	0	0
33	10.7	2.0	41.3	8	907	39	415	415	551	0	0	0	0	0	0	0	0	502	404	0	0
34	12.1	1.8	41.3	0	689	0	443	443	101	0	0	0	0	0	0	0	0	368	321	0	0
35	23.7	6.0	41.3	0	754	0	471	460	334	0	0	98	0	0	0	0	0	543	211	0	0
36	4.5	0.4	41.3	0	344	0	499	489	21	0	0	370	0	0	0	0	0	353	-9	0	0
37	0.0	0.0	44.8	0	122	0	571	221	.0	0	0	267	0	0	0	0	0	132	-9	0	0
38	27.6	12.3	44.8	0	355	0	605	594	686	0	0	678	0	0	0	0	0	524	-169	0	0
39	1.3	0.0	44.8	0	106	0	655	264	0	0	0	288	0	0	0	0	0	268	-161	0	0
40	0.0	0.0	44.8	0	-139	0	706	245	0	0	0	616	0	0	0	0	0	22	-161	0	0
41	0.0	0.0	51.8	0	-353	0	816	214	0	0	0	848	0	0	0	0	0	-192	-161	0	0
42	0.0	0.0	51.8	0	-353	0	719	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
43	0.0	0.0	51.8	0	-353	0	602	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
44	0.0	0.0	51.8	0	-353	0	505	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
45	0.0	0.0	51.8	0	-353	0	408	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
46	0.0	0.0	51.1	0	-353	0	326	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
47	0.0	0.0	51.1	0	-353	0	249	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
48	0.0	0.0	51.1	0	-353	0	172	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
49	0.0	0.0	51.1	0	-353	0	115	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
50	0.0	0.0	49.0	0	-353	0	88	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
51	0.0	0.0	49.0	0	-353	0	81	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
52	0.0	0.0	49.0	0	-353	0	74	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
SUM	200.30	66.46	2778.30																		

TOTALS FOR YEAR: RAIN 200.2997 RUNOFF 66.45523 EVAP 2778.301 SEEPAGE 67.22127 EVAP FROM RESERVOIR 377.5643 EVAPOTRANSPIRATION 12010.11 IRRIGATION 3446.432 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1976

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-353	0	75	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
2	0.0	0.0	49.7	0	-353	0	75	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
3	0.0	0.0	49.7	0	-353	0	75	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
4	0.0	0.0	49.7	0	-353	0	75	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
5	0.0	0.0	53.9	0	-353	0	81	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
6	0.0	0.0	53.9	0	-353	0	81	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
7	0.0	0.0	53.9	0	-353	0	81	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
8	0.0	0.0	57.4	0	-353	0	86	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
9	0.0	0.0	57.4	0	-353	0	86	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
10	0.0	0.0	66.5	0	-353	0	100	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
11	0.0	0.0	66.5	0	-353	0	100	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
12	0.0	0.0	66.5	0	-353	0	100	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
13	0.0	0.0	66.5	0	-353	0	100	0	0	0	0	0	0	0	0	0	0	-192	-161	0	0
14	2.3	0.0	62.3	0	-326	0	93	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
15	0.0	0.0	62.3	0	-326	0	93	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
16	0.0	0.0	60.2	0	-326	0	90	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
17	0.0	0.0	60.2	0	-326	0	90	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
18	0.0	0.0	60.2	0	-326	0	90	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
19	0.0	0.0	60.2	0	-326	0	90	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
20	0.0	0.0	60.2	0	-326	0	90	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
21	0.0	0.0	60.2	0	-326	0	90	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
22	0.0	0.0	60.2	0	-326	0	90	0	0	0	0	0	0	0	0	0	0	-178	-148	0	0
23	2.2	0.0	58.8	0	-299	0	88	0	0	0	0	0	0	0	0	0	0	-165	-134	0	0
24	0.0	0.0	58.8	0	-299	0	88	0	0	0	0	0	0	0	0	0	0	-165	-134	0	0
25	0.0	0.0	58.8	0	-299	0	88	0	0	0	0	0	0	0	0	0	0	-165	-134	0	0
26	5.0	0.2	58.8	0	-240	0	26	26	0	0	0	0	9	0	0	0	0	-136	-105	0	0
27	67.0	45.2	58.8	2	266	52	26	26	0	0	0	1045	2000	546	0	0	0	118	149	0	0
28	[illegible].9	1.8	58.8	37	485	122	353	353	761	0	0	0	1746	0	0	0	0	231	254	0	0
29	46.5	25.9	50.4	25	539	55	359	359	0	0	0	0	2000	1167	0	0	0	269	271	0	0
30	38.8	25.4	50.4	45	447	109	416	416	0	0	0	0	2000	2000	518	0	0	240	207	0	0
31	104.7	80.5	41.3	65	844	132	387	387	0	3162	0	0	2000	2000	2000	0	0	458	386	0	0
32	0.0	0.0	41.3	84	941	140	415	415	627	0	0	0	2000	2000	1148	0	0	272	669	0	0
33	6.6	0.9	41.3	73	1112	136	443	443	662	0	0	0	2000	2000	350	0	0	638	475	0	0
34	16.9	4.7	41.3	63	827	132	471	471	0	0	0	0	2000	2000	471	0	0	508	318	0	0
35	27.2	9.9	41.3	64	1390	132	499	499	981	0	0	0	2000	1932	0	0	0	409	981	0	0
36	28.6	10.4	41.3	55	1734	93	527	527	724	0	0	0	2000	1708	0	0	0	831	853	0	0
37	6.3	1.2	44.8	52	1208	100	605	605	0	0	0	0	2000	1636	0	0	0	630	578	0	0
38	44.1	30.5	44.8	51	2336	99	655	655	1784	0	0	0	2000	1507	0	0	0	1044	1292	0	0
39	3.4	0.3	44.8	49	1680	99	706	706	0	0	0	0	2000	1382	0	0	0	710	969	0	0
40	22.3	9.0	44.8	48	2625	98	706	706	1783	0	0	0	2000	4	0	0	0	1125	1500	0	0
41	0.8	0.0	51.8	30	1916	104	719	719	0	0	0	0	1871	0	0	0	0	800	1116	0	0
42	0.0	0.0	51.8	26	1321	58	602	595	0	0	0	4	1787	0	0	0	0	535	786	0	0
43	0.0	0.0	51.8	25	847	57	505	474	0	0	0	200	1705	0	0	0	0	307	540	0	0
44	0.0	0.0	51.8	24	674	57	206	173	0	0	0	279	1624	0	0	0	0	146	528	0	0
45	0.0	0.0	51.8	23	488	56	186	186	0	0	0	0	1545	0	0	0	0	134	353	0	0
46	0.0	0.0	51.1	22	239	55	249	249	0	0	0	0	1468	0	0	0	0	19	219	0	0
47	0.0	0.0	51.1	21	66	54	172	172	0	0	0	0	1393	0	0	0	0	-57	123	0	0
48	0.0	0.0	51.1	20	9	54	115	115	0	0	0	0	1319	0	0	0	0	-57	66	0	0
49	0.0	0.0	51.1	19	-29	54	92	92	0	0	0	0	1247	0	0	0	0	-57	27	0	0
50	0.0	0.0	49.0	18	-62	51	81	81	0	0	0	0	1178	0	0	0	0	-57	-6	0	0
51	0.0	0.0	49.0	17	-61	50	74	72	0	0	0	0	1111	0	0	0	0	-56	-5	0	0
52	0.0	0.0	49.0	16	-59	50	66	64	0	0	0	0	1045	0	0	0	0	-54	-5	0	0
SUM	432.60	245.64	2778.30																		

TOTALS FOR YEAR: RAIN 432.5997 RUNOFF 245.6397 EVAP 2778.301 SEEPAGE 974.3029 EVAP FROM RESERVOIR 2138.936 EVAPOTRANSPIRATION 11856.02 IRRIGATION 7322.983 OVERFLOW 3161.526 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1977

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	15	-57	50	52	50	0	0	0	0	979	0	0	0	0	-53	-5	0	0
2	0.0	0.0	49.7	14	-55	50	48	46	0	0	0	0	915	0	0	0	0	-51	-4	0	0
3	0.0	0.0	49.7	13	-52	50	45	42	0	0	0	0	852	0	0	0	0	-49	-4	0	0
4	0.0	0.0	49.7	13	-50	49	41	39	0	0	0	0	790	0	0	0	0	-47	-3	0	0
5	0.0	0.0	53.9	12	-47	53	40	38	0	0	0	0	725	0	0	0	0	-45	-2	0	0
6	0.0	0.0	53.9	11	-44	52	40	37	0	0	0	0	662	0	0	0	0	-43	-0	0	0
7	0.0	0.0	53.9	10	-39	52	40	36	0	0	0	0	600	0	0	0	0	-41	1	0	0
8	0.0	0.0	57.4	9	-56	55	43	38	0	0	0	0	535	0	0	0	0	-38	-18	0	0
9	0.0	0.0	57.4	9	-49	54	43	37	0	0	0	0	472	0	0	0	0	-34	-15	0	0
10	0.0	0.0	66.5	8	-40	63	50	40	0	0	0	0	402	0	0	0	0	-29	-11	0	0
11	0.0	0.0	66.5	7	-29	62	50	39	0	0	0	0	333	0	0	0	0	-23	-7	0	0
12	0.0	0.0	66.5	6	-18	61	50	39	0	0	0	0	266	0	0	0	0	-16	-2	0	0
13	0.0	0.0	66.5	5	-6	61	50	38	0	0	0	0	200	0	0	0	0	-9	3	0	0
14	0.0	0.0	62.3	5	-18	56	47	35	0	0	0	0	139	0	0	0	0	-3	-15	0	0
15	0.0	0.0	62.3	4	-8	56	42	32	0	0	0	0	79	0	0	0	0	4	-12	0	0
16	0.0	0.0	60.2	3	-20	53	41	31	0	0	0	0	23	0	0	0	0	-12	-9	0	0
17	0.0	0.0	60.2	2	-20	53	90	0	0	0	0	0	0	0	0	0	0	-12	-9	0	0
18	0.0	0.0	60.2	0	-20	0	90	0	0	0	0	0	0	0	0	0	0	-12	-9	0	0
19	0.0	0.0	60.2	0	-20	0	90	0	0	0	0	0	0	0	0	0	0	-12	-9	0	0
20	0.0	0.0	60.2	0	-20	0	90	0	0	0	0	0	0	0	0	0	0	-12	-9	0	0
21	1.1	0.0	60.2	0	-7	0	90	0	0	0	0	0	0	0	0	0	0	-5	-2	0	0
22	0.0	0.0	60.2	0	-7	0	90	0	0	0	0	0	0	0	0	0	0	-5	-2	0	0
23	0.0	0.0	58.8	0	-7	0	88	0	0	0	0	0	0	0	0	0	0	-5	-2	0	0
24	0.0	0.0	58.8	0	-7	0	88	0	0	0	0	0	0	0	0	0	0	-5	-2	0	0
25	0.4	0.0	58.8	0	-14	0	57	12	0	0	0	0	0	0	0	0	0	-3	-11	0	0
26	3.1	0.1	58.8	0	-4	0	26	26	0	0	0	0	5	0	0	0	0	2	-6	0	0
27	0.0	0.0	58.8	2	-17	52	57	13	0	0	0	0	0	0	0	0	0	-11	-6	0	0
28	49.1	17.7	58.8	0	440	0	26	26	0	0	0	0	989	0	0	0	0	218	222	0	0
29	20.8	4.0	50.4	14	418	51	302	302	422	0	0	0	747	0	0	0	0	231	187	0	0
30	3.0	0.1	50.4	11	670	49	359	359	697	0	0	0	0	0	0	0	0	313	358	0	0
31	3.2	0.1	41.3	2	384	36	341	341	0	0	0	0	0	0	0	0	0	184	201	0	0
32	64.8	36.8	41.3	0	570	0	387	387	0	0	0	0	2000	62	0	0	0	294	276	0	0
33	68.7	59.5	41.3	31	638	83	415	415	0	0	0	0	2000	2000	1419	0	0	342	296	0	0
34	68.8	52.7	41.3	76	720	137	443	443	0	2384	0	0	2000	2000	2000	0	0	395	324	0	0
35	6.6	0.8	41.3	84	1596	140	471	471	1571	0	0	0	2000	2000	269	0	0	719	877	0	0
36	0.0	0.0	41.3	62	1112	131	499	499	0	0	0	0	2000	2000	76	0	0	486	626	0	0
37	0.0	0.0	44.8	59	1966	141	571	571	1762	0	0	0	2000	114	0	0	0	881	1085	0	0
38	0.9	0.0	44.8	32	1387	91	605	605	0	0	0	0	1994	0	0	0	0	601	786	0	0
39	5.0	0.4	44.8	28	2336	51	655	655	1913	0	0	0	27	0	0	0	0	1044	1292	0	0
40	0.0	0.0	44.8	3	1646	39	706	706	0	0	0	0	0	0	0	0	0	691	955	0	0
41	0.0	0.0	51.8	0	936	0	816	725	0	0	0	547	0	0	0	0	0	338	598	0	0
42	0.1	0.0	51.8	0	451	0	719	487	0	0	0	910	0	0	0	0	0	103	347	0	0
43	0.0	0.0	51.8	0	112	0	602	339	0	0	0	1088	0	0	0	0	0	-56	167	0	0
44	0.0	0.0	51.8	0	-36	0	505	147	0	0	0	542	0	0	0	0	0	-56	20	0	0
45	0.0	0.0	51.8	0	-47	0	206	12	0	0	0	0	0	0	0	0	0	-56	8	0	0
46	0.0	0.0	51.1	0	-219	0	326	171	0	0	0	0	0	0	0	0	0	-56	-163	0	0
47	0.0	0.0	51.1	0	-219	0	153	0	0	0	0	0	0	0	0	0	0	-56	-163	0	0
48	0.0	0.0	51.1	0	-219	0	115	0	0	0	0	0	0	0	0	0	0	-56	-163	0	0
49	0.0	0.0	51.1	0	-219	0	96	0	0	0	0	0	0	0	0	0	0	-56	-163	0	0
50	0.0	0.0	49.0	0	-219	0	88	0	0	0	0	0	0	0	0	0	0	-56	-163	0	0
51	0.0	0.0	49.0	0	-219	0	85	0	0	0	0	0	0	0	0	0	0	-56	-163	0	0
52	0.0	0.0	49.0	0	-219	0	81	0	0	0	0	0	0	0	0	0	0	-56	-163	0	0
SUM	295.60	172.10	2778.30																		

TOTALS FOR YEAR: RAIN 295.5997 RUNOFF 172.1033 EVAP 2778.301 SEEPAGE 552.3131 EVAP FROM RESERVOIR 1931.845 EVAPOTRANSPIRATION 11153.31 IRRIGATION 6365.834 OVERFLOW 2383.91 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1978

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5
1	0.0	0.0	49.7	0	-219	0	75	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
2	0.0	0.0	49.7	0	-219	0	75	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
3	0.0	0.0	49.7	0	-219	0	75	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
4	0.0	0.0	49.7	0	-219	0	75	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
5	0.0	0.0	53.9	0	-219	0	81	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
6	0.0	0.0	53.9	0	-219	0	81	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
7	0.0	0.0	53.9	0	-219	0	81	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
8	0.0	0.0	57.4	0	-219	0	86	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
9	0.0	0.0	57.4	0	-219	0	86	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
10	0.0	0.0	66.5	0	-219	0	100	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
11	0.0	0.0	66.5	0	-219	0	100	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
12	0.0	0.0	66.5	0	-219	0	100	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
13	0.0	0.0	66.5	0	-219	0	100	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
14	0.0	0.0	62.3	0	-219	0	93	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
15	0.0	0.0	62.3	0	-219	0	93	0	0	0	0	0	0	0	0	0	0	-56	-163	0	
16	7.7	1.3	60.2	0	-134	0	41	41	0	0	0	0	71	0	0	0	0	-13	-120	0	
17	0.0	0.0	60.2	3	-133	53	41	40	0	0	0	0	14	0	0	0	0	-13	-120	0	
18	0.0	0.0	60.2	2	-133	53	90	0	0	0	0	0	0	0	0	0	0	-13	-120	0	
19	23.0	10.0	60.2	0	65	0	36	36	0	0	0	0	562	0	0	0	0	77	-12	0	
20	0.0	0.0	60.2	9	46	57	32	32	0	0	0	0	494	0	0	0	0	59	-12	0	
21	0.0	0.0	60.2	8	28	57	32	32	0	0	0	0	429	0	0	0	0	41	-12	0	
22	13.5	6.8	60.2	7	190	56	32	32	0	0	0	0	765	0	0	0	0	119	71	0	
23	0.0	0.0	58.8	12	164	58	26	26	0	0	0	0	696	0	0	0	0	106	58	0	
24	0.0	0.0	58.8	11	137	57	26	26	0	0	0	0	628	0	0	0	0	93	44	0	
25	0.3	0.0	58.8	10	114	56	26	26	0	0	0	0	562	0	0	0	0	81	33	0	
26	9.2	1.9	58.8	9	187	56	26	26	0	0	0	0	612	0	0	0	0	117	69	0	
27	21.2	5.8	58.8	10	485	56	353	353	792	0	0	0	99	0	0	0	0	231	254	0	
28	57.1	47.4	58.8	3	535	52	419	419	0	0	0	0	2000	757	0	0	0	299	296	0	
29	23.3	10.6	50.4	40	402	106	416	416	0	0	0	0	2000	1255	0	0	0	222	180	0	
30	18.5	3.8	50.4	46	1040	109	473	473	1132	0	0	0	2000	219	0	0	0	475	565	0	
31	11.8	3.0	41.3	33	754	84	415	415	0	0	0	0	2000	295	0	0	0	351	403	0	
32	14.5	3.6	41.3	34	1411	85	443	443	1178	0	0	0	1229	0	0	0	0	638	773	0	
33	38.9	14.1	41.3	18	1327	43	471	471	0	0	0	0	1998	0	0	0	0	612	715	0	
34	99.3	59.4	41.3	28	1668	47	499	499	0	0	0	0	2000	2000	1362	0	0	797	871	0	
35	0.0	0.0	41.3	76	1146	137	527	527	0	0	0	0	2000	2000	1149	0	0	549	597	0	
36	69.3	55.9	41.3	73	1090	136	558	558	0	2297	0	0	2000	2000	2000	0	0	534	556	0	
37	4.8	0.5	44.8	84	2336	152	655	655	2303	0	0	0	2000	1506	0	0	0	1044	1292	0	
38	3.0	0.1	44.8	49	1671	99	706	706	0	0	0	0	2000	1368	0	0	0	709	962	0	
39	0.0	0.0	44.8	48	2625	98	706	706	2069	0	0	0	1154	0	0	0	0	1125	1500	0	
40	6.2	0.8	44.8	17	2073	46	622	622	0	0	0	0	1142	0	0	0	0	874	1199	0	
41	30.6	14.6	51.8	16	1751	53	602	602	0	0	0	0	1919	0	0	0	0	742	1009	0	
42	0.0	0.0	51.8	27	1246	58	505	505	0	0	0	0	1834	0	0	0	0	509	737	0	
43	0.0	0.0	51.8	26	1043	58	206	203	0	0	0	107	1750	0	0	0	0	318	725	0	
44	0.0	0.0	51.8	25	857	57	186	186	0	0	0	0	1669	0	0	0	0	306	550	0	
45	0.0	0.0	51.8	24	604	56	253	253	0	0	0	0	1589	0	0	0	0	190	414	0	
46	0.0	0.0	51.1	22	432	55	172	172	0	0	0	0	1511	0	0	0	0	113	318	0	
47	0.0	0.0	51.1	21	317	55	115	115	0	0	0	0	1435	0	0	0	0	56	261	0	
48	0.0	0.0	51.1	20	225	54	92	92	0	0	0	0	1360	0	0	0	0	2	223	0	
49	0.0	0.0	51.1	19	140	54	84	84	0	0	0	0	1287	0	0	0	0	-48	188	0	
50	0.0	0.0	49.0	18	111	51	74	73	0	0	0	0	1218	0	0	0	0	-48	159	0	
51	0.0	0.0	49.0	17	85	51	66	66	0	0	0	0	1150	0	0	0	0	-48	133	0	
52	0.0	0.0	49.0	17	63	50	59	59	0	0	0	0	1083	0	0	0	0	-48	111	0	
SUM	468.20	239.44	2778.30																		

TOTALS FOR YEAR: RAIN 468.1997 RUNOFF 239.4377 EVAP 2778.301 SEEPAGE 881.4254 EVAP FROM RESERVOIR 2405.3 EVAPOTRANSPIRATION 11381.21 IRRIGATION 7473.603 OVERFLOW 2297.485 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1979

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	16	45	51	52	52	0	0	0	0	1017	0	0	0	0	-48	92	0	0
2	0.0	0.0	49.7	15	26	50	48	48	0	0	0	0	952	0	0	0	0	-48	74	0	0
3	0.0	0.0	49.7	14	7	50	45	45	0	0	0	0	888	0	0	0	0	-48	55	0	0
4	0.0	0.0	49.7	13	-11	49	41	41	0	0	0	0	825	0	0	0	0	-48	36	0	0
5	0.0	0.0	53.9	12	-31	53	40	40	0	0	0	0	760	0	0	0	0	-48	16	0	0
6	0.0	0.0	53.9	11	-52	53	40	40	0	0	0	0	696	0	0	0	0	-48	-4	0	0
7	0.0	0.0	53.9	11	-51	52	40	40	0	0	0	0	633	0	0	0	0	-47	-4	0	0
8	0.0	0.0	57.4	10	-51	55	43	43	0	0	0	0	568	0	0	0	0	-47	-4	0	0
9	0.0	0.0	57.4	9	-50	55	43	42	0	0	0	0	504	0	0	0	0	-47	-3	0	0
10	0.0	0.0	66.5	8	-48	63	50	48	0	0	0	0	433	0	0	0	0	-45	-2	0	0
11	0.0	0.0	66.5	7	-45	62	50	47	0	0	0	0	364	0	0	0	0	-44	-1	0	0
12	0.0	0.0	66.5	7	-41	62	50	46	0	0	0	0	296	0	0	0	0	-41	0	0	0
13	0.0	0.0	66.5	6	-61	61	50	45	0	0	0	0	229	0	0	0	0	-39	-22	0	0
14	0.0	0.0	62.3	5	-56	57	47	42	0	0	0	0	167	0	0	0	0	-36	-20	0	0
15	0.0	0.0	62.3	4	-51	56	42	37	0	0	0	0	107	0	0	0	0	-32	-19	0	0
16	0.0	0.0	60.2	3	-46	54	41	36	0	0	0	0	50	0	0	0	0	-29	-18	0	0
17	0.0	0.0	60.2	3	-46	53	90	0	0	0	0	0	0	0	0	0	0	-29	-18	0	0
18	0.1	0.0	60.2	0	-45	0	90	0	0	0	0	0	0	0	0	0	0	-28	-17	0	0
19	0.0	0.0	60.2	0	-45	0	90	0	0	0	0	0	0	0	0	0	0	-28	-17	0	0
20	0.0	0.0	60.2	0	-45	0	90	0	0	0	0	0	0	0	0	0	0	-28	-17	0	0
21	0.0	0.0	60.2	0	-45	0	90	0	0	0	0	0	0	0	0	0	0	-28	-17	0	0
22	21.1	8.6	60.2	0	125	0	32	32	0	0	0	0	480	0	0	0	0	55	70	0	0
23	10.9	2.5	58.8	8	214	55	26	26	0	0	0	0	568	0	0	0	0	99	115	0	0
24	0.0	0.0	58.8	9	188	56	26	26	0	0	0	0	503	0	0	0	0	86	102	0	0
25	0.0	0.0	58.8	8	161	56	26	26	0	0	0	0	439	0	0	0	0	73	89	0	0
26	2.2	0.0	58.8	7	161	55	26	26	0	0	0	0	379	0	0	0	0	73	89	0	0
27	4.3	0.0	58.8	7	186	55	26	26	0	0	0	0	323	0	0	0	0	85	101	0	0
28	15.1	2.9	58.8	6	324	54	26	26	0	0	0	0	440	0	0	0	0	154	170	0	0
29	0.0	0.0	50.4	7	301	47	23	23	0	0	0	0	385	0	0	0	0	142	158	0	0
30	30.8	16.3	50.4	7	550	47	23	23	0	0	0	0	1272	0	0	0	0	257	283	0	0
31	9.1	1.8	41.3	18	444	43	248	248	375	0	0	0	948	0	0	0	0	231	212	0	0
32	2.8	0.0	41.3	14	205	41	294	294	0	0	0	0	897	0	0	0	0	123	83	0	0
33	54.4	19.3	41.3	13	423	41	341	341	0	0	0	0	1979	0	0	0	0	245	178	0	0
34	80.8	78.3	41.3	28	556	47	387	387	0	381	0	0	2000	2000	2000	0	0	327	228	0	0
35	11.9	1.8	41.3	84	877	140	415	415	731	0	0	0	2000	2000	1188	0	0	207	669	0	0
36	12.1	2.6	41.3	73	1150	136	443	443	708	0	0	0	2000	2000	454	0	0	638	512	0	0
37	11.1	2.2	44.8	64	1339	143	511	511	701	0	0	0	2000	1707	0	0	0	462	877	0	0
38	0.3	0.0	44.8	52	1409	100	541	541	735	0	0	0	2000	821	0	0	0	800	609	0	0
39	3.4	0.1	44.8	40	1636	95	571	571	922	0	0	0	1776	0	0	0	0	551	1085	0	0
40	6.8	1.0	44.8	25	1785	49	605	605	824	0	0	0	942	0	0	0	0	963	823	0	0
41	0.0	0.0	51.8	14	1748	52	758	758	876	0	0	0	0	0	0	0	0	1044	705	0	0
42	0.0	0.0	51.8	0	1041	0	816	727	0	0	0	377	0	0	0	0	0	657	383	0	0
43	0.0	0.0	51.8	0	536	0	816	524	0	0	0	947	0	0	0	0	0	405	131	0	0
44	0.0	0.0	51.8	0	166	0	719	370	0	0	0	1194	0	0	0	0	0	230	-63	0	0
45	7.6	1.2	51.8	0	124	0	284	138	0	0	0	565	69	0	0	0	0	145	-21	0	0
46	0.0	0.0	51.1	3	26	45	241	109	0	0	0	604	21	0	0	0	0	47	-21	0	0
47	0.0	0.0	51.1	2	-53	45	402	79	0	0	0	453	0	0	0	0	0	-32	-21	0	0
48	0.0	0.0	51.1	0	-53	0	326	0	0	0	0	0	0	0	0	0	0	-32	-21	0	0
49	0.0	0.0	51.1	0	-53	0	249	0	0	0	0	0	0	0	0	0	0	-32	-21	0	0
50	0.0	0.0	49.0	0	-53	0	165	0	0	0	0	0	0	0	0	0	0	-32	-21	0	0
51	0.0	0.0	49.0	0	-53	0	110	0	0	0	0	0	0	0	0	0	0	-32	-21	0	0
52	0.0	0.0	49.0	0	-53	0	88	0	0	0	0	0	0	0	0	0	0	-32	-21	0	0
SUM	284.80	138.8	12778.30																		

TOTALS FOR YEAR: RAIN 284.7997 RUNOFF 138.8065 EVAP 2778.301 SEEPAGE 645.0076 EVAP FROM RESERVOIR 2336.835 EVAPOTRANSPIRATION 10739.71 IRRIGATION 5873.316 OVERFLOW 380.856 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1980

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(
1	0.0	0.0	49.7	0	-53	0	75	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
2	0.0	0.0	49.7	0	-53	0	75	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
3	0.0	0.0	49.7	0	-53	0	75	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
4	0.0	0.0	49.7	0	-53	0	75	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
5	0.0	0.0	53.9	0	-53	0	81	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
6	0.0	0.0	53.9	0	-53	0	81	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
7	0.0	0.0	53.9	0	-53	0	81	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
8	0.0	0.0	57.4	0	-53	0	86	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
9	0.0	0.0	57.4	0	-53	0	86	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
10	0.0	0.0	66.5	0	-53	0	100	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
11	0.0	0.0	66.5	0	-53	0	100	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
12	0.0	0.0	66.5	0	-53	0	100	0	0	0	0	0	0	0	0	0	0	-32	-21	0	
13	4.6	0.4	66.5	0	-21	0	50	46	0	0	0	0	20	0	0	0	0	-4	-18	0	
14	0.0	0.0	62.3	2	-21	55	93	0	0	0	0	0	0	0	0	0	0	-4	-18	0	
15	0.0	0.0	62.3	0	-21	0	93	0	0	0	0	0	0	0	0	0	0	-4	-18	0	
16	0.0	0.0	60.2	0	-21	0	90	0	0	0	0	0	0	0	0	0	0	-4	-18	0	
17	0.0	0.0	60.2	0	-21	0	90	0	0	0	0	0	0	0	0	0	0	-4	-18	0	
18	0.0	0.0	60.2	0	-21	0	90	0	0	0	0	0	0	0	0	0	0	-4	-18	0	
19	0.0	0.0	60.2	0	-21	0	90	0	0	0	0	0	0	0	0	0	0	-4	-18	0	
20	2.0	0.0	60.2	0	-14	0	63	17	0	0	0	0	0	0	0	0	0	-8	-6	0	
21	10.0	1.6	60.2	0	66	0	32	30	0	0	0	0	89	0	0	0	0	30	36	0	
22	5.0	0.5	60.2	3	94	54	32	30	0	0	0	0	65	0	0	0	0	42	52	0	
23	6.2	0.9	58.8	3	138	52	26	25	0	0	0	0	65	0	0	0	0	64	74	0	
24	0.0	0.0	58.8	3	113	52	26	25	0	0	0	0	11	0	0	0	0	52	61	0	
25	6.8	0.7	58.8	2	166	52	26	25	0	0	0	0	2	0	0	0	0	78	87	0	
26	24.5	9.5	58.8	2	379	52	26	24	0	0	0	0	500	0	0	0	0	185	194	0	
27	0.0	0.0	58.8	8	354	55	26	24	0	0	0	0	437	0	0	0	0	173	181	0	
28	50.4	28.3	58.8	7	766	55	26	24	0	0	0	76	2000	5	0	0	0	379	387	0	
29	33.3	9.9	50.4	30	485	101	302	302	381	0	0	0	2000	112	0	0	0	231	254	0	
30	8.3	0.5	50.4	32	254	102	359	359	0	0	0	0	2000	24	0	0	0	129	125	0	
31	42.5	30.4	41.3	31	612	83	341	341	427	0	0	0	2000	1269	0	0	0	150	462	0	
32	22.5	6.4	41.3	46	859	90	387	387	469	0	0	0	2000	1074	0	0	0	475	384	0	
33	21.2	7.9	41.3	44	677	89	415	415	0	0	0	0	2000	1429	0	0	0	393	285	0	
34	20.7	5.9	41.3	48	1071	91	443	443	746	0	0	0	2000	921	0	0	0	298	773	0	
35	34.6	12.9	41.3	42	1433	88	471	471	586	0	0	0	2000	1002	0	0	0	719	715	0	
36	2.8	0.0	41.3	43	995	88	499	499	0	0	0	0	2000	879	0	0	0	503	492	0	
37	0.0	0.0	44.8	41	1966	95	571	571	1894	0	0	0	847	0	0	0	0	681	1085	0	
38	0.0	0.0	44.8	13	1388	44	605	605	0	0	0	0	790	0	0	0	0	596	792	0	
39	43.0	30.3	44.8	12	1694	44	655	655	750	0	0	0	1723	0	0	0	0	1044	650	0	
40	2.6	0.1	44.8	24	2102	49	706	706	1321	0	0	0	335	0	0	0	0	706	1396	0	
41	4.8	0.4	51.8	6	1634	48	816	799	311	0	0	26	0	0	0	0	0	630	1004	0	
42	0.0	0.0	51.8	0	982	0	719	651	0	0	0	378	0	0	0	0	0	312	670	0	
43	0.0	0.0	51.8	0	548	0	602	434	0	0	0	651	0	0	0	0	0	105	443	0	
44	0.0	0.0	51.8	0	240	0	505	308	0	0	0	806	0	0	0	0	0	-41	281	0	
45	0.0	0.0	51.8	0	228	0	206	12	0	0	0	0	0	0	0	0	0	-41	269	0	
46	0.0	0.0	51.1	0	56	0	326	172	0	0	0	0	0	0	0	0	0	-41	97	0	
47	0.0	0.0	51.1	0	-78	0	249	133	0	0	0	0	0	0	0	0	0	-41	-37	0	
48	0.0	0.0	51.1	0	-78	0	115	0	0	0	0	0	0	0	0	0	0	-41	-37	0	
49	0.0	0.0	51.1	0	-78	0	96	0	0	0	0	0	0	0	0	0	0	-41	-37	0	
50	0.0	0.0	49.0	0	-78	0	88	0	0	0	0	0	0	0	0	0	0	-41	-37	0	
51	0.0	0.0	49.0	0	-78	0	85	0	0	0	0	0	0	0	0	0	0	-41	-37	0	
52	0.0	0.0	49.0	0	-78	0	81	0	0	0	0	0	0	0	0	0	0	-41	-37	0	
SUM	345.80	146.54	2778.30																		

TOTALS FOR YEAR: RAIN 345.7996 RUNOFF 146.5399 EVAP 2778.301 SEEPAGE 443.1154 EVAP FROM RESERVOIR 1437.948 EVAPOTRANSPIRATION 11536.03 IRRIGATION 6885.329 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1981

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-78	0	75	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
2	0.0	0.0	49.7	0	-78	0	75	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
3	0.0	0.0	49.7	0	-78	0	75	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
4	0.0	0.0	49.7	0	-78	0	75	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
5	0.0	0.0	53.9	0	-78	0	81	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
6	0.0	0.0	53.9	0	-78	0	81	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
7	0.0	0.0	53.9	0	-78	0	81	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
8	0.0	0.0	57.4	0	-78	0	86	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
9	0.0	0.0	57.4	0	-78	0	86	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
10	0.0	0.0	66.5	0	-78	0	100	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
11	0.0	0.0	66.5	0	-78	0	100	0	0	0	0	0	0	0	0	0	0	-41	-37	0	0
12	2.8	0.0	66.5	0	-44	0	100	0	0	0	0	0	0	0	0	0	0	-24	-20	0	0
13	0.0	0.0	66.5	0	-44	0	100	0	0	0	0	0	0	0	0	0	0	-24	-20	0	0
14	0.0	0.0	62.3	0	-44	0	93	0	0	0	0	0	0	0	0	0	0	-24	-20	0	0
15	0.0	0.0	62.3	0	-44	0	93	0	0	0	0	0	0	0	0	0	0	-24	-20	0	0
16	0.0	0.0	60.2	0	-44	0	90	0	0	0	0	0	0	0	0	0	0	-24	-20	0	0
17	0.0	0.0	60.2	0	-44	0	90	0	0	0	0	0	0	0	0	0	0	-24	-20	0	0
18	4.3	0.4	60.2	0	-30	0	41	41	0	0	0	0	22	0	0	0	0	-19	-10	0	0
19	6.0	0.0	60.2	2	-30	53	90	0	0	0	0	0	0	0	0	0	0	-19	-10	0	0
20	23.2	8.7	60.2	0	165	0	32	32	0	0	0	0	486	0	0	0	0	76	89	0	0
21	0.0	0.0	60.2	8	134	57	32	32	0	0	0	0	421	0	0	0	0	58	76	0	0
22	0.0	0.0	60.2	7	102	56	32	32	0	0	0	0	358	0	0	0	0	40	62	0	0
23	0.0	0.0	58.8	6	76	54	26	26	0	0	0	0	297	0	0	0	0	27	49	0	0
24	8.2	1.2	58.8	6	140	54	26	26	0	0	0	0	312	0	0	0	0	59	81	0	0
25	1.2	0.0	58.8	6	128	54	26	26	0	0	0	0	253	0	0	0	0	53	75	0	0
26	25.9	9.1	58.8	5	358	54	26	26	0	0	0	0	729	0	0	0	0	168	190	0	0
27	1.8	0.0	58.8	11	415	57	353	353	663	0	0	0	0	0	0	0	0	231	184	0	0
28	49.2	19.3	58.8	0	486	0	419	419	0	0	0	0	1081	0	0	0	0	279	207	0	0
29	1.3	0.0	50.4	16	855	51	416	416	945	0	0	0	70	0	0	0	0	394	462	0	0
30	54.1	27.9	50.4	3	978	45	473	473	0	0	0	0	1631	0	0	0	0	429	449	0	0
31	0.8	0.0	41.3	23	486	45	415	415	0	0	0	0	1564	0	0	0	0	248	238	0	0
32	0.0	0.0	41.3	22	1254	45	443	443	1497	0	0	0	0	0	0	0	0	638	617	0	0
33	17.6	6.2	41.3	0	971	0	471	471	0	0	0	0	346	0	0	0	0	508	463	0	0
34	43.9	31.7	41.3	6	822	38	499	499	0	0	0	0	2000	114	0	0	0	444	378	0	0
35	13.1	2.3	41.3	32	1966	84	527	527	1893	0	0	0	263	0	0	0	0	881	1085	0	0
36	9.2	1.1	41.3	5	1525	38	558	558	0	0	0	0	230	0	0	0	0	670	855	0	0
37	25.7	7.8	44.8	6	1707	41	655	655	703	0	0	0	2	0	0	0	0	1044	663	0	0
38	4.3	0.2	44.8	2	1076	39	706	695	0	0	0	288	0	0	0	0	0	716	359	0	0
39	0.0	0.0	44.8	0	532	0	706	557	0	0	0	813	0	0	0	0	0	447	84	0	0
40	0.0	0.0	44.8	0	142	0	622	390	0	0	0	1084	0	0	0	0	0	261	-119	0	0
41	0.0	0.0	51.8	0	1	0	602	141	0	0	0	419	0	0	0	0	0	120	-119	0	0
42	26.1	12.5	51.8	0	-15	0	505	253	0	0	0	1061	702	0	0	0	0	120	-135	0	0
43	0.0	0.0	51.8	11	-106	50	206	103	0	0	0	681	642	0	0	0	0	28	-134	0	0
44	0.0	0.0	51.8	10	-118	50	23	23	0	0	0	284	582	0	0	0	0	17	-134	0	0
45	0.0	0.0	51.8	9	-225	49	128	119	0	0	0	284	523	0	0	0	0	-91	-134	0	0
46	0.0	0.0	51.1	8	-215	48	88	78	0	0	0	284	466	0	0	0	0	-81	-134	0	0
47	0.0	0.0	51.1	8	-206	48	69	60	0	0	0	284	410	0	0	0	0	-71	-134	0	0
48	0.0	0.0	51.1	7	-194	48	65	54	0	0	0	284	356	0	0	0	0	-60	-134	0	0
49	0.0	0.0	51.1	6	-182	47	61	49	0	0	0	284	302	0	0	0	0	-48	-134	0	0
50	0.0	0.0	49.0	6	-170	45	55	43	0	0	0	283	251	0	0	0	0	-36	-133	0	0
51	0.0	0.0	49.0	5	-158	45	51	40	0	0	0	283	201	0	0	0	0	-25	-133	0	0
52	0.0	0.0	49.0	5	-147	44	48	37	0	0	0	282	153	0	0	0	0	-14	-132	0	0
SUM	313.20	128.37	2778.30																		

TOTALS FOR YEAR: RAIN 313.1997 RUNOFF 128.3684 EVAP 2778.301 SEEPAGE 241.9162 EVAP FROM RESERVOIR 1338.958 EVAPOTRANSPIRATION 10973.34 IRRIGATION 5700.492 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1982

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	4	-134	45	52	40	0	0	0	0	104	0	0	0	0	-4	-130	0	0
2	0.0	0.0	49.7	3	-123	44	48	37	0	0	0	0	56	0	0	0	0	4	-127	0	0
3	0.0	0.0	49.7	3	-139	44	45	34	0	0	0	0	9	0	0	0	0	-14	-124	0	0
4	0.0	0.0	49.7	2	-139	44	75	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
5	0.0	0.0	53.9	0	-139	0	81	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
6	0.0	0.0	53.9	0	-139	0	81	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
7	0.0	0.0	53.9	0	-139	0	81	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
8	0.0	0.0	57.4	0	-139	0	86	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
9	0.0	0.0	57.4	0	-139	0	86	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
10	0.0	0.0	66.5	0	-139	0	100	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
11	0.0	0.0	66.5	0	-139	0	100	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
12	0.0	0.0	66.5	0	-139	0	100	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
13	0.0	0.0	66.5	0	-139	0	100	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
14	0.0	0.0	62.3	0	-139	0	93	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
15	0.0	0.0	62.3	0	-139	0	93	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
16	0.0	0.0	60.2	0	-139	0	90	0	0	0	0	0	0	0	0	0	0	-14	-124	0	0
17	2.0	0.0	60.2	0	-115	0	90	0	0	0	0	0	0	0	0	0	0	-2	-112	0	0
18	0.0	0.0	60.2	0	-115	0	90	0	0	0	0	0	0	0	0	0	0	-2	112	0	0
19	0.0	0.0	60.2	0	-115	0	90	0	0	0	0	0	0	0	0	0	0	-2	-112	0	0
20	0.7	0.0	60.2	0	-120	0	63	14	0	0	0	0	0	0	0	0	0	-12	-108	0	0
21	0.0	0.0	60.2	0	-120	0	90	0	0	0	0	0	0	0	0	0	0	-12	-108	0	0
22	0.0	0.0	60.2	0	-120	0	90	0	0	0	0	0	0	0	0	0	0	-12	-108	0	0
23	0.0	0.0	58.8	0	-120	0	88	0	0	0	0	0	0	0	0	0	0	-12	-108	0	0
24	0.0	0.0	58.8	0	-120	0	88	0	0	0	0	0	0	0	0	0	0	-12	-108	0	0
25	0.0	0.0	58.8	0	-120	0	88	0	0	0	0	0	0	0	0	0	0	-12	-108	0	0
26	1.2	0.0	58.8	0	-106	0	88	0	0	0	0	0	0	0	0	0	0	-5	-101	0	0
27	6.4	0.9	58.8	0	-44	0	26	23	0	0	0	0	53	0	0	0	0	20	-64	0	0
28	0.0	0.0	58.8	3	-55	52	57	11	0	0	0	0	0	0	0	0	0	9	-64	0	0
29	0.8	0.0	50.4	0	-55	0	49	10	0	0	0	0	0	0	0	0	0	4	-59	0	0
30	0.5	0.0	50.4	0	-59	0	49	9	0	0	0	0	0	0	0	0	0	-2	-56	0	0
31	56.9	40.3	41.3	0	364	0	19	19	0	0	0	0	2000	254	0	0	0	209	155	0	0
32	10.9	1.6	41.3	33	326	84	248	248	390	0	0	0	1858	0	0	0	0	231	94	0	0
33	23.8	8.3	41.3	26	578	46	294	294	369	0	0	0	1905	0	0	0	0	221	358	0	0
34	0.0	0.0	41.3	27	573	46	341	341	401	0	0	0	1431	0	0	0	0	394	179	0	0
35	0.2	0.0	41.3	20	792	44	387	387	741	0	0	0	626	0	0	0	0	227	565	0	0
36	5.1	0.5	41.3	10	932	40	415	415	607	0	0	0	1	0	0	0	0	556	376	0	0
37	4.0	0.2	44.8	2	523	39	480	467	0	0	0	119	0	0	0	0	0	361	162	0	0
38	18.7	7.2	44.8	0	540	0	511	498	404	0	0	332	0	0	0	0	0	540	0	0	0
39	0.0	0.0	44.8	0	146	0	541	405	0	0	0	605	0	0	0	0	0	335	-189	0	0
40	30.2	16.3	44.8	0	870	0	279	279	910	0	0	109	0	0	0	0	0	831	-11	0	0
41	3.5	2.0	51.8	0	400	0	699	684	113	0	0	773	0	0	0	0	0	602	-202	0	0
42	0.0	0.0	51.8	0	106	0	758	294	0	0	0	300	0	0	0	0	0	308	-202	0	0
43	0.0	0.0	51.8	0	-162	0	816	268	0	0	0	656	0	0	0	0	0	40	-202	0	0
44	0.0	0.0	51.8	0	-376	0	816	214	0	0	0	830	0	0	0	0	0	-174	-202	0	0
45	0.0	0.0	51.8	0	-376	0	719	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
46	0.0	0.0	51.1	0	-376	0	594	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
47	0.0	0.0	51.1	0	-376	0	498	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
48	0.0	0.0	51.1	0	-376	0	402	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
49	0.0	0.0	51.1	0	-376	0	326	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
50	0.0	0.0	49.0	0	-376	0	239	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
51	0.0	0.0	49.0	0	-376	0	165	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
52	0.0	0.0	49.0	0	-376	0	110	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
SUM	170.90	77.28	2778.30																		

TOTALS FOR YEAR: RAIN 170.8998 RUNOFF 77.2775 EVAP 2778.301 SEEPAGE 133.9197 EVAP FROM RESERVOIR 527.9301 EVAPOTRANSPIRATION 12017.35 IRRIGATION 3937.199 OVERFLOW 0 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1983

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C(5)
1	0.0	0.0	49.7	0	-376	0	75	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
2	0.0	0.0	49.7	0	-376	0	75	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
3	0.0	0.0	49.7	0	-376	0	75	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
4	0.0	0.0	49.7	0	-376	0	75	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
5	0.0	0.0	53.9	0	-376	0	81	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
6	0.0	0.0	53.9	0	-376	0	81	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
7	0.0	0.0	53.9	0	-376	0	81	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
8	0.0	0.0	57.4	0	-376	0	86	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
9	0.0	0.0	57.4	0	-376	0	86	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
10	0.0	0.0	66.5	0	-376	0	100	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
11	0.0	0.0	66.5	0	-376	0	100	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
12	0.0	0.0	66.5	0	-376	0	100	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
13	0.0	0.0	66.5	0	-376	0	100	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
14	0.0	0.0	62.3	0	-376	0	93	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
15	0.0	0.0	62.3	0	-376	0	93	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
16	0.0	0.0	60.2	0	-376	0	90	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
17	0.0	0.0	60.2	0	-376	0	90	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
18	0.0	0.0	60.2	0	-376	0	90	0	0	0	0	0	0	0	0	0	0	-174	-202	0	0
19	0.1	0.0	60.2	0	-375	0	90	0	0	0	0	0	0	0	0	0	0	-174	-201	0	0
20	0.0	0.0	60.2	0	-375	0	90	0	0	0	0	0	0	0	0	0	0	-174	-201	0	0
21	0.0	0.0	60.2	0	-375	0	90	0	0	0	0	0	0	0	0	0	0	-174	-201	0	0
22	1.9	0.0	60.2	0	-352	0	90	0	0	0	0	0	0	0	0	0	0	-162	-190	0	0
23	2.0	0.1	58.8	0	-329	0	26	26	0	0	0	0	5	0	0	0	0	-150	-178	0	0
24	6.5	0.9	58.8	2	-256	52	26	26	0	0	0	0	8	0	0	0	0	-114	-142	0	0
25	5.6	1.0	58.8	2	-194	52	26	26	0	0	0	0	12	0	0	0	0	-83	-111	0	0
26	15.2	4.8	58.8	2	-39	52	26	26	0	0	0	0	239	0	0	0	0	-6	-33	0	0
27	0.0	0.0	58.8	5	-39	53	26	26	0	0	0	0	180	0	0	0	0	-6	-33	0	0
28	31.3	17.5	58.8	4	206	53	26	25	0	0	0	1105	1134	0	0	0	0	117	89	0	0
29	32.5	11.9	50.4	16	330	52	302	302	448	0	0	0	1311	0	0	0	0	231	99	0	0
30	36.7	20.7	50.4	19	583	53	359	359	358	0	0	0	2000	79	0	0	0	225	358	0	0
31	54.8	43.6	41.3	31	646	83	341	341	0	0	0	0	2000	2000	517	0	0	272	374	0	0
32	12.4	3.4	41.3	65	394	132	387	387	0	0	0	0	2000	2000	551	0	0	167	227	0	0
33	67.6	60.5	41.3	65	433	133	415	415	0	1959	0	0	2000	2000	2000	0	0	206	228	0	0
34	2.7	0.0	41.3	84	1411	140	443	443	1727	0	0	0	2000	2000	57	0	0	638	773	0	0
35	65.0	61.0	41.3	59	1360	130	471	471	0	1487	0	0	2000	2000	2000	0	0	628	732	0	0
36	1.5	0.0	41.3	84	886	140	499	499	0	0	0	0	2000	2000	1781	0	0	404	481	0	0
37	7.5	1.2	44.8	81	1966	151	571	571	1954	0	0	0	2000	1650	0	0	0	881	1025	0	0
38	0.0	0.0	44.8	52	1367	100	605	605	0	0	0	0	2000	1538	0	0	0	556	772	0	0
39	0.0	0.0	44.8	50	2336	99	655	655	2022	0	0	0	1367	0	0	0	0	1044	1292	0	0
40	0.0	0.0	44.8	19	1637	47	706	706	0	0	0	0	1301	0	0	0	0	691	946	0	0
41	0.0	0.0	51.8	19	1827	54	816	799	1228	0	0	126	0	0	0	0	0	1125	762	0	0
42	0.0	0.0	51.8	0	1120	0	719	707	0	0	0	424	0	0	0	0	0	795	325	0	0
43	0.0	0.0	51.8	0	590	0	602	494	0	0	0	609	0	0	0	0	0	523	67	0	0
44	0.0	0.0	51.8	0	247	0	505	344	0	0	0	800	0	0	0	0	0	359	-112	0	0
45	0.0	0.0	51.8	0	128	0	408	119	0	0	0	185	0	0	0	0	0	240	-112	0	0
46	0.0	0.0	51.1	0	116	0	184	11	0	0	0	0	0	0	0	0	0	228	-112	0	0
47	0.0	0.0	51.1	0	1	0	249	115	0	0	0	0	0	0	0	0	0	113	-112	0	0
48	0.0	0.0	51.1	0	-76	0	172	77	0	0	0	0	0	0	0	0	0	36	-112	0	0
49	0.0	0.0	51.1	0	-133	0	115	57	0	0	0	0	0	0	0	0	0	-21	-112	0	0
50	0.0	0.0	49.0	0	-133	0	74	0	0	0	0	0	0	0	0	0	0	-21	-112	0	0
51	0.0	0.0	49.0	0	-133	0	70	0	0	0	0	0	0	0	0	0	0	-21	-112	0	0
52	0.0	0.0	49.0	0	-133	0	66	0	0	0	0	0	0	0	0	0	0	-21	-112	0	0
SUM	343.30	226.51	2778.30																		

TOTALS FOR YEAR: RAIN 343.2998 RUNOFF 226.5065 EVAP 2778.301 SEEPAGE 661.6143 EVAP FROM RESERVOIR 1574.669 EVAPOTRANSPIRATION 11823.16 IRRIGATION 7737.954 OVERFLOW 3445.4 DEEP PERCOLATION 0

SYSTEM OPERATION FOR THE YEAR 1984

(VALUES ARE IN CUBIC METERS DEVIDED BY 1 EXCEPT RAIN, RUNOFF, AND EVAPORATION WHICH ARE IN MM)

WEEK	RA	RO	EVAP	SRT	VST	ERT	ET	ETA	IRR	OVFL	PER	DEFIC	R(1)	R(2)	R(3)	R(4)	C(1)	C(2)	C(3)	C(4)	C
1	0.0	0.0	49.7	0	-133	0	75	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
2	0.0	0.0	49.7	0	-133	0	75	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
3	0.0	0.0	49.7	0	-133	0	75	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
4	0.0	0.0	49.7	0	-133	0	75	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
5	0.0	0.0	53.9	0	-133	0	81	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
6	0.0	0.0	53.9	0	-133	0	81	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
7	0.0	0.0	53.9	0	-133	0	81	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
8	0.0	0.0	57.4	0	-133	0	86	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
9	0.0	0.0	57.4	0	-133	0	86	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
10	0.0	0.0	66.5	0	-133	0	100	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
11	0.0	0.0	66.5	0	-133	0	100	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
12	0.0	0.0	66.5	0	-133	0	100	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
13	0.0	0.0	66.5	0	-133	0	100	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
14	0.0	0.0	62.3	0	-133	0	93	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
15	0.0	0.0	62.3	0	-133	0	93	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
16	0.0	0.0	60.2	0	-133	0	90	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
17	0.0	0.0	60.2	0	-133	0	90	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
18	0.0	0.0	60.2	0	-133	0	90	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
19	0.0	0.0	60.2	0	-133	0	90	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
20	0.0	0.0	60.2	0	-133	0	90	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
21	0.0	0.0	60.2	0	-133	0	90	0	0	0	0	0	0	0	0	0	0	-21	-112	0	
22	5.4	0.6	60.2	0	-89	0	32	32	0	0	0	0	31	0	0	0	0	-21	-112	0	
23	0.0	0.0	58.8	3	-89	52	88	0	0	0	0	0	0	0	0	0	0	-8	-81	0	
24	0.0	0.0	58.8	0	-89	0	88	0	0	0	0	0	0	0	0	0	0	-8	-81	0	
25	1.5	0.0	58.8	0	-85	0	57	13	0	0	0	0	0	0	0	0	0	-8	-81	0	
26	25.4	11.3	58.8	0	126	0	26	26	0	0	0	0	635	0	0	0	0	-12	-72	0	
27	13.0	2.8	58.8	10	360	57	353	353	738	0	0	0	0	0	0	0	0	93	33	0	
28	0.0	0.0	58.8	0	62	0	419	304	0	0	0	169	0	0	0	0	0	231	129	0	
29	37.5	22.8	50.4	0	855	0	416	416	1121	0	0	0	210	0	0	0	0	394	462	0	
30	1.0	0.0	50.4	5	527	46	473	473	161	0	0	0	0	0	0	0	0	193	334	0	
31	0.0	0.0	41.3	0	176	0	415	353	0	0	0	243	0	0	0	0	0	17	159	0	
32	2.7	0.0	41.3	0	-59	0	443	269	0	0	0	567	0	0	0	0	0	-102	43	0	
33	7.6	0.4	41.3	0	-60	0	263	121	25	0	0	497	0	0	0	0	0	-38	-22	0	
34	0.0	0.0	41.3	0	-60	0	499	0	0	0	0	0	0	0	0	0	0	-38	-22	0	
35	0.0	0.0	41.3	0	-60	0	527	0	0	0	0	0	0	0	0	0	0	-38	-22	0	
36	18.1	6.5	41.3	0	191	0	558	230	364	0	0	736	0	0	0	0	0	238	-47	0	
37	0.0	0.0	44.8	0	88	0	655	103	0	0	0	421	0	0	0	0	0	135	-47	0	
38	0.3	0.0	44.8	0	-11	0	706	102	0	0	0	604	0	0	0	0	0	34	-45	0	
39	46.0	34.1	44.8	0	1177	0	706	694	1909	0	0	693	0	0	0	0	0	1125	52	0	
40	0.2	0.0	44.8	0	566	0	622	613	0	0	0	944	0	0	0	0	0	841	-275	0	
41	0.0	0.0	51.8	0	294	0	602	272	0	0	0	0	0	0	0	0	0	[illegible]	-275	0	
42	0.0	0.0	51.8	0	66	0	505	228	0	0	0	144	0	0	0	0	0	341	-275	0	
43	0.0	0.0	51.8	0	-111	0	408	177	0	0	0	262	0	0	0	0	0	163	-275	0	
44	0.0	0.0	51.8	0	-123	0	186	12	0	0	0	0	0	0	0	0	0	152	-275	0	
45	0.0	0.0	51.8	0	-239	0	253	117	0	0	0	0	0	0	0	0	0	35	-275	0	
46	0.0	0.0	51.1	0	-316	0	172	76	0	0	0	0	0	0	0	0	0	-41	-275	0	
47	0.0	0.0	51.1	0	-316	0	96	0	0	0	0	0	0	0	0	0	0	-41	-275	0	
48	0.0	0.0	51.1	0	-316	0	77	0	0	0	0	0	0	0	0	0	0	-41	-275	0	
49	0.0	0.0	51.1	0	-316	0	73	0	0	0	0	0	0	0	0	0	0	-41	-275	0	
50	0.0	0.0	49.0	0	-316	0	66	0	0	0	0	0	0	0	0	0	0	-41	-275	0	
51	0.0	0.0	49.0	0	-316	0	62	0	0	0	0	0	0	0	0	0	0	-41	-275	0	
52	0.0	0.0	49.0	0	-316	0	59	0	0	0	0	0	0	0	0	0	0	-41	-275	0	
SUM	158.70	79.51	2778.30																		

TOTALS FOR YEAR: RAIN 158.6999 RUNOFF 79.5131 EVAP 2778.301 SEEPAGE 17.10059 EVAP FROM RESERVOIR 154.0175 EVAPOTRANSPIRATION 11743.94 IRRIGATION 4318.25 OVERFLOW 0 DEEP PERCOLATION 0

AGRICULTURAL RESEARCH CORPORATION
WESTERN SUDAN
Agricultural Research Project
(World Bank & USAID)
P.O. Box 429 El Obeied Telephone 2157
Telegr. : WSARP

هيئة البحوث الزراعية
مشروع تطوير البحوث الزراعية غرب السودان
(البنك الدولى والمعونة الامريكية)
محطة البحوث – الابيض
ص.ب ٤٢٩ تليفون ٢١٥٧
تلغرافياً : وسراب

No. .....

Date .....

النمرة .....

التاريخ .....

Dr. Brent Cluff
Evaporation Control Specialist
University of Arizona

Dear Dr. Cluff:

As per our discussions on water related properties of "gardud" soils in Western Sudan, please note that quantitative data are unavailable. Gardud is a loose terminology and represents soils that fall between stabilized sands in North Kordofan and cracking vertisols in South Kordofan. There is a great deal of spatial variability in textural composition and hydrologic properties. What is certain is that gardud soils are very hard and uncultivable with traditional hand tools. The hardness seems to be related to the extreme dryness that exists year round. Water intake is very low and excessive runoff is produced.

The following numbers represent my educated guess for the area of gardud land that you are interested in.

Field capacity*	18 - 25% (volume basis)
Permanent wilting point	8 - 12% (volume basis)
Infiltration rate	10 - 15 mm/day

* Field capacities are seldom achieved except in depressions where water collec following rainstorms.

Lalit

Lalit Arya
Soil and Water Specialist

TRAILER PUMPS
TRAILER PUMPS
TRAILER PUMPS
TRAILER PUMPS
TRAILER PUMPS

Crisafulli PUMPS

CRISAFULLI DRIVE
Box 1051
GLENDIVE, MT 59330
1-406-365-3393

CONTACT:

CRISAFULLI TRAILER PUMPS

Decades ago Crisafulli submersible, centrifugal trailer pumps began a revolution in high capacity pump design, which is continuing today through research and new product development.

Crisafulli trailer pumps never need priming, use no check valves or suction hose and are virtually unpluggable. Available in discharge sizes from 4" through 24", trailer pumps can pump between 500 and 20,000 gallons per minute with lifts from 0 to 100 feet. Trailer pumps are extremely portable, they can be driven to an unimproved pumping site, be installed and operating in minutes. You will never need to worry about the type of material, debris or sediment you are going to pump. Crisafulli trailer pumps easily handle a wide range of materials from clear water to thick sludges and large diameter spherical solids.

All Crisafulli trailer pumps come equipped with power take-off shafts to connect the pump's drive line to a power take-off. Trailer pumps are equipped with axles and tires to facilitate movement from one location to another. Only Crisafulli offers two bearing options; water lubricating, marine type, for clean water applications and sealed bearings for pumping caustic, abrasive or other contaminated fluids. The selection of the proper bearing for a specific application greatly increases pump life. All sealed bearing models feature lubrication lines as standard equipment for convenient bearing maintenance.

Trailer pumps are available with two impeller styles as a standard option. A "closed" impeller is designed for high volume water transfer while an "open", self-cleaning, impeller is used for pumping trash, debris, slurries, solids and other materials. Crisafulli trailer pumps are available in three impeller sizes per discharge size to achieve the highest output with the lowest possible power input.

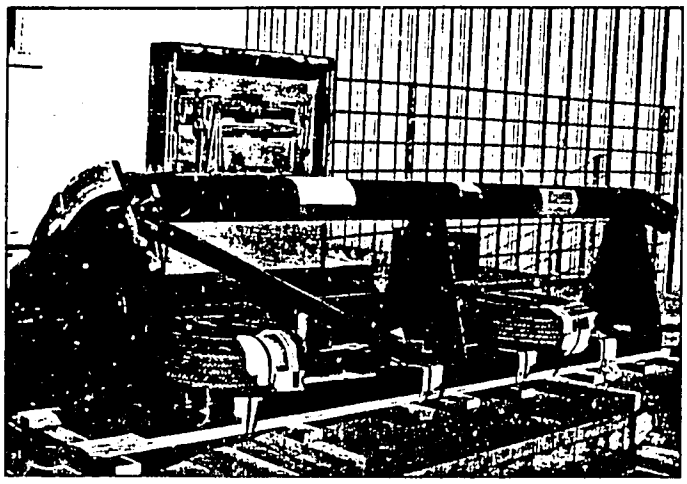
Crisafulli trailer pumps can be powered using a tractor PTO, electric motors, gasoline or diesel engines. All Crisafulli trailer pumps are supported by the Company's warranty as well as our reputation for quality construction and continuing after sales support.

CRISAFULLI "LONG HITCH" TRAILER PUMP

"Long Hitch" Trailer Pumps are designed for pump installations where less than ideal approaches exist. They are fabricated from heavy 2" X 4" structural steel members and feature an extended 18' discharge. Total pump length is approximately 23'. The "Long Hitch" pump is available with water lube or sealed bearings, open or closed impellers and three impeller sizes for optimum pumping performance. Discharge sizes are 4", 6", 8", 12", 16", and 24" with capacities from 500 to 20,000 gallons per minute.

CRISAFULLI "HUMPBACK" TRAILER PUMP

"Humpback"models are designed for steep angle approaches into irrigation canals, ditches, or other applications with relatively high slopes. They too are fabricated from 2" X 4" structural steel members and come with an 18' extended discharge as standard equipment. Total pump length is approximately 23' with a solid, one piece shaft. They are available with marine or sealed bearings, open or closed impellers, three impeller sizes in discharges of 4", 6", 8", 12", 16", and 24".



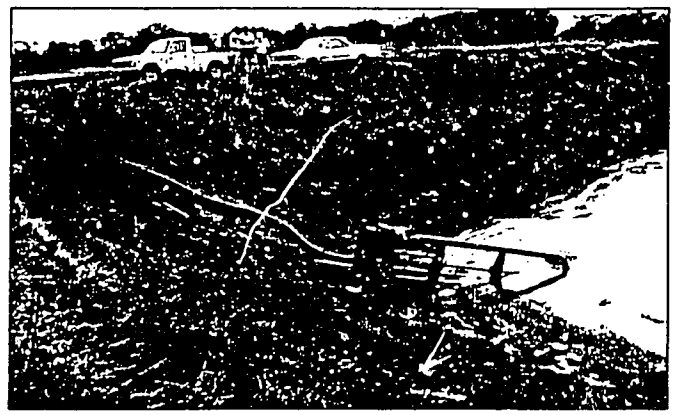
(SHORT HITCH PUMP SKID-MOUNTED FOR SHIPMENT)

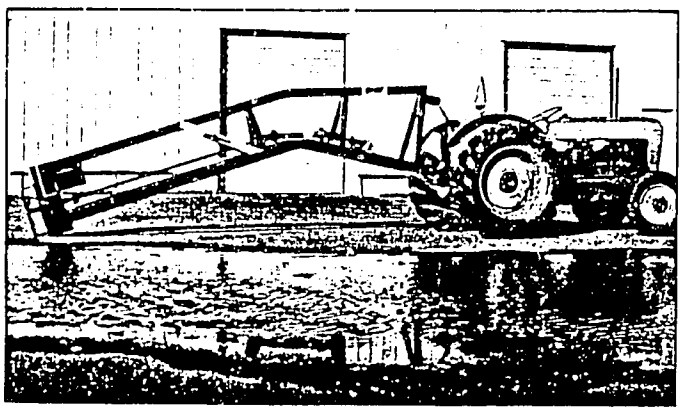
CRISAFULLI "SHORT HITCH" TRAILER PUMP

"Short Hitch" pumps are designed for ideal approaches that are both level and sufficiently deep to achieve case submergence within a short distance. They are equipped with an extended 10′ discharge and have a 15′ overall length. They are available with water lube or sealed bearings, open and closed impellers and three impeller sizes for optimum pumping performance. Discharge sizes are 4″, 6″, 8″, 12″, 16″, and 24″.

CRISAFULLI "ELECTRIC MOTOR-ON-FRAME" TRAILER PUMP

Where three phase electrical service is available, it can be desirable to use an efficient, electrical motor, instead of a tractor's PTO to power a trailer pump. Crisafulli offers an electric on-frame option with it's long hitch models, in sizes 4″ to 24″ and from 5 to 300 horsepower. Sealed bearings and Crisafulli's bearing protection system is standard equipment on all electric models insuring long bearing life.



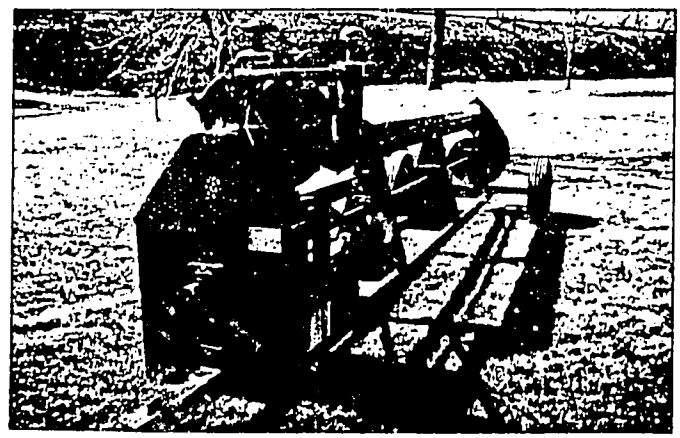


CRISAFULLI "THREE POINT HITCH" PUMP

The "Three Point Hitch" pump offers extreme portability coupled with the ability to pump from vertical, shear pumping sites. When lowered into position, they achieve up to 60° of angle while keeping the power take-off almost level, insuring long PTO shaft life. "Three Point Hitch" Pumps are available with sealed bearings, open or closed impellers in discharge sizes 4″, 6″, 8″, and 12″.

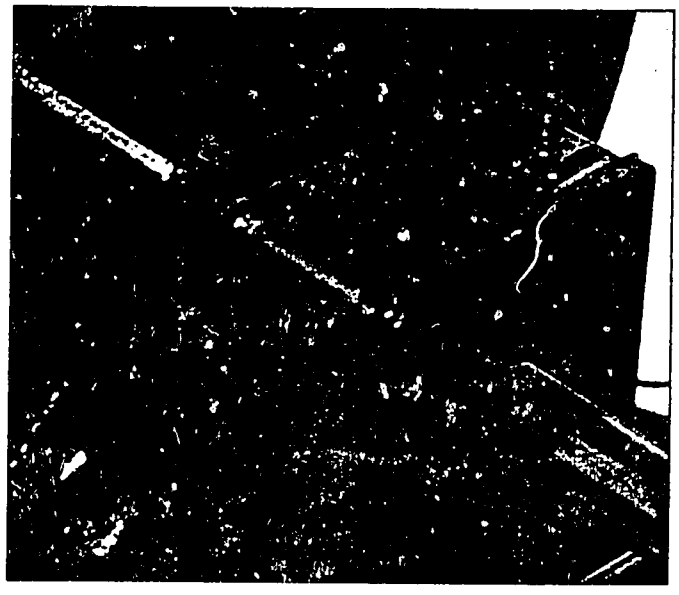
DIESEL/GASOLINE POWER UNITS

It is also occasionally desirable to consider diesel or gasoline engines as a power source. These can be mounted directly on the pump frame up to 44 horsepower, or if a larger engine is necessary, on an independent trailer or skid frame. Crisafulli offers power packages through 300 horsepower, with belt and pulley speed reduction, safety shutdown and with many other features.



BEARING PROTECTION SYSTEM

Bearing protection is used on all pumps which will be submerged into abrasive, caustic or acidic fluids and is used to insulate the bearing from the possible detrimental effects of exposure to these materials. Lubrication lines are extended up to the pump hitch for convenient bearing maintenance.

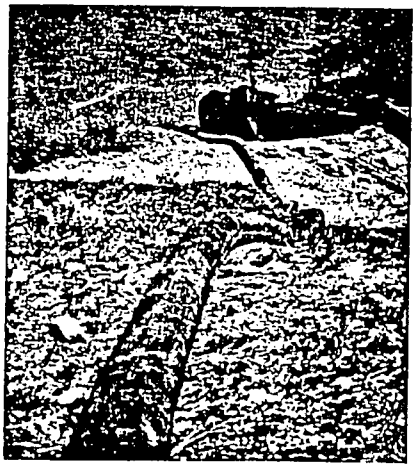


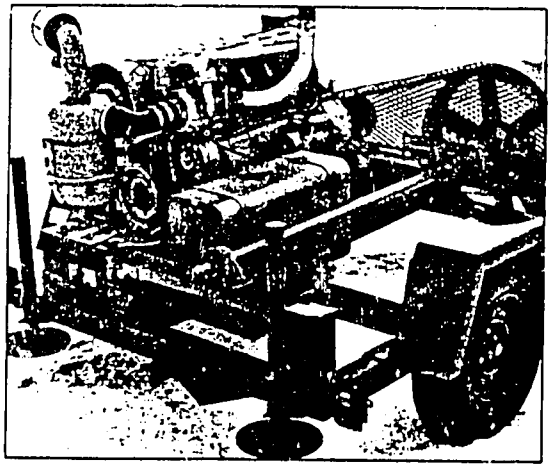
PUMP SELECTION
BY DISCHARGE SIZE AND IMPELLER TYPE (540 RPM)

TOTAL DYNAMIC HEAD	4"						6"						8"						12"						16"				20"		24"	
	R		I		H		R		I		H		R		I		H		R		I		H		R		H		H		H	
	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM
05	11	920	15	1080	24	1260	18.5	2050	30	2500	48	2900	23	2750	48	3950	66	4400	32	4625	74	6600	129	7200	86	10,400	174	13,200	150	13,250	225	18,000
10	10	840	14.8	1040	23.5	1220	17	1850	29	2350	17	2800	22	2500	46	3700	64	4200	31	4200	70	6100	110	7000	82	10,000	167	12,800	149	12,750	215	17,500
15	9	720	14.5	980	23.2	1160	16	1650	28.5	2250	45	2700	21	2250	43	3500	63	4000	29	3625	68	5700	105	6800	75	9,600	158	12,400	148	12,000	202	16,500
20	8	580	14.2	900	22.5	1100	14	1350	27.3	2050	45	2550	18	1800	40	3200	62.5	3800	26	2700	62	5150	102	6400	68	7,000	153	11,750	147	11,000	199	15,500
25	6	340	13.8	800	22	1020	12	1000	25	1850	42	2400	14	1000	37	2900	62	3600	13	100	59	4600	99	6100	60	4,800	144	10,500	146	10,000	195	14,000
30			12.5	660	21	940			21	1550	40	2250			32	2400	60	3300			53	3900	95	5700			139	9,000	132	8,000	185	12,500
35			10	420	19	820			17	1200	37	2050			25	1600	57	3000			40	2700	89	5100			124	7,000	100	4,000	145	4,600
40					17	700					32	1750					50	2500					76	4300								
45					15.5	520					27	1400					42	1900					60	3100								
50											20	750																				

R—Regular Lift Impeller; I—Intermediate Lift Impeller; H—High Lift Impeller; HP—Brake Horsepower; GPM—U.S. Gallons Per Minute)

Other pump speeds are available from 375 to 2000 RPM. Performance will vary according to pump speed. Pumps can be designed to pump heads above 100 feet.





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August 15, 1985

Dr. C.B. Cluff
WRRC
University of Arizona
Tucson, AZ 85721

Dear Dr. Cluff:

In response to your inquiry we are pleased to inform you that we can deliver

> One (1) unit CRISAFULLI TRAILER PUMP MODEL LH16RA, complete with necessary tubing and quick-disconnect coupling, for the total sum of US$10,815.00 C+F PORT SUDAN.

This offer is valid for 90 days.

Our sales conditions are: Irrevocable Letter of Credit confirmed by a prime New York banking institution.

We look forward to being of further service to you.

Yours very truly,

Viviane Hickins

Encl. please find brochure illustrating the item being quoted.