

污水處理之功能設計及質量平衡 ——兼論微電腦程式之應用

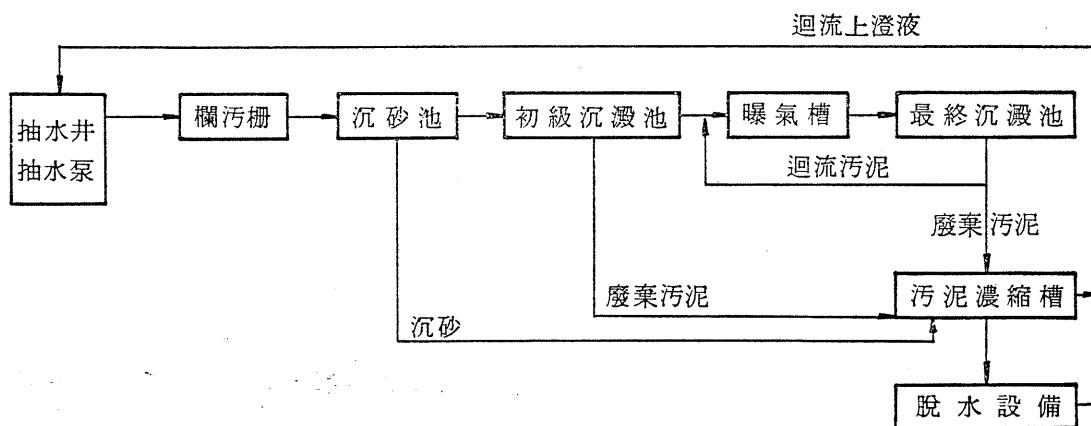
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一、前　　言

污水處理之工程設計，主要是依據污水水質、水量及相關標準等進行功能設計（function design）及水質濃度之質量平衡（mass balance），後者有時被設計者所忽略，本文擬探討污水處理之功能設計及質量平衡設計，兼論微電腦程式之應用。

二、污水處理程序

污水處理程序需視水量、水質及其他因素（如經濟、用地面積……等）而定，本文依一般重要設備，假定一處理程序如下：（調節池從略）



三、功能設計及質量平衡

(一) 設計水量、水質基本資料

平均日污水量：10,000CMD

最大日污水量：13,000CMD

進流水 BOD : 300mg/l

SS : 250mg/l

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放流水 $BOD < 40 \text{mg/l}$
 $SS < 40 \text{mg/l}$

(二) 設計計算

(〔 〕內為設施標準所訂)

1. 抽水井

$Q = \text{平均日污水量} + \text{濃縮槽上澄液} + \text{脫水機濾液}$ ，先假設後兩項為平均日之 3 %
(隨後再校核) 則 $Q_{\text{設計}} = \text{平均日污水量} \times 1.03 = 10,300 \text{ CMD}$

設停留30分鐘，則 $V = Q \times T = 10,300 \times \frac{30}{1,440} \doteq 215 \text{M}^3$

採用 $12 \text{M} \times 6 \text{M} \times 3 \text{M}$ (水深) 一池

2. 污水泵

$Q = \text{平均日污水量} \times 2 \text{ 倍} = 20,000 \text{CMD}$

〔最大時污水量以平均日之 1.3 ~ 3.0 倍〕

假設揚程 10M，污水泵效率 60%，則

馬力數 (HP) = $20,000 \times 10 / (6,480 \times 0.6) = 51.4 \text{HP}$

設採用污水泵 3 台，其中 2 台備用

〔0.5CMS 以下 2 ~ 4 台，其中 1 台備用〕

每台 $30 \text{HP} \times 10,000 \text{CMD}(Q) \times 10 \text{M}(H)$

3. 欄污柵

$Q = \text{最大日污水量} = 13,000 \text{ CMD}$

設柵除物約佔 10% (一般 5 ~ 15%)

柵除物 = $10,000 \times 250 \times 0.1 \times 10^{-3} = 250 \text{kg/day}$

設含水率 90%，比重 1.02，則

$V = (250 / (0.1 \times 1.02)) \times 10^{-3} \doteq 2.5 \text{CMD}$

4. 沉砂池

$Q = \text{最大日污水量} = 13,000 \text{ CMD}$

設停留時間 $T = 60 \text{秒}$ ，〔停留時間以 30 ~ 60 秒為準〕

$V = Q \times T = 13,000 \times 60 / 86,400 = 9.0 \text{M}^3$

採用 $12 \text{M} \times 1.0 \text{M} \times 0.8 \text{M}$ (水深) 一池

$V_h = 13,000 / (86,400 \times 1.0 \times 0.8) = 0.19 \text{m/sec}$

平均日污水量 = $10,300 - 2.5 = 10,297 \text{CMD}$

進流水 SS = $(10,000 \times 250 \times 0.9) / 10,297 = 219 \text{mg/l}$

設沉砂量佔 10%

污泥量 = $10,297 \times 219 \times 0.1 \times 10^{-3} = 226 \text{kg/day}$

設含水率 99%，比重 1.105，則

污泥體積 $V = 226 \times 10^{-3} / (0.01 \times 1.105) = 20 \text{CMD}$

出水 SS = $219 \times 0.9 = 197 \text{mg/l}$

5. 初級沉澱池

$$Q = 10,297 - 20 = 10,277 \text{CMD}$$

設停留時間 $T = 1.5$ 小時 【活性污泥法 1.5 小時】

$$V = Q \times T = 10,277 \times 1.5 / 24 = 642 \text{M}^3$$

設採 2 池， $D = 16 \text{M}$ ， H (池邊有效水深) = 1.6M

$$\text{表面負荷率} = 10,277 / (2 \times \frac{\pi(16)^2}{4}) = 25.6 \text{CMD/M}^2 \text{ O.K.}$$

【25~50 CMD/M²】

設溢流堰負荷 = 200CMD/M 【以不超過 250CMD/M 為宜】

堰長 = $10,277 / (2 \times 200) = 26 \text{M}$ ，設沿池邊 50cm 寬，則

$$\text{堰長} = \pi(16 - 1) = 47 \text{M. O.K.}$$

設 SS 去除率為 35% 【去除率 25~40%】

$$\text{汙泥量} = 10,277 \times 197 \times 0.35 \times 10^{-3} = 709 \text{kg/day}$$

設含水率 98.5%，比重 1.017

$$\text{汙泥體積} V = 709 \times 10^{-3} / (0.015 \times 1.017) = 47 \text{CMD}$$

進水 BOD 約 294mg/l，進水 SS = 197mg/l

$$\text{出水 SS} = 197 \times (1 - 0.35) = 128 \text{mg/l}$$

出水 BOD = 總 BOD - 由 SS 去除之 BOD

$$= 294 - 0.65(197 - 128) = 249 \text{mg/l}$$

(設揮發性 SS 佔 65%)

6. 曝氣槽

$Q_{\text{設計}} = \text{初沉池進水} - \text{汙泥體積} + \text{迴流汙泥}$

$$= (10,277 - 47) + (10,277 - 47) \times 0.25$$

$$= 10,230 + 2,558 = 12,788 \text{CMD}$$

假設迴流汙泥之濃度為 10,000mg/l，則

$$\text{MLSS} = \frac{10,230 \times 128 + 2,558 \times 10,000}{12,788} = 2,103 \text{mg/l}$$

$$\text{BOD 量} = (10,277 - 47) \times 249 \times 10^{-3} = 2,547 \text{kg/day}$$

$$\text{BOD 去除率} = (249 - 40) / 249 = 84\%$$

設 BOD 負荷為 0.32kg·BOD/kg·MLSS-day (一般 0.2~0.4)

$$t = (249 - 40) / (2,103 \times 0.32) = 0.31 \text{day} = 7.4 \text{hrs}$$

$$V = Q \times t = 12,788 \times \frac{7.4}{24} = 3,943 \text{M}^3$$

設採用 2 池，水深 3 M，則

$$A = 3,943 / (2 \times 3) = 657 \text{M}^2，採 33 \text{M}(\text{長}) \times 20 \text{M}(\text{寬})$$

需氧量之估計可由 $U = a'Y + b'Z$ ，其中

a' ：去除 1kg BOD 所需氧量 (kg·O₂/kg·BOD) (0.35~0.5)

Y ：去除 BOD 量 (kg/day)

b' : MLSS所需氧量 (kg•O₂/kg•MLSS-day) (0.05~0.24)

Z : 曝氣槽內混合液MLSS量(kg)

$$U = 0.5(249-40) \times 12,788 \times 10^{-3} + 0.1 \times 2,103 \times \frac{7.4}{24} \times 12,788 \times 10^{-3}$$

$$= 1,336 + 829 = 2,165 \text{ kg} \cdot \text{O}_2/\text{day}$$

設氧吸收率為0.1 (一般5~15%)，則

$$\text{空氣量 } Q_a = 2,165 / (0.23 \times 0.1 \times 1.29) = 72,970 \text{ M}^3/\text{day}$$

7. 最終沉澱池

$$Q_{\text{設計}} = 12,788 \text{ CMD}$$

設停留時間 t = 2.5 hrs [平均日汙水量之2.5小時]

$$\forall = Q \times t = 12,788 \times \frac{2.5}{24} = 1,332 \text{ M}^3$$

設採2池，每池666M³，若池邊有效水深採2.5M，則

$$A = 267 \text{ M}^2, D = 18.4 \text{ M} \text{ 採用 } D = 19 \text{ M}, A = 284 \text{ M}^2$$

$$\text{表面負荷率} = 12,788 / (2 \times 284) = 22.5 \text{ CMD/M}^2 [20 \sim 30 \text{ CMD/M}^2]$$

設溢流堰負荷 = 150CMD/M [150CMD/M 堤長]

$$\text{堰長} = 12,788 / (2 \times 150) = 42.6 \text{ M} \text{，設沿池邊50cm寬，則}$$

$$\text{堰長} = \pi(19 - 1) = 56.5 \text{ M O.K.}$$

即採用19M×2.5M (池邊有效水深)

進水SS : 128mg/ℓ，出水SS < 40mg/ℓ

$$\text{SS去除率} = (128 - 40) / 128 = 68.8\% [\text{標準活性汙泥法} 80 \sim 90\%]$$

進水BOD : 40mg/ℓ，出水BOD < 40mg/ℓ

9. 汚泥濃縮槽

初沉池汙泥(SS)709kg/day

$$\text{終沉池汙泥(SS)} (10,277 - 47) \times (128 - 40) \times 10^{-3} = 900 \text{ kg/day}$$

終沉池汙泥(BOD) aY - b × MLSS × ∵ × 10⁻³，其中

a : BOD之汙泥轉換率，設0.65 (一般0.5~0.8)

b : 體內呼吸率，設0.04 (一般0.01~0.1)

Y : 去除BOD量，kg/day

∴ : 槽容積

$$\text{則 } 0.65 \times (249 - 40) \times (10,277 - 47) \times 10^{-3} - 0.04 \times 2,103 \times \frac{7.4}{24} \times (10,277 - 47) \times 10^{-3}$$

$$= 1,390 - 265 = 1,125 \text{ kg/day}$$

$$\text{總汙泥量} = 709 + 900 + 1,125 = 2,734 \text{ kg/day}$$

設含水率99%，比重1.02，則

$$Q = 2,734 \times 10^{-3} / (0.01 \times 1.02) = 268 \text{ CMD}$$

$$\text{汙泥量} = 20 + 268 = 288 \text{ CMD}$$

設停留12hrs [槽容積以計劃汙泥量之12小時量為原則]

$$\forall = 288 \times 12 / 24 = 144\text{M}^3, \text{設深度 } 4\text{M}$$

$$A = 144 / 4 = 36.0\text{M}^2, \text{採 } D = 7\text{M} \quad A = 38.5\text{M}^2$$

$$\text{水面積水力負荷} = 288 / 38.5 = 7.5\text{CMD/M}^2$$

[以26~34CMD/M²為準]

$$\text{固體負荷} = 2,734 / 38.5 = 71\text{kg/M}^2\text{-day} \quad [\text{以60~90為準}]$$

設汙泥含水率減為96%，則

$$288 \times \frac{100 - 99}{100 - 96} = 72 \text{ CMD}$$

$$\text{上澄液 } Q = 288 - 72 = 216 \text{ CMD}$$

9. 脫水設備

脫水設備之設計從略，僅計算質量平衡問題。

假設脫水後含水率為75%

$$\text{乾汙泥體積} = 72 \times \frac{100 - 96}{100 - 75} = 12\text{CMD}$$

$$\text{過濾液 } Q = 72 - 12 = 60\text{CMD}$$

迴流之汙泥濃縮槽上澄液及汙泥脫水過濾水為

$216\text{CMD} + 60\text{CMD} = 276\text{CMD}$ ，與前述假設300 CMD 尚屬接近，本計算不再重新校核。

四、微電腦程式設計

本報告依上述計算原則，寫就電腦程式如附錄一，並簡述如下：

1. 資料輸入採各單元完整顯示於螢幕上，可選擇欲輸入項目編號，該項目即顯示於左下方以便接受資料，於資料輸入後即顯示於原項目之後。右下角並有輸入步驟說明。
2. 每單元可選擇設計或省略。
3. 每項目顯示於左下角時並有必要之提示，如設施標準或一般經驗數據。
4. 輸入完畢即將設計結果顯示於右上角。若其中某項目與設施標準或一般經驗數據相差達某一程度即先於左下角顯示不合理之項目及計算之結果，若不願更改亦接受該指令。
5. 設計結果顯示後尚可接受重行設計之指令。
6. 其他尚有資料輸入不全則提示尚未輸入完畢，以閃爍提示、聲響提示及反白等設計。
7. 依上述設計結果繪成平面圖供參考。

五、微電腦程式設計資料輸入及結果

舉一設計例說明資料輸入步驟及成果以及最後設計結果供參考，見附圖，不再贅述。

輸入基本資料

- (1)平均日進流量 CMD.....10000
- (2)倍數(最大日進流量對平均日) ...1.3
- (3)進流水 BOD(mg/l)300
- (4)進流水 SS(mg/l)250
- (5)放流水 BOD(mg/l)40
- (6)放流水 SS(mg/l)40
- (7)輸入完成

請選擇任一項

輸入的步驟說明

- (A)按想輸入資料的阿拉伯號碼
- (B)輸入資料
- (C)若想重新更改資料
再按該阿拉伯號碼

抽水井、抽污水泵設計

註：螢幕分界

- (1)設計省略
- (2)設計 2

抽水井、抽污水泵設計

- (1)倍數(設計流量對平均日)2
- (2)抽水井深度 M.....3
- (3)抽污水泵效率.....5
- (4)抽水機揚程 M.....
- (5)輸入完成
- (1)採約略值輸入揚程
- (2)以計算法求揚程

揚程一般約為10M左右

輸入(4)的資料

輸入的步驟說明

- (A)按想輸入資料的阿拉伯號碼
- (B)輸入資料
- (C)若想重新更改資料
再按該阿拉伯號碼

抽水井、抽污水泵設計

- (1)倍數(設計流量對平均日)2
- (2)抽水井深度 M.....3
- (3)抽污水泵效率.....5
- (4)抽水機揚程 M.....15

設計結果

抽水井 1 池
長4M×寬4M×水深3M
污水泵設計流量為20,000 CMD
所須馬力數為92.5HP

(5) 輸入完成

採用污水泵 3 台
 其中 1 台備用
 每台 50HP × 10,000CMD × 15M
 是否重新設計(Y/N)

資料輸入已完成(Y/N)y

想輸入的步驟說明

- (A) 按意輸入資料的阿拉伯號碼
 (B) 輸入資料
 (C) 若想重新更改資料
 再按該阿拉伯號碼

欄 汚 檻 設 計

- (1) 每 100 立方米下水所佔篩渣量% 1
 (2) 檻除物之含水率 9
 (3) 檻除物之比重 1.02
 (4) 輸入完成

設 計 結 果

柵除物 250kg/day
 污泥體積 2.45M³/day
 約 2.5CMD
 是否重新設計(Y/N)

沉 砂 池 設 計

- (1) 有效水深 (M)
 (2) 停留時間 (秒)
 (3) 每 1,000 立方米下水所佔沉砂量
 (4) 沉砂之含水率
 (5) 沉砂之比重
 (6) 池數
 (7) 長寬比
 (8) 輸入完成

配合流入管渠之有效水深

(貯砂槽 0.3M 以上) 與設施標準差太多
 或資料太離譜
 輸入(1)的資料 .8 是否重新輸入(Y/N)

輸入的步驟說明

- (A) 按想輸入資料的阿拉伯號碼
 (B) 輸入資料
 (C) 若想重新更改資料
 再按該阿拉伯號碼

沉 砂 池 設 計

- (1) 有效水深 (M) 8
 (2) 停留時間 (秒) 120
 (3) 每 1,000 立方米下水所佔沉砂量 0.02
 (4) 沉砂之含水率 99
 (5) 沉砂之比重 1.105

設 計 結 果

採用 2 池
 長 3.3M × 寬 3.4M × 水深 .8M
 進流水 SS = 218.5mg/ℓ
 污泥量 = 45kg/day

- (6)池數.....2
 (7)長寬比.....1
 (8)輸入完成

污泥體積=4CMD

是否重新設計(Y/N)

初 沉 池 設 計		設 計 結 果
(1)停留時間 (小時)	1.7	
(2)有效水深 (M)	3	
(3)長寬比.....	1.5	每池面積61m ²
(4)池數.....	4	長10M×寬6M×水深3M
(5)溢流堰負荷率m ³ /m.d	200	
(6)SS去除率35	5個集水支槽，每個長度1.3M
(7)生污泥之含水率.....	.98	
(8)生污泥之比重.....	1.05	污泥量787.2kg/day
(9)VSS佔污泥量.....		污泥體積37CMD
(A)輸入完成 (按A)		
		出水 SS142mg/l
		出水BOD 238mg/l
		是否重新設計(Y/N)

二 級 處 理 設 計

- (1)活性汚泥法.....
 (2)旋轉生物圓盤法.....
 (3)標準滴濾法.....

二 級 處 理 設 計		設 計 結 果
(1)迴流汚泥比.....	25	採用 4 池 每池
活 (2)迴流汚泥濃度.....	10000	長24M×寬14M×水深3M
性 (3)BOD污泥負荷	3	停留時間7.5hrs
污 (4)BOD容積負荷	7	BOD去除率83%
泥 (5)有效水深.....	3	污泥齡5.13日
法 (6)採用池數.....	4	
(7)長寬比.....	1.6	
(8)輸入完成		

求 需 氧 量

- (1)每天去除1kg BOD所需氧量.....
 (2)MLSS每天每公斤所需氧量
- (3)氧吸收率
- (4)輸入完成

二級處理設計

(1)迴流污泥比.....	25
(2)迴流污泥濃度.....	10000
(3)BOD 污泥負荷	3
(4)BOD 容積負荷	7
(5)有效水深.....	3
(6)採用池數.....	4
(7)長寬比.....	1.6
(8)輸入完成	

求需氧量

(1)每天去除1kg BOD 所需氧量.....	45
(2)MLSS 每天每公斤所需氧量	2
(3)氧吸收率	1
(4)輸入完成	

設計結果

採用 4 池 每池
長24M×寬14M×水深3M
停留時間7.5hrs
BOD去除率83%
污泥齡5.13日

需氧量2,835kg-0/day
空氣量95,551M³/day

- (1)需氧量重新設計
(2)活性污泥重新設計
(3)NEXT STEP 設計
.....請選擇.....

最終沉澱池設計

(1)停留時間 hrs	2.5
(2)有效水深 M.....	3
(3)採用池數.....	4
(4)長寬比.....	1.6
(5)溢流堰負荷率 CMD/M.....	150
(6)輸入完成	

設計結果

採用 4 池每池面積89m²
長13M×寬7M×水深3M
表面負荷率為28.2M³/m²·day
5 集水槽，每槽長為1.7M×50cm寬
SS去除率72%

是否重新設計(Y/N)

污泥濃縮池設計

(1)去除 BOD 的污泥轉換率.....	7
(2)體內自行氧化率 1/day05
(3)含水率.....	.97
(4)比重.....	1.02
(5)停留時間 hrs	12
(6)槽有效水深 m	4
(7)槽數.....	2
(8)濃縮後污泥含水率.....	.96
(9)輸入完成	

計算結果

初沉池污泥(SS)787.2kg/day
終沉池污泥(SS)1,046kg/day
終沉池污泥(BOD)1,082kg/day
總污泥重2,915kg/day
污泥體積136CMD
池總容量為68M³池數為2
每槽面積8.5M²採用直徑3.3M
水力面積負荷16M³/M²·d
固體負荷 685.9kg/M²·d
濃縮後的污泥體積為101CMD
上澄液體積為35CMD
是否重新重計(Y/N)

脫水設備設計

- (1)操作時間 (hr).....4
(2)浸水比.....5
(3)脫水機旋轉數 (rpm).....1
(4)K (M²/s)0.000025
(5)U_o (M)0.0025
(6)脫水後污泥含水率.....75
(7)消石灰添加率.....4
(8)鐵鹽添加率.....0.08
(9)輸入完成

設計結果

過濾速度51kg/M²·s
消石灰加入量302.9kg/hr
鐵鹽加入量60.5kg/hr
固體物加入量757.4kg/hr
餘裕率15%過濾面積25.185M²
真空過濾機2,900mmD×3,000mmL 1座
脫水機房2M長×8.8M寬

管理樓建為3樓17M長×6M寬
是否重新設計(Y/N)

基 本 資 料 顯示下一页 (按任一鍵)

平均日進流量10,000(CMD)
進流水BOD300(mg/l)
放流水BOD40(mg/l)

最大日進流量13,000(CMD)
進流水SS250(mg/l)
放流水SS40(mg/l)

抽水井及抽污水泵

設計流量20,000(CMD)抽水井1池4M長×4M寬×3M深抽污水泵效率.5
抽水機揚程15(M)

所須馬力數為50HP
採用抽污水泵3臺，其中1臺備用
每臺50HP×10,000CMD×15(M)

欄

每100立方米下水所佔篩渣量.1%
柵除物之含水率.9
柵除物之比重1.02

污 楣
柵除物250(kg/day)
污泥體積2.45(M³/day)
約2.5CMD

沉

停留時間120 (秒)
每1,000立方米下水所佔沉砂量.02
沉砂之含水率.9899999
沉砂之比重1.105

砂 池
採用2池3.3M長×3.4M寬×.8M深
進流水SS218.5(mg/l)
污泥量45(kg/day)
污泥體積4(CMD)

初

停留時間1.7 (小時)
溢流堰負荷率200(M³/M²·d)
SS去除率.35
生污泥之含水率.9799999
生污泥之比重1.05
VSS佔污泥量.7

沉 池
採用4池長10M×寬6M×有效水深3
5個集水支槽，每個長度1.3(M)
污泥量787.2(kg/day)
污泥體積37(CMD)
出水SS142(mg/l)
出水BOD238(mg/l)

二級處理活性污泥法 回上一頁(Y/N)?

迴流污泥比.25	停留時間7.5(hrs)
迴流污泥濃度0	採用4池
BOD污泥負荷.3	每池長24M×寬14M×有效水深3M
BOD容積負荷.7	BOD去除率83%
每天去除1kg BOD所需氧量.45	污泥齡5.13日
MLSS每日每公斤所需氧量.2	需氧量2,835(kg-O ₂ /day)
氧吸收率.1	空氣量95,551(M ³ /day)

最 終 沉 澱 池

停留時間2.5(hrs)	採用池數4池
每池面積89(M ²)	長13M×寬7M×有效水深3M
溢流堰負荷率150(CMD/M)	5集水槽，每槽長為1.7M×50cm寬
表面負荷率28.2(M ³ /M ² •day)	SS去除率72%

污 泥 濃 縮 池

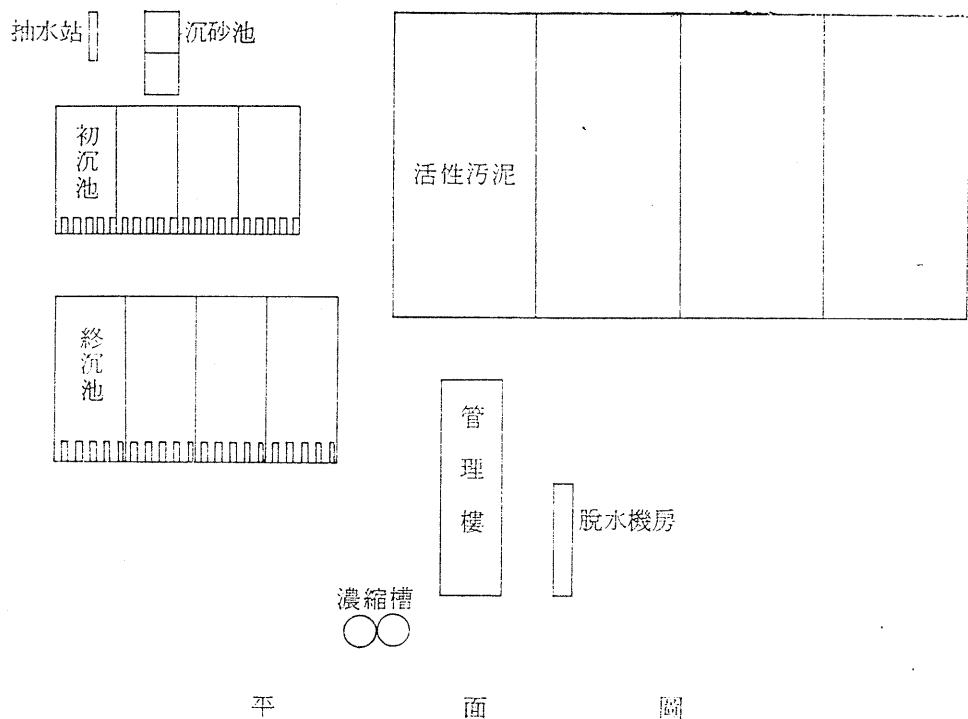
初沉池污泥(SS)787.2(kg/day)	停留時間12(hrs)
終沉池污泥(SS)1,046(kg/day)	濃縮後污泥含水率.96
終沉池污泥(BOD)1,082(kg/day)	槽總容量為68(M ³)，槽數為2
總污泥量2,915(kg/day)	每槽面積8.5(M ²)採用直徑3.3M
污泥體積2,915(kg/day)	水力面積負荷16(M ³ /M ² •d)
去除BOD的污泥轉換率.7	固體負荷685.9(kg/M ² •d)
體內自行氧化率.05(1/day)	濃縮後的污泥體積為101(CMD)
含水率.97	上澄液體積為35(CMD)
比重1.02	

真 空 過 濾 機 回上一頁(Y/N)?

過濾速度51kg/M ² •s	消石灰加入量302.9kg/hr
鐵鹽加入量60.5kg/hr	固體物加入量757.4kg/hr
餘裕率15%過濾面積25.185M ²	真空過濾機2,900mmD×3,000mmL 1座
脫水機房2M長×8.8M寬	

管 理 樓

管理樓建為3樓17M長×6M寬



附錄一

- 100' 顯示 污水處理廠功能設計及質量平衡計算 並配音樂
- 105' 輸入水量及水質基本資料
- 110 DIM OO(90), PP(90), SP(40), T(40), H(40), M(40), RA(40)
- 115' I=1
- 120 GOSUB 800 '副程式 1
- 150' 抽水井／抽水泵設計
- 160 I=2
- 170 GOSUB 1500 '副程式 2
- 250 欄污柵設計
- 260 I=3
- 270 GOSUB 4000
- 300' 沉砂池設計
- 310 I=4
- 330 GOSUB 5000
- 350' 最初沉澱池設計
- 360 I=5

```

390 GOSUB 6000
400 OPEN "O", #1, "DATA1"
405 M(2)=1
410 PRINT #1, QA, QM, SB1(1), SB2(1), SS1(1), SS2(1), B1
420 PRINT #1, E(2), R(2), H3(2), L(2), W(2), M(2)
430 PRINT #1, QD1, QD2, HP, AN, B2(3), W(3), E(3), VO(3), SP(3), Q(3)
440 PRINT #1, T(4), M(4), L(4), W(4), H(4), B(4), SS1(4), E(4), VO2(4),
    SP(4), VO3(4), VO1(4), Q(4)
450 PRINT #1, T(5), M(5), L(5), W(5), H(5), LO(5), LW(5), DL(5), VO2
    (5), E(5), VO3(5), SP(5), SS2(5), RA2(5), SB2(5), SB1(5),
    SS1(5), VO1(5), Q(5)
455 FOR I=2 TO 5: PRINT #1, CHECK (I): NEXT I
460 CLOSE #1
470 RUN "REPORTB"
480 END
800 ****
801 *** 第一單元 I=1 *** 副程式1-1 ***
802 ****
805 CLS: KEY OFF: LOCATE 1,30: COLOR 0,7: PRINT "輸入基本資料":
    COLOR 7,0
806 QA=10000!: SB1(1)=250: SS1(1)=220: SB2(1)=60: SS2(1)=60: B1=
    1.3: QM=QA*B1
810 LOCATE 2,1
820 PRINT "<1>平均日進流量      CMD      ---"
830 PRINT "<2>倍數 (最大日進流量對平均日) ---"
840 PRINT "<3>進流水      BOD (mg/l) ---"
850 PRINT "<4>進流水      SS(mg/l) ---"
860 PRINT "<5>放流水      BOD(mg/l) ---"
870 PRINT "<6>放流水      SS(mg/l) ---"
880 PRINT "<7>輸入完成"
885 GOTO 150
890 GOSUB 32000
930 E1$="**** 請選擇任一項****"

```

```
940 FOR X=0 TO 250: CS=INKEY$: IF CS=" THEN NEXT ELSE GOTO  
985  
950 LOCATE 22, 20: PRINT SPACES$(18);  
960 FOR X=0 TO 50: CS=INKEY$: IF CS=" THEN NEXT ELSE GOTO  
985  
970 LOCATE 22, 15: PRINT E1$  
980 GOTO 940  
985 C=INSTR ("1234567", CS): IF C=0 THEN 940  
986 ON C GOTO 990, 1010, 1030, 1050, 1070, 1090, 1110  
990 J(1)=1: OO(1)=5: PP(1)=150000!  
995 E2$= "以立方公尺／天 (CMD) 為單位 ": E3$=""  
1000 GOSUB 33000: GOTO 940  
1010 J(1)=2: OO(1)=1 :PP(1)=1.5  
1015 E2$="為計劃平均日進流量"  
1016 E3$="之1.2~1.4倍"  
1020 GOSUB 33000: GOTO 940  
1030 J(1)=3: OO(1)=10: PP(1)=10000  
1035 E2$="污水約180mg/ℓ以上":E3$=""  
1040 GOSUB 33000: GOTO 940  
1050 J(1)=4: OO(1)=10: PP(1)=10000  
1055 E2$="污水約200mg/ℓ以上":E3$=""  
1060 GOSUB 33000: GOTO 940  
1070 J(1)=5: OO(1)=1: PP(1)=200  
1075 E2$="放流水標準<=40mg/ℓ": E3$=""  
1080 GOSUB 33000: GOTO 940  
1090 J(1)=6: OO(1): PP(1)=200  
1095 E2$="放流水標準<=40mg/ℓ":E3$=""  
1100 GOSUB 33000: GO TO 940  
1110 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;" ;  
1120 LOCATE 22,15  
1130 PRINT "資料輸入已完成(Y/N)";  
1135 BEEP: FOR KK=1 TO 300: NEXT: BEEP  
1140 INPUT " ", PAS  
1150 IF PA$="Y" OR PA$="y" THEN 1180  
1160 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;  
1170 GOTO 890  
1180 IF (QA=0 OR B1=0 OR SB1(I)=0 OR SS1(I)=0 OR SB2(I)=0 OR
```

```

SS2(I)=0) THEN 1200
1190 RETURN
1200 LOCATE 22, 15
1210 PRINT "仍未輸入完畢 (按任一鍵)";
1220 IF INKEY$=" " THEN 1220
1230 GOTO 890
1500 ****
1510 *** 第二單元 I=2 *** 副程式 2-1 ***
1520 ****
1530 CLS: LOCATE 1, 24: COLOR 0, 7: PRINT "抽水井／抽污水泵設計":
      COLOR 7,0
1531 GOTO 40000
1535 B2(2)=2: R(2)=3: E(2)=.6: H3(2)=20
1540 LOCATE 2, 1: CHECK(2)=1
1550 PRINT "<1>倍數 (設計流量對平均日)"      - - -
1555 PRINT "<2>抽水井深度    M"                - - -
1560 PRINT "<3>抽污水泵效率"                  - - -
1570 PRINT "<4>抽水機揚程    M"                - - -
1580 PRINT "<5>輸入完成"
1585 'GOTO 1750
1590 GOSUB 32000
1600 E1$="**** 請選擇任一項 ****"
1610 FOR X=0 TO 250: C$=INKEY$: IF C$=" " THEN NEXT ELSE
      GOTO 1660
1620 LOCATE 22, 20: PRINT SPACE$(18);
1630 FOR X=0 TO 50: C$=INKEY$: IF C$=" " THEN NEXT ELSE
      GOTO 1660
1640 LOCATE 22, 15: PRINT E1$
1650 GOTO 1610
1660 C=INSTR ("12345", C$): IF C=0 THEN 1610
1670 ON C GOTO 1680, 1710, 1716, 1750, 1780
1680 J(I)=1: OO(I)=1: PP(I)=3.5
1690 E2$="約1.3~3.0倍": E3$=""
1700 GOSUB 33000: GOTO 1610
1710 J(I)=2: OO(I)=1.5: PP(I)=4.5
1712 E2$="約2~4M": E3$=""
1714 GOSUB 33000: GOTO 1610

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1716 J(I)=3: OO(I)=.3:PP(I)=.9
1720 E2\$=“一般抽水機對抽水量”:E3\$=“之效率為.30~.85”
1730 GOSUB 33000: GOTO 1610
1750 GOSUB 2000 副程式2-2
1760 GOTO 1610
1780 PRINT CHR\$(27); “L0, 285, 399, 381, 0, BF;” ;
1790 LOCATE 22, 15
1800 PRINT “資料 輸入已完成(Y/N);”;
1810 BEEP: FOR KK=1 TO 300: NEXT: BEEP
1820 INPUT “ ”, PAS
1830 IF PAS=“Y” OR PAS=“y” THEN 1860
1840 PRINT CHR\$(27); “L0, 285, 390, 381, 0, BF;” ;
1850 GOTO 1590
1860 IF B2(I)=0 OR R(I)=0 OR E(I)=0 OR H3(I)=0 THEN 1880
1870 GOTO 1920
1880 LOCATE 22, 15
1890 PRINT “仍未輸入完畢 (按任一鍵)”
1900 IF INKEY\$=“ ” THEN 1900
1910 GOTO 1590
1920 GOSUB 3000 副程式2-3
1930 GOSUB 3400 副程式2-4
1940 RETURN
2000 ***** 副程式 2-2 *** 求抽水揚程 *****
2005 PRINT CHR\$(27); “L0, 285, 399, 381, 0, BF;” ;
2010 LOCATE 8, 1
2020 PRINT “<1>採約略值輸入揚程”
2030 PRINT “<2>以計算法求揚程”
2040 INPUT “ ”, CS
2050 IF CS <> “1” AND CS<> “2” THEN 2010
2060 IF CS=“2” THEN 2150
2070 J(I)=4: OO(I)=5: PP(I)=40
2080 E2\$=“揚程一般約為10M左右”: E3\$=“ ”
2090 GOSUB 33000
2100 PRINT CHR\$(27); “L0, 90, 160, 140, 0, BF;” ;
2110 RETURN 1760
2150 LOCATE7, 1
2170 PRINT “<1>實揚程 (已通過欄污柵之水位) - - -”

```

2180 PRINT "<2>吸水口損失係數      - - -"
2190 PRINT "<3>底閥損失係數      - - -"
2200 PRINT "<4>逆止閥損失係數      - - -"
2210 PRINT "<5>彎管損失係數      - - -"
2220 PRINT "<6>閘閥損失係數      - - -"
2230 PRINT "<7>出水口損失係數      - - -"
2240 PRINT "<8>磨擦係數      - - -"
2250 PRINT "<9>吸水口流速 m/s      - - -"
2260 PRINT "<A>輸入完成 (按A)"
2270 GOSUB 32000
2280 E1$="**** 請選擇任一項 ****"
2290 C1=4: FOR X=0 TO 250: C2$=INKEY$: IF C2$="" THEN NEXT
    ELSE GOTO 2340
2295 PRINT CHR$(27); "L1, 85, 395, 379, B;" ;
2300 LOCATE 22, 20: PRINT SPACE$(18);
2310 FOR X=0 TO 50: C2$=INKEY$: IF C2$="" THEN NEXT ELSE
    GOTO 2340
2320 LOCATE 22, 15: PRINT E1$
2330 GOTO 2290
2340 IF C2$="A" OR C2$="a" THEN 2740
2350 C2=INSTR ("123456789", C2$): IF C2=0 THEN 2290
2370 ON C2 GOTO 2380, 2410, 2440, 2470, 2500, 2530, 2560, 2590, 2620
2380 J(I)=1: OO(I)=5: PP(I)=40
2390 E2$="計劃排水位與吸水口": E3$="之水位差, 約10M左右"
2400 GOSUB 33000: GOTO 2290
2410 J(I)=2: OO(I)=.03: PP(I)=1
2420 E2$="圓滑0.06以下": E3$="流入角度越大則從 0.5~1.0"
2430 GOSUB 33000: GOTO 2290
2440 J(I)=3: OO(I)=1: PP(I)=2.5
2450 E2$="F=1.5~2.0": E3$=""
2460 GOSUB 33000: GOTO 2290
2470 J(I)=4: OO(I)=.5: PP(I)=1.5
2480 E2$="F=0.6~1.2": E3$=""
2490 GOSUB 33000: GOTO 2290
2500 J(I)=5: OO(I)=.15: PP(I)=.25
2510 E2$="90度F=.25依等差可求": E3$="45度F=.175一角之F"
2520 GOSUB 33000: GOTO 2290

```

```
2530 J(I)=6: OO(I)=.6: PP(I)=350
2540 E2$="須查表若開口度.89 F=0.6": E3$=" 開口度.81 F=1.13"
2550 GOSUB 33000: GOTO 2290
2560 J(I)=7: OO(I)=.2: PP(I)=1.2
2570 E2$="須查表若為急擴大F=1": E3$=" "
2580 GOSUB 33000: GOTO 2290
2590 J(I)=8: OO(I)=.02: PP(I)=.05
2600 E2$="F=0.02+1/(2000*D)": E3$="此為新鑄鐵管"
2610 GOSUB 33000: GOTO 2290
2620 J(I)=9: OO(I)=1.1: PP(I)=3.4
2630 E2$="吸水口流速約1.5~3.0"
2640 E3$="
2650 GOSUB 33000: GOTO 2290
2740 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;"; ;
2745 C1=0
2750 LOCATE 22, 15: PRINT "資料輸入已完成(Y/N)";
2755 BEEP: FOR KK=1 TO 300: NEXT: BEEP
2760 INPUT " ", PA$
2765 IF PA$="Y" OR PA$="y" THEN 2800
2770 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;"; ;
2775 GOTO 2290
2800 IF H1(I)=0 OR F1(I)=0 OR F2(I)=0 OR F3(I)=0 OR F4(I)=0
    OR F5(I)=0 OR F6(I)=0 OR F7(I)=0 OR VE=0 THEN 2830
2810 GOTO 2900
2830 LOCATE 22, 15
2840 PRINT "仍未輸入完畢(按任一鍵)";
2850 IF INKEY$=" " THEN 2850
2860 GOTO 2270
2900 H2(I)=CINT(F1(I)+F2(I)+F3(I)+F4(I)+F5(I)+F6(I)+F7(I))*VE*
    VE/19.6
2910 H3(I)=H1(I)+H2(I)
2915 H3(I)=INT(H3(I)*10)/10
2920 LOCATE 17, 25
2930 PRINT "抽水揚程"; H3(I); "M"
2935 LOCATE 4, 40
2940 PRINT H3(I)
2945 PRINT CHR$(27); "L1, 85, 395,379, 0, BF;"; ;
```

```

2950 RETURN
3000 ***** 副程式 2-3 *** 將結果算出 *****
3010 B=.03 為污泥濃縮槽上澄液與脫水過濾水的和對平均日之倍數
3020 QD1=QA*(1+B)
3030 QD2=QA*B2(I)
3040 HP=INT(10*QD2*H3(I)/(6480*E(I)))/10
3050 QD3=QD2/86400!
3055 V(I)=INT(QD2*15/(4*1440)+.5)
3056 W(I)=CINT((V(I)/R(I))^.5)
3057 L(I)=W(I)
3058 PRINT CHR$(27); "L440, 0, 639, 260, 0, BF;" ;
3060 LOCATE 2, 65: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0
3070 IF QD3 >.15 THEN 3100
3080 AN=2
3090 GOTO 3195
3100 IF QD3 >.35 THEN 3130
3110 AN=3
3120 GOTO 3195
3130 IF QD3 >.7 THEN 3160
3140 AN=4
3150 GOTO 3195
3160 IF QD3 >1.5 THEN 3190
3170 AN=5
3180 GOTO 3195
3190 AN=6
3195 LOCATE 3, 51: PRINT "抽水井 1 池"
3196 LOCATE 4, 51: PRINT
3198 LOCATE 5, 51: PRINT "長"; L(I); "M×寬"; W(I); "M×水深"; R(I);
    "M"
3199 LOCATE 6, 51: PRINT
3200 LOCATE 7, 51: PRINT "污水泵設計流量為"; QD2; "CMD"
3210 LOCATE 8, 51: PRINT
3220 LOCATE 9, 51: PRINT "所須馬力數為"; HP; "HP"
3230 LOCATE 10, 51: PRINT
3240 LOCATE 11, 51: PRINT "採用污水泵"; AN; "台"
3250 LOCATE 12, 51: PRINT "其中一台備用"
3260 HP=INT((HP/(AN-1))/10)*10+10

```

```
3270 LOCATE 13, 51: PRINT
3280 LOCATE 14, 51: PRINT "每台"; HP; "HP×"; INT(QD2/(AN-1));
    "CMD×"; H3(I); "M"
3290 RETURN
3400 ***** 副程式 2-4 *** 是否重新設計 *****
3410 LOCATE 16, 51: COLOR 0, 7: PRINT "是否重新設計(Y/N)": COLOR
    7, 0
3420 INPUT " ", C4$
3430 BEEP: FOR KK=1 TO 500: NEXT: BEEP
3440 IF C4$="Y" OR C4$="y" THEN 3460
3450 RETURN
3460 B(I)=0: B2(I)=0: R(I)=0: E(I)=0: H3(I)=0: AN=0: H1(I)=0:
    QD3=0: HP=0: C1=0
3465 LOCATE 16, 51: PRINT "
3470 F2=0: F3=0: F4=0: F5=0: F6=0: F7=0: F8=0
3480 GOTO 1590      到第二單元 (主程式)
4000 ****
4010 *** 第三單元 I=3 *** 副程式 3-1 ***
4020 ****
4030 CLS: LOCATE 1, 24: COLOR 0, 7: PRINT "欄污柵設計": COLOR 7, 0
4031 GOTO 40000
4035 B2(3)=.1: E(3)=.9: SP(3)=1.02
4040 LOCATE 2, 1: CHECK(3)=1
4050 PRINT "<1>每100立方米下水所佔篩渣量%"      - - -
4060 PRINT "<2>柵除物之含水率"      - - -
4070 PRINT "<3>柵除物之比重"      - - -
4080 PRINT "<4>輸入完成"
4085 ' GOTO 4380
4090 GOSUB 32000
4100 E1$="**** 請選擇任一項 ****"
4110 FOR X=0 TO 250: CS=INKEY$: IF CS=" " THEN NEXT ELSE
    GOTO 4160
4120 LOCATE 22, 20: PRINT SPACES$(18);
4130 FOR X=0 TO 50: CS=INKEY$: IF CS=" " THEN NEXT ELSE
    GOTO 4160
4140 LOCATE 22, 15: PRINT E1$
4150 GOTO 4110
```

```

4160 C=INSTR ("1234", CS): IF C=0 THEN 4110
4170 ON C GOTO 4180, 4210, 4240, 4300
4180 J(I)=1: OO(I)=.05: PP(I)=.150001
4190 E2$="約0.05—0.15": E3$=" "
4200 GOSUB 33000: GOTO 4110
4210 J(I)=2: OO(I)=.7: PP(I)=.95
4220 E2$="約0.9左右": E3$=" "
4230 GOSUB 33000: GOTO 4110
4240 J(I)=3: OO(I)=1!: PP(I)=1.05
4250 E2$="約1.02左右": E3$=" "
4260 GOSUB 33000: GOTO 4110
4300 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;" ;
4310 LOCATE 22, 15
4320 PRINT "資料輸入已 完成(Y/N)";
4330 BEEP: FOR KK=1 TO 300: NEXT: BEEP
4340 INPUT " ", PA$
4350 IF PA$="Y" OR PA$="y" THEN 4363
4360 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;
4361 GOTO 4090
4363 IF B2(I)=0 OR E(I)=0 OR SP(I)=0 THEN 4369
4366 GOTO 4410
4369 LOCATE 22, 15
4372 PRINT "仍未輸入完畢 (按任一鍵)"
4375 IF INKEY$=" " THEN 4375
4378 GOTO 4110
4380 GOSUB 4410          副程式 3-2 計算結果
4390 GOSUB 4600          副程式 3-3 是否重新設計
4400 RETURN
4410 ***** 副程式 3-2 ***** 計算出結果並印出*****
4420 W(I)=QA*SS1(1)*B2(I)*.001      kg/day
4430 VO(I)=W(I)*.001/(B2(I)*SP(I))   M3
4440 VO(I)=INT(VO(I)*100+.5)/100    CMD
4450 Q(I)=INT(VO(I)*10+.5)/10
4455 PRINT CHR$(27); "L440, 0 639, 260, 0, BF;" ;
4460 LOCATE 2, 65: COLOR 0, 7: PRINT "設計結果";: COLOR 7, 0
4470 LOCATE 3, 55: PRINT "柵除物"; W(I); "kg/day"
4480 LOCATE 5, 55: PRINT "汙泥體積"; VO(I); "M3/day"

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4490 LOCATE 7, 61: PRINT "約"; Q(I); "CMD"
4600 ' ***** 副程式 3-3 ***** 是否重新設計 *****
4610 LOCATE 12, 55: COLOR 0, 7: PRINT "是否重新設計 (Y/N)": COLOR
7, 0
4620 INPUT " ", C4\$
4630 BEEP: FOR KK=1 TO 500: NEXT: BEEP
4640 IF C4\$="Y" OR C4\$="y" THEN 4680
4650 PRINT CHR\$(27); "L0, 285, 390, 381, 0, BF," ;
4670 GOTO 4400
4680 'B2(I)=0: E(I)=0: SP(I)=0: W(I)=0: VO(I)=0: Q(I)=0
4685 LOCATE 12, 55: PRINT ""
4690 GOTO 4090
5000 ' *****
5010 ' *** 第四單元 I=4 *** 副程式 4-1 ***
5020 ' *****
5030 CLS: LOCATE 1, 30: COLOR 0, 7: PRINT "沉砂池設計": COLOR 7, 0
5031 GOTO 40000
5035 H(4)=2: T(4)=60: B(4)=.1: E(4)=.9899999: SP(4)=1.105: M(4)=6:
RA(4)=3
5040 LOCATE 2, 1: CHECK(4)=1
5050 PRINT "<1>有效水深 (M) - - - 'H(I)
5060 PRINT "<2>停留時間 (秒) - - - 'T(I)
5070 PRINT "<3>每1,000立方米下水所佔沉砂量 - - - 'B(I)
5080 PRINT "<4>沉砂之含水率 - - - 'E(I)
5090 PRINT "<5>沉砂之比重 - - - 'SP(I)
5100 PRINT "<6>池數 - - - 'M(I)
5101 PRINT "<7>長寬比 - - - 'RA(I)
5102 PRINT "<8>輸入完成"
5105 'GOTO 5495
5110 GOSUB 32000
5120 E1\$="**** 請選擇任一項 ****"
5130 FOR X=0 TO 250: CS=INKEY\$: IF CS=" " THEN NEXT ELSE
GOTO 5180
5140 LOCATE 22, 20: PRINT SPACE\$(18);
5150 FOR X=0 TO 50: CS=INKEY\$: IF CS=" " THEN NEXT ELSE
GOTO 5180
5160 LOCATE 22, 15: PRINT E1\$

5170 GOTO 5130
 5180 C=INSTR("12345678", C\$): IF C=0 THEN 5130
 5190 ON C GOTO 5200, 5230, 5260, 5290, 5320, 5335, 5340, 5350
 5200 J(I)=1: OO(I)=1!: PP(I)=2.5
 5210 E2\$="配合流入管渠之有效水深": E3\$="(貯砂槽0.3M以上)"
 5220 GOSUB 33000: GOTO 5130
 5230 J(I)=2: OO(I)=30: PP(I)=60
 5240 E2\$="以30~60秒為準": E3\$=""
 5250 GOSUB 33000: GOTO 5130
 5260 J(I)=3: OO(I)=.005 :PP(I)=.05
 5270 E2\$="約0.005~0.05M": E3\$=""
 5280 GOSUB 33000: GOTO 5130
 5290 J(I)=4: OO(I)=.9: PP(I)=.9950001
 5300 E2\$="約0.99 左右": E3\$=""
 5310 GOSUB 33000: GOTO 5130
 5320 J(I)=5: OO(I)=1.05: PP(I)=1.15
 5330 E2\$="約1.105左右": E3\$=""
 5331 GOSUB 33000: GOTO 5130
 5335 J(I)=6: OO(I)=2: PP(I)=10
 5336 E2\$="二池以上": E3\$=""
 5337 GOSUB 33000: GOTO 5130
 5340 J(I)=7: OO(I)=3: PP(I)=5
 5341 E2\$="約3~5左右": E3\$=""
 5342 GOSUB 33000: GOTO 5130
 5350 PRINT CHR\$(27); "L0, 285, 399, 381, 0, BF;" ;
 5360 LOCATE 22, 15
 5370 PRINT "資料輸入已完成(Y/N)";
 5380 BEEP: FOR KK=1 TO 300: NEXT: BEEP
 5390 INPUT " ", PA\$
 5400 IF PA\$="Y" OR PA\$="y" THEN 5440
 5410 PRINT CHR\$(27); "L0, 285, 390, 381, 0, BF;" ;
 5420 GOTO 5110
 5440 IF H(I)=0 OR T(I)=0 OR E(I)=0 OR SP(I)=0 OR B(I)=0 THEN
 5460
 5450 GOTO 5500
 5460 LOCATE 22, 15
 5470 PRINT "仍未輸入完畢 (按任一鍵)";

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5480 IF INKEY$=" " THEN 5480
5485 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;
5490 GOTO 5110
5495 'GOSUB 5500      '副程式 4-2 計算結果並印出
5496 'GOSUB 5800      '副程式 4-3 是否重新設計
5497 RETURN
5500 ***** 副程式 4-2 ***** 計算出結果並印出 *****
5510 VO1(I)=QM*T(I)/(86400!*M(I))      '每池M3
5520 A(I)=INT(VO1(I)*100/H(I)+.5)/100
5530 W(I)=INT((A(I)/RA(I))*5*10+.9)/10
5540 L(I)=INT(A(I)/W(I)*10)/10
5600 VE(I)=QM/(86400!*W(I)*H(I)*M(I))
5610 IF VE(I) < .5 THEN 5660
5615 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;
5620 LOCATE 22, 4: PRINT "平均流速"; VE(I); "m/s太大，會使砂土再流動"
5630 LOCATE 23, 4: PRINT "重新輸入資料 (按任一鍵)"
5640 IF INKEY$=" " THEN 5640
5645 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;
5650 GOTO 5110
5660 Q(I)=QD1-Q(3)                      'CMD
5665 IF E(3)=0 THEN SS1(I)=QA*SS1(1)/Q(I): GOTO 5680
5670 SS1(I)=QA*SS1(1)*E(3)/Q(I)          'Mg/ℓ
5680 SS1(I)=INT(SS1(I)*10+.5)/10
5690 VO2(I)=Q(I)*SS1(I)*B(I)*.001       'kg/day
5700 VO2(I)=INT(VO2(I)*10+.5)/10
5710 VO3(I)=VO2(I)*.001/((1-E(I))*SP(I))
5720 VO3(I)=CINT(VO3(I))
5725 PRINT CHR$(27); "L400, 0, 639, 260, 0, BF;" ;
5730 LOCATE 1, 65: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0
5740 LOCATE 2, 50: PRINT "採用"; M(I); "池"
5750 LOCATE 3, 50: PRINT "長"; L(I); "M×寬"; W(I); "M×水深"; H(I);
      "M"
5760 LOCATE 5, 50: PRINT "進流水 SS="; SS1(I); "mg/ℓ"
5770 LOCATE 6, 50: PRINT "污泥量="; VO2(I); "kg/day"
5780 LOCATE 7, 50: PRINT "污泥體積="; VO3(I); "CMD"
5790 RETURN
5800 ' ***** 副程式 4-3 ***** 是否重新設計 *****

```

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5810 LOCATE 9, 55: COLOR 0, 7: PRINT "是否重新設計(Y/N)": COLOR
    7, 0
5815 INPUT " ", C4$
5820 BEEP: FOR KK=1 TO 500: NEXT: BEEP
5830 IF C4$="Y" OR C4$="y" THEN 5860
5840 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;
5850 GOTO 5497
5860 'H(I)=0: T(I)=0: E(I)=0: SP(I)=0: B(I)=0
5865 LOCATE 8, 55: PRINT " "
5870 GOTO 5110
6000 *****
6010 *** 第五單元 I=5 *** 副程式 5-1 ***
6020 *****
6030 CLS: LOCATE 1, 30: COLOR 0, 7: PRINT "初沉池設計": COLOR 7, 0
6031 GOTO 40000
6035 T(5)=2: H(5)=4: RA1(5)=3: M(5)=8: LO(5)=250: DL(5)=.4:
    E(5)=.985: SP(5)=1.017: RA2(5)=.7
6040 LOCATE 2, 1: CHECK(5)=1
6050 PRINT "<1>停留時間 (小時)"      "T(I)"
6060 PRINT "<2>有效水深 (M)"        "H(I)"
6070 PRINT "<3>長寬比"              "RA1(I)"
6080 PRINT "<4>池數"                "M(I)"
6090 PRINT "<5>溢流堰負荷率M3/m·d" "LO(I)"
6100 PRINT "<6>SS去除率"            "DL(I)"
6110 PRINT "<7>生污泥之含水率"      "E(I)"
6120 PRINT "<8>生污泥之比量"        "SP(I)"
6130 PRINT "<9>VSS佔污泥量"        "RA2(I)"
6140 PRINT "<A>輸入完成 (按A)"
6145 GOTO 6670
6150 GOSUB 32000
6160 E1$="**** 請選擇任一項 ****"
6170 FOR X=0 TO 250: C$=INKEY$: IF C$=" " THEN NEXT ELSE
    GOTO 6220
6180 LOCATE 22, 20: PRINT SPACES$(18);
6190 FOR X=0 TO 50: C$=INKEY$: IF C$=" " THEN NEXT ELSE
    GOTO 6220
6200 LOCATE 22, 15: PRINT E1$

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6210 GOTO 6170
6220 IF C\$="A" OR C\$="a" THEN 6530
6230 C=INSTR("123456789", CS): IF C=0 THEN 6170
6240 ON C GOTO 6250, 6280, 6310, 6340, 6370, 6400, 6430, 6460, 6490
6250 J(I)=1: OO(I)=1.5: PP(I)=3
6260 E2\$="沉澱法3hr以上 : 滴濾法": E3\$="2hr : 活性污泥法1.5hr"
6270 GOSUB 33000: GOTO 6150
6280 J(I)=2: OO(I)=2.5: PP(I)=4
6290 E2\$="設施標準爲2.5~4M": E3\$=""
6300 GOSUB 33000: GOTO 6150
6310 J(I)=3: OO(I)=3: PP(I)=5
6320 E2\$="設施標準爲3~5": E3\$=""
6330 GOSUB 33000: GOTO 6150
6340 J(I)=4: OO(I)=2: PP(I)=10
6350 E2\$="採用二池以上較適": E3\$=""
6360 GOSUB 33000: GOTO 6150
6370 J(I)=5: OO(I)=190: PP(I)=250
6380 E2\$="未受密度流爲250": E3\$="有向上流者190"
6390 GOSUB 33000: GOTO 6150
6400 J(I)=6: OO(I)=.25: PP(I)=.4
6410 E2\$="約0.25~0.4": E3\$=""
6420 GOSUB 33000: GOTO 6150
6430 J(I)=7: OO(I)=.94: PP(I)=.999999
6440 E2\$="約0.94~0.99": E3\$=""
6450 GOSUB 33000: GOTO 6150
6460 J(I)=8: OO(I)=1.02: PP(I)=1.070001
6470 E2\$="約1.02~1.07": E3\$=""
6480 GOSUB 33000: GOTO 6150
6490 J(I)=9: OO(I)=.5: PP(I)=.8
6500 E2\$="迴流污泥 ; 含砂量高": E3\$="工業廢水0.7以下"
6510 GOSUB 33000: GOTO 6150
6530 PRINT CHR\$(27); "L0, 285, 399, 381, 0, BF;" ;
6540 LOCATE 22, 15
6550 PRINT "資料輸入已完成 (Y/N)";
6560 BEEP: FOR KK=1 TO 300: NEXT: BEEP
6570 INPUT " ", PAS
6580 IF PAS\$="Y" OR PAS\$="y" THEN 6610

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6590 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;
6600 GOTO 6150
6610 IF T(I)=0 OR H(I)=0 OR LO(I)=0 OR RA1(I)=0 OR M(I)=0
    THEN 6630
6615 IF DL(I)=0 OR E(I)=0 OR SP(I)=0 OR RA2(I)=0 THEN 6630
6620 GOTO 6700
6630 LOCATE 22, 15
6640 PRINT "仍未 輸入完畢 (按任一鍵)";
6650 IF INKEY$=" " THEN 6650
6660 GOTO 6150
6670 'GOSUB 6700      '副程式 5-2 計算結果並印出
6680 'GOSUB 7000      '副程式 5-3 是否重新設計
6690 RETURN
6700 ' ***** 副程式 5-2 ***** 計算出結果並印出 *****
6710 VO1(I)=(Q(4)-VO3(4))*T(I)/24
6715 Q(I)=Q(4)-VO3(4)
6720 A1(I)=CINT(VO1(I)/(M(I)*H(I)))
6730 W(I)=CINT((A1(I)/RA1(I))5
6740 L(I)=CINT(A1(I)/W(I))
6750 LO1(I)=(Q(4)-VO3(4))/(M(I)*A1(I))
6760 IF LO1(I)<=50 AND LO1(I) >=25 THEN 6800
6770 LOCATE 22, 1: PRINT "表面負荷"; LO1(I); "CMD/m2":
    PRINT "與設施25~50不合，重新設計 (按任一鍵)";
6780 IF INKEY$=" " THEN 6780
6785 PRINT CHR$(27); "L0, 280, 639, 381, 0, BF;" ;
6790 GOTO 6150
6800 LW(I)=(Q(4)-VO3(4))/(M(I)*LO(I))
6810 LW(I)=CINT(10*LW(I)/(2*5))/10      '5 個集水支槽長度
6820 VO2(I)=INT(((Q(4)-VO3(4))*SS1(4)*DL(I)*.001)*10+.5)/10
6830 VO3(I)=CINT(VO2(I)*.001/((1-E(I))*SP(I)))
6840 SB1(I)=CINT(SB1(1)*QA/((Q(4)-VO3(4))-VO3(I)))
6850 SS2(I)=CINT(SS1(4)*(1-DL(I)))
6860 SB2(I)=CINT(SB1(I)-RA2(I)*(SS1(4)-SS2(I)))
6865 PRINT CHR$(27); "L400, 0, 639, 260, 0, BF;" ;
6870 LOCATE 2, 61: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0
6880 LOCATE 4, 50: PRINT "每池面積"; A1(I); "m2"
6890 LOCATE 5, 50: PRINT "長"; L(J); "M×寬"; W(I); "M×水深"; H(I);

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“M”

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6900 LOCATE 7, 50: PRINT "5 個集水支槽，每個長度"; LW(I); "M"
6910 LOCATE 9, 50: PRINT "污泥量"; VO2(I); "kg/day"
6920 LOCATE 10, 50: PRINT "污泥體積"; VO3(I); "CMD"
6930 LOCATE 12, 50: PRINT "出水SS"; SS2(I); "mg/l"
6940 LOCATE 13, 50: PRINT "出水BOD"; SB2(I); "mg/l"
6950 'RETURN 6680
7000 ' ***** 副程式 5-3 ***** 是否重新設計 *****
7010 LOCATE 15, 55: COLOR 0, 7: PRINT "是否重新設計(Y/N)";: COLOR
    7, 0
7015 INPUT " ", C4$
7020 BEEP: FOR KK=1 TO 500: NEXT: BEEP
7030 IF C4$="Y" OR C4$="y" THEN 7060
7040 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;" ;
7050 GOTO 6690
7060 'T(I)=0: H(I)=0: LO(I)=0: RA1(I)=0: M(I)=0:
    DL(I)=0: E(I)=0: SP(I)=0: RA2(I)=0
7065 LOCATE 10, 55: PRINT " "
7070 GOTO 6150
30000 ***** 測試輸入資料是否正確 *****
30010 IF PP1=0 THEN 30120
30020 IF (PP1>=OO(I) AND PP1<=PP(I)) THEN 30180
30030 BEEP
30040 LOCATE 21, 27
30050 PRINT "與設施標準差太多"
30055 LOCATE 22, 30
30056 PRINT "或資料太離譜"
30060 LOCATE 23, 27
30070 PRINT "是否重新輸入(Y/N)";
30080 INPUT " ", PA$
30090 PRINT CHR$(27); "L0, 310, 399, 381, 0, BF;" ;
30100 IF PA$="N" OR PA$="n" THEN 30180
30110 GOTO 33000
30120 LOCATE 23, 32
30130 PRINT "資料錯誤，重新輸入";
30140 PLAY "MFML03CC"
30150 PLAY "MFML02CC"
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30155 PRINT "      ";
30170 GOTO 33000
30180 PRINT CHR$(27); "L0, 300, 399, 381, 0, BF;" ;
30190 RETURN
32000 ' ***** 資料輸入的方法說明 *****
32010 LOCATE 19, 64
32020 COLOR 0, 7
32030 PRINT "輸入的步驟說明"
32040 COLOR 7, 0
32050 LOCATE 21, 51
32060 PRINT "<A>按想輸入資料的阿拉伯號碼"
32070 LOCATE 22, 51
32080 PRINT "<B>輸入資料"
32090 LOCATE 23, 51
32100 PRINT "<C>若想重新更改資料"
32110 LOCATE 24, 51
32120 PRINT "再按該阿拉伯號碼";
32130 LOCATE 1, 1
32140 PRINT CHR$(27); "L400, 268, 639, 381, B;" ;
32150 LOCATE 1, 1
32160 RETURN
33000 ' ***** 副程式 ***** 接受輸入資料並顯示出 *****
33010 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;" ;
33015 LOCATE 20, 1: PRINT E2$
33016 LOCATE 21. 1: PRINT E3$
33017 K=0
33020 LOCATE 23, 1
33030 PRINT "輸入<\"";
33040 FOR K=1 TO 9
33050 IF J(I)<>K THEN NEXT
33060 COLOR 0, 7: PRINT K;: COLOR 7, 0
33070 PRINT ">的資料";
33080 ON I GOTO 33090, 33300, 33800, 34000, 34200, 34600, 35800, 36200
33090 ON K GOTO 33100, 33120, 33140, 33160, 33180, 33200
33100 INPUT " ", QA$: PP1=VAL(QA$): GOSUB 30000
33105 LOCATE 2, 40: PRINT ""
33110 QA=PP1: LOCATE 2, 40: PRINT QA: GOTO 33220

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```
33120 INPUT " ", B1$: PP1=VAL(B1$): GOSUB 30000
33125 LOCATE 3, 40: PRINT " "
33126 QM=QA*PP1
33130 B1=PP1: LOCATE 3, 40: PRINT B1: GOTO 33220
33140 INPUT " ", SB1$(I): PP1=VAL(SB1$(I)): GOSUB 30000
33145 LOCATE 4, 40: PRINT " "
33150 SB1(I)=PP1: LOCATE 4, 40: PRINT SB1(I): GOTO 33220
33160 INPUT " ", SS1$(I): PP1=VAL(SS1$(I)): GOSUB 30000
33165 LOCATE 5, 40: PRINT " "
33170 SS1(I)=PP1: LOCATE 5, 40: PRINT SS1(I): GOTO 33220
33180 INPUT " ", SB2$(I): PP1=VAL (SB2$(I)): GOSUB 3000
33185 LOCATE 6, 40: PRINT " "
33190 SB2(I)=PP1: LOCATE 6, 40: PRINT SB2(I): GOTO 33220
33200 INPUT " ", SS2$(I): PP1=VAL (SS2$(I)): GOSUB 30000
33205 LOCATE 7, 40: PRINT " "
33210 SS2(I)=PP1: LOCATE 7, 40: PRINT SS2(I): GOTO 33220
33220 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;" ;
33225 GOSUB 32000
33230 RETURN
33240 ' ***** I=1 *****
33300 IF C1=3 THEN 33410
33310 ON K GOTO 33320, 33342, 33350, 33380
33320 INPUT " ", B2$(I): PP1=VAL(B2$(I)): GOSUB 30000
33330 LOCATE 2, 40: PRINT " "
33340 B2(I)=PP1: LOCATE 2, 40: PRINT B2(I): GOTO 33740
33342 INPUT " ", R$(I): PP1=VAL(R$(I)): GOSUB 30000
33344 LOCATE 3, 40: PRINT " "
33346 R(I)=PP1: LOCATE 3, 40: PRINT R(I): GOTO 33740
33350 INPUT " ", E$(I): PP1=VAL(E$(I)): GOSUB 30000
33360 LOCATE 4, 40: PRINT " "
33370 E(I)=PP1: LOCATE 4, 40: PRINT E(I): GOTO 33740
33380 INPUT " ", H3$(I): PP1=VAL(H3$(I)): GOSUB 30000
33390 LOCATE 5, 40: PRINT " "
33400 H3(I)=PP1: LOCATE 5, 40: PRINT H3(I): GOTO 33740
33410 ON K GOTO 33420, 33450, 33480, 33510, 33540, 33570, 33600, 33630, 33680
33420 INPUT " ", H1$(I): PP1=VAL(H1$(I)): GOSUB 30000
33430 LOCATE 7, 40: PRINT " "
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33440 H1(I)=PP1: LOCATE 7, 40: PRINT H1(I): GOTO 33740
33450 INPUT " ", F1$(I): PP1=VAL(F1$(I)): GOSUB 30000
33460 LOCATE 8, 30: PRINT " "
33470 F1(I)=PP1: LOCATE 8, 30: PRINT F1(I): GOTO 33740
33480 INPUT " ", F2$(I): PP1=VAL(F2$(I)): GOSUB 30000
33490 LOCATE 9, 30: PRINT " "
33500 F2(I)=PP1: LOCATE 9, 30: PRINT F2(I): GOTO 33740
33510 INPUT " ", F3$(I): PP1=VAL(F3*(I)): GOSUB 30000
33520 LOCATE 10, 30: PRINT " "
33530 F3(I)=PP1: LOCATE 10, 30: PRINT F3(I): GOTO 33740
33540 INPUT " ", F4$(I): PP1=VAL(F4$(I)): GOSUB 30000
33550 LOCATE 11, 30: PRINT " "
33560 F4(I)=PP1: LOCATE 11, 30: PRINT F4(I): GOTO 33740
33570 INPUT " ", F5$(I): PP1=VAL(F5$(I)): GOSUB 30000
33580 LOCATE 12, 30: PRINT " "
33590 F5(I)=PP1: LOCATE 12, 30: PRINT F5(I): GOTO 33740
33600 INPUT " ", F6$(I): PP1=VAL(F6$(I)): GOSUB 30000
33610 LOCATE 13, 30: PRINT " "
33620 F6(I)=PP1: LOCATE 13, 30: PRINT F6(I): GOTO 33740
33630 INPUT " ", F7$(I): PP1=VAL(F7$(I)): GOSUB 30000
33640 LOCATE 14, 30: PRINT " "
33650 F7(I)=PP1: LOCATE 14, 30: PRINT F7(I): GOTO 33740
33680 INPUT " ", VE$: PP1=VAL(VES$): GOSUB 30000
33690 LOCATE 15, 30: PRINT " "
33700 VE=PP1: LOCATE 15, 30: PRINT VE: GOTO 33740
33740 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;" ;
33750 C1=0: GOSUB 32000
33760 RETURN
33770 ' ***** I=2 *****
33800 ON K GOTO 33810, 33840, 33870
33810 INPUT " ", B2$(I): PP1= VAL(B2$(I)): GOSUB 30000
33820 LOCATE 2, 40: PRINT " "
33830 B2(I)=PP1: LOCATE 2, 40: PRINT B2(I): GOTO 33900
33840 INPUT " ", E$(I): PP1=VAL(E$(I)): GOSUB 30000
33850 LOCATE 3, 40: PRINT " "
33860 E(I)=PP1: LOCATE 3, 40: PRINT E(I): GOTO 33900
33870 INPUT " ", SP$(I): PP1=VAL(SP$(I)): GOSUB 30000

```

```
33880 LOCATE 4, 40: PRINT "          "
33890 SP(I)=PP1: LOCATE 4, 40: PRINT SP(I)
33900 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;" ;
33910 GOSUB 32000
33920 RETURN
33930 ' ***** I=3 *****
34000 ON K GOTO 34010, 34040, 34070, 34100, 34130, 34152, 34156
34010 INPUT " ", H$(I): PP1=VAL(H$(I)): GOSUB 30000
34020 LOCATE 2, 40: PRINT "          "
34030 H(I)=PP1: LOCATE 2, 40: PRINT H(I): GOTO 34160
34040 INPUT " ", T$(I): PP1=VAL(T$(I)): GOSUB 30000
34050 LOCATE 3, 40: PRINT "          "
34060 T(I)=PP1: LOCATE 3, 40: PRINT T(I): GOTO 34160
34070 INPUT " ", B$(I): PP1=VAL(B$(I)): GOSUB 30000
34080 LOCATE 4, 40: PRINT "          "
34090 B(I)=PP1: LOCATE 4, 40: PRINT B(I): GOTO 34160
34100 INPUT " ", E$(I): PP1=VAL(E$(I)): GOSUB 30000
34110 LOCATE 5, 40: PRINT "          "
34120 E(I)=PP1: LOCATE 5, 40: PRINT E(I): GOTO 34160
34130 INPUT " ", SP$(I): PP1=VAL(SP$(I)): GOSUB 30000
34140 LOCATE 6, 40: PRINT "          "
34150 SP(I)=PP1: LOCATE 6, 40: PRINT SP(I): GOTO 34160
34152 INPUT " ", MS(I): PP1=VAL(MS(I)): GOSUB 30000
34153 LOCATE 7, 40: PRINT "          "
34154 M(I)=PP1: LOCATE 7, 40: PRINT M(I): GOTO 34160
34156 INPUT " ", RAS(I): PP1=VAL(RAS(I)): GOSUB 30000
34157 LOCATE 8, 40: PRINT "          "
34158 RA(I)=PP1: LOCATE 8, 40: PRINT RA(I)
34160 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;" ;
34170 GOSUB 32000
34180 RETURN
34190 ' ***** I=4 *****
34200 ON K GOTO 34210, 34240, 34270, 34300, 34330, 34360, 34390, 34420, 34450
34210 INPUT " ", T$(I): PP1=VAL(T$(I)): GOSUB 30000
34220 LOCATE 2, 40: PRINT "          "
34230 T(I)=PP1: LOCATE 2, 40: PRINT T(I): GOTO 34480
34240 INPUT " ", H$(I): PP1=VAL(H$(I)): GOSUB 30000
```

```

34250 LOCATE 3, 40: PRINT " "
34260 H(I)=PP1: LOCATE 3, 40: PRINT H(I): GOTO 34160XXX
34270 INPUT " ", RA1$(I): PP1=VAL(RA1$(I)): GOSUB 30000
34280 LOCATE 4, 40: PRINT " "
34290 RA1(I)=PP1: LOCATE 4, 40: PRINT RA1(I): GOTO 34480
34300 INPUT " ", M$(I): PP1=VAL(M$(I)): GOSUB 30000
34310 LOCATE 5, 40: PRINT " "
34320 M(I)=PP1: LOCATE 5, 40: PRINT M(I): GOTO 34480
34330 INPUT " ", LO$(I): PP1=VAL(LO$(I)): GOSUB 30000
34340 LOCATE 6, 40: PRINT " "
34350 LO(I)=PP1: LOCATE 6, 40: PRINT LO(I): GOTO 34480
34360 INPUT " ", DL$(I): PP1=VAL(DL$(I)): GOSUB 30000
34370 LOCATE 7, 40: PRINT " "
34380 DL(I)=PP1: LOCATE 7, 40: PRINT DL(I): GOTO 34480
34390 INPUT " ", E$(I): PP1=VAL(E$(I)): GOSUB 30000
34400 LOCATE 8, 40: PRINT " "
34410 E(I)=PP1: LOCATE 8, 40: PRINT E(I): GOTO 34480
34420 INPUT " ", SP$(I): PP1=VAL(SP$(I)): GOSUB 30000
34430 LOCATE 9, 40: PRINT " "
34440 SP(I)=PP1: LOCATE 9, 40: PRINT SP(I): GOTO 34480
34450 INPUT " ", RA2$(I): PP1=VAL(RA2$(I)): GOSUB 30000
34460 LOCATE 10, 40: PRINT " "
34470 RA2(I)=PP1: LOCATE 10, 40: PRINT RA2(I): GOTO 34480
34480 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF," ;
34490 GOSUB 32000
34500 RETURN
34510 ' ***** I=5 *****
40000 LOCATE 2, 2: PRINT "<1>設計省略"
40010 LOCATE 3,2: PRINT "<2>設計";: INPUT " ", CCS
40020 IF CCS<>"1" AND CCS <>"2" THEN 40000
40030 IF CCS="1" THEN 40050
40040 ON I GOTO 100, 1535, 4035, 5035, 6035, 8035, 12535, 14035
40050 LOCATE 4, 2: BEEP: PRINT "Are you sure? (Y/N)";: INPUT " ",
   CDS
40051 IF CDS<>"Y" AND CDS <>"N" AND CDS <>"y" AND CDS
   <>"n" THEN 40050
40052 IF CDS="N" OR CDS="n" THEN LOCATE 4, 2: PRINT"

```

```
: GOTO 40000
40055 ON I GOTO 40060, 40070, 40090, 40110, 40130
40070 QD1=QA*1.03: CHECK(2)=0
40080 GOTO 1940
40090 Q(3)=0: CHECK(3)=0
40100 GOTO 4400
40110 Q(4)=QD1-Q(3): VO3(4)=0: CHECK(4)=0: IF E(3)=0 THEN
    SS1(4)=CINT(QA*SS1(1)/Q(4)) ELSE SS1(4)=CINT(QA*SS1(1)*
    E(3)/Q(4))
40120 GOTO 5497
40130 Q(5)=Q(4)-VO3(4): VO3(5)=0: SS2(5)=SS1(4): VO2(5)=0:
    CHECK(5)=0: SB1(5)=CINT(SB1(1)*QA/(Q(4)-VO3(4))):
    SB2(5)=SB1(5)
40140 GOTO 6690
```

```
100 OPEN "I", #1, "DATA1"
110 INPUT #1, QA, QM, SB1(1), SB2(1), SS1(1), SS2(1), B1
120 INPUT #1, E(2), R(2), H3(2), L(2), W(2), M(2)
130 INPUT #1, QD1, QD2, HP, AN, B2(3), W(3), E(3), VO(3), SP(3), Q(3)
140 INPUT #1, T(4), M(4), L(4), W(4), H(4), B(4), SS1(4), E(4), VO2(4),
    SP(4), VO3(4), VO1(4), Q(4)
150 INPUT #1, T(5), M(5), L(5), W(5), H(5), LO(5), LW(5), DL(5), VO2
    (5), E(5), VO3(5), SP(5), SS2(5), RA2(5), SB2(5), SB1(5),
    SS1(5), VO1(5), Q(5)
155 FOR I=2 TO 5: INPUT #1, CHECK(I): NEXT I
160 CLOSE #1
400 '      二級處理
410 I=6
420 GOSUB 8000
450 '      最終沉澱池設計
460 I=7
470 GOSUB 12500
500 '      污泥處理
510 I=8
520 GOSUB 14000
550 '      脫水設備
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560 I=9
570 GOSUB 16000
580 ' 印出全部結果
590 GOTO 18000
600 ' 平面設計圖
605 OPEN "O", #1, "DATA"
610 FOR I=1 TO 9
615 PRINT #1, L(I), W(I), M(I), D(I), D1(I), D2(I)
620 NEXT I
625 PRINT #1, LW(5), LW1(7), L(9), W(9), L10, W10, M1(6), M2(6), C2
626 FOR I=2 TO 9: PRINT #1, CHECK(I): NEXT I
630 CLOSE #1
635 RUN "REPORTC"
650 END
8000 ' ****
8010 ' *** 第六單元 I=6 *** 副程式 6-1 ***
8020 ' ****
8030 CLS: LOCATE 1, 30: COLOR 0, 7: PRINT "二級處理設計": COLOR 7, 0
8031 GOTO 40000
8035 'C2=3: GOTO 8190: 'C2=2: GOTO 8180: 'C2=1 GOTO 8170
8040 LOCATE 2, 1: CHECK(6)=1
8050 PRINT "<1>活性污泥法"      - - -
8060 PRINT "<2>旋轉生物圓盤法"    - - -
8070 PRINT "<3>標準滴濾法"        - - -
8080 GOSUB 32000
8090 E1$="**** 請選擇任一項 ****"
8100 FOR X=0 TO 250: C$=INKEY$: IF C$=" " THEN NEXT ELSE
     GOTO 8150
8110 LOCATE 22, 20: PRINT SPACE$(18);
8120 FOR X=0 TO 50: C$=INKEY$: IF C$=" " THEN NEXT ELSE
     GOTO 8150
8130 LOCATE 22, 15: PRINT E1$
8140 GOTO 8100
8150 C=INSTR("123", C$): IF C=0 THEN 8100
8160 ON C GOTO 8200, 10000, 11200
8170 'C2=1: GOSUB 8200      '副程式 6-1 活性污泥
8175 'GOTO 8195

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8180 'C2=2: GOSUB 10000      '副程式 6-2 旋轉生物圓盤法
8185 'GOTO 8195
8190 'C2=3: GOSUB 11200      '副程式 6-3 標準滴濾法
8195 RETURN
8200 ' ***** 副程式 6-1-A *** 活性污泥法 *****
8205 C2=1
8210 PRINT CHR$(27); "L0, 15, 320, 120, 0, BF;" ;
8215 RA1(6)=.25: RISS(6)=10000: LO1(6)=.32: LO2(6)=.8: H(6)=3:
     RA2(6)=1.6: DOB(6)=.5: DOS(6)=.1: AB(6)=.1: M(6)=4
8220 LOCATE 2, 1
8230 COLOR 0, 7: PRINT "活";: COLOR 7, 0
8235 PRINT "<1>迴流污泥比 ---" 'RA1(I)
8240 COLOR 0, 7: PRINT "性";: COLOR 7, 0
8245 PRINT "<2>迴流污泥濃度 ---" 'RISS(I)
8250 COLOR 0, 7: PRINT "污";: COLOR 7, 0
8255 PRINT "<3>BOD 污泥負荷 ---" 'LO1(I)
8260 COLOR 0, 7: PRINT "泥";: COLOR 7, 0
8265 PRINT "<4>BOD 容積負荷 ---" 'LO2(I)
8270 COLOR 0, 7: PRINT "法";: COLOR 7, 0
8275 PRINT "<5>有效水深---" 'H(I)
8280 LOCATE 7, 6: PRINT "<6>採用池數      ---" 'M(I)
8285 LOCATE 8, 6: PRINT "<7>長寬比 ---" 'RA2(I)
8290 LOCATE 9, 6: PRINT "<8>輸入完成
8295 'GOTO 8710
8300 GOSUB 32000
8310 E1$="**** 請選擇任一項 ****"
8320 FOR X=0 TO 250: C$=INKEY$: IF C$="" THEN NEXT ELSE
     GOTO 8370
8330 LOCATE 22, 20: PRINT SPACE$(18);
8340 FOR X=0 TO 50: CS=INKEY$: IF CS="" THEN NEXT ELSE
     GOTO 8370
8350 LOCATE 22, 15: PRINT E1$
8360 GOTO 8320
8370 C=INSTR ("12345678", C$): IF C=0 THEN 8320
8380 ON C GOTO 8390, 8420, 8450, 8480, 8510, 8540, 8562, 8570
8390 J(I)=1: OO(I)=.2: PP(I)=1.5
8400 E2$="標準式0.2—0.3, 階梯式0.2—0.3": E3$="修正式0.05—0.1, 快速式
```

0.5~1.5”

8410 GOSUB 33000: GOTO 8300

8420 J(I)=2: OO(I)=9000: PP(I)=11000

8430 E2\$=“處理適當者，約10,000mg/ℓ”: E3\$=“ ”

8440 GOSUB 33000: GOTO 8300

8450 J(I)=3: OO(I)=.2: PP(I)=.4

8460 E2\$=“依污水廠操作經驗”: E3\$=“爲0.2—0.4”

8470 GOSUB 33000: GOTO 8300

8480 J(I)=4: OO(I)=.5: PP(I)=1

8490 E2\$=“一般爲0.5—1”: E3\$=“ ”

8500 GOSUB 33000: GOTO 8300

8510 J(I)=5: OO(I)=3: PP(I)=5

8520 E2\$=“設施標準爲3—5”: E3\$=“ ”

8530 GOSUB 33000: GOTO 8300

8540 J(I)=6: OO(I)=2: PP(I)=10

8550 E2\$=“採用二池以上較適”: E3\$=“ ”

8560 GOSUB 33000: GOTO 8300

8562 J(I)=7: OO(I)=3: PP(I)=5

8563 E2\$=“約3—5”: E3\$=“ ”

8564 GOSUB 33000: GOTO 8300

8570 PRINT CHR\$(27); “L0, 285, 399, 381, 0, BF;” ;

8580 LOCATE 22, 15

8590 PRINT “資料輸入已完成(Y/N)”;

8600 BEEP: FOR KK=1 TO 300: NEXT: BEEP

8610 INPUT “ ”, PA\$

8620 IF PA\$=“Y” OR PA\$=“y” THEN 8650

8630 PRINT CHR\$(27); “L0, 285, 390, 381, 0, BF;” ;

8640 GOTO 8300

8650 IF RA1(I)=0 OR RA2(I)=0 OR RISS(I)=0 OR LO1(I)=0 OR
LO2(I)=0 OR H(I)=0 OR M(I)=0 THEN 8670

8655 PRINT CHR\$(27); “L0, 135, 390, 381, 0, BF;” ;

8660 GOTO 8800

8670 LOCATE 22, 15

8680 PRINT “仍未輸入完畢（按任一鍵）”;

8690 IF INKEYS=“ ” THEN 8690

8700 GOTO 8300

8710 ’GOSUB 8800 '副程式 6-1-B 計算結果並印出

8720 'GOSUB 9150 '副程式 6-2-C 需氧量設計
8730 'GOSUB 9650 '副程式 6-3-D 是否重新設計
8740 RETURN
8800 ***** 副程式 6-1-B ***** 計算出結果並印出 *****
8810 Q1(I)=Q(5)-VO3(5)
8820 Q2(I)=INT(Q1(I)*(1+RA1(I)))
8825 Q(I)=Q1(I)
8830 SS1(I)=CINT((Q1(I)*SS2(5)+Q1(I)*RA1(I)*RISS(I))/Q2(I))
8840 SB1(I)=INT(Q1(I)*SB2(5)*.001)
8850 DL(I)=INT((SB2(5)-SB2(1))/SB2(5)*100)/100
8860 IF DL(I) >=.8 THEN 8910
8870 LOCATE 22, 5: PRINT "BOD 去除率"; DL(I); "不合本法"
8880 LOCATE 23, 5: PRINT "重新輸入資料(Y/N)";: INPUT " ", CS
8890 IF CS="N" OR CS="n" THEN 8910
8897 PRINT CHR\$(27); "L0, 300, 420, 381, 0, BF;" ;
8900 GOTO 8300
8910 PRINT CHR\$(27); "L0, 300, 420, 381, 0, BF;" ;
8915 T(I)=24*(SB2(5)-SB2(1))/(SS1(I)*LO1(I))
8920 T(I)=CINT(T(I)*10)/10 'hrs
8930 IF RA1(I)>.2 THEN 8950
8940 IF T(I)>=1.5 AND T(I)<=2.5 THEN 9030
8942 LOCATE 22, 5: PRINT "迴流污泥比爲"; RA1(I);
"曝氣時間應爲1.5—2.5 hrs"
8944 LOCATE 23, 5: PRINT "計算結果爲"; T(I); "hrs, 重新輸入資料(Y/N)";:
INPUT " ", CS
8946 IF CS="Y" OR CS="y" THEN PRINT CHR\$(27); "L0, 300, 420, 381,
0, BF;" ;: GOTO 8300
8947 PRINT CHR\$(27); "L0, 300, 420, 381, 0, BF;" ;
8948 GOTO 9030
8950 IF RA1(I)>.35 THEN 8980
8960 IF T(I)>=4 AND T(I)<=8 THEN 9030
8962 LOCATE 22, 5: PRINT "迴流污泥比爲"; RA1(I);
"曝氣時間應爲 4—8 hrs"
8964 LOCATE 23, 5: PRINT "計算結果爲"; T(I); "hrs, 重新輸入資料(Y/N)";:
INPUT " ", CS
8966 IF CS="Y" OR CS="y" THEN PRINT CHR\$(27); "L0, 300, 420, 381,
0, BF;" ;: GOTO 8300

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8967 PRINT CHR$(27); "L0, 300, 420, 381, 0, BF;";  

8968 GOTO 9030  

8980 IF T(I)>=2 OR T(I)<=3 THEN 9030  

8990 LOCATE 22, 5: PRINT "迴流污泥比爲"; RA1(I); "曝氣時間應爲 2~3 hrs"  

9000 LOCATE 23, 5: PRINT "計算結果爲"; T(I); "hrs, 重新輸入資料(Y/N)";:  

    INPUT " ", C$  

9010 IF C$="Y" OR C$="y" THEN PRINT CHR$(27); "L0 300, 420, 381,  

    0, BF;";: GOTO 8300  

9020 PRINT CHR$(27); "L0, 300, 420, 381, 0, BF;";  

9030 VO(I)=INT(Q2(I)*T(I)/24)  

9040 A(I)=INT(VO(I)/(M(I)*H(I)))  

9050 W(I)=CINT((A(I)/RA2(I))0.5)  

9060 L(I)=CINT(A(I)/W(I))  

9070 T1(I)=CINT((LO2(I)*VO(I))*1000/(LO1(I)* Q2(I)*SS2(5))*100)/100  

9075 PRINT CHR$(27); "L410, 0, 639, 260, 0, BF;";  

9080 LOCATE 1, 65: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0  

9090 LOCATE 2, 52: PRINT "採用"; M(I); "池每池": LOCATE 3, 52:  

    PRINT "長"; L(I); "M×寬"; W(I); "M×水深"; H(I); "M"  

9095 LOCATE 4, 52: PRINT  

9100 LOCATE 4, 52: PRINT "停留時間"; T(I); "hrs"  

9110 LOCATE 5, 52: PRINT "BOD去除率"; CINT(DL(I)*100); "%"的  

9120 LOCATE 6, 52: PRINT "污泥齡"; T1(I); "日"  

9130 'RETURN  

9150 '***** 副程式 6-1-C ***** 計算需氧量 *****  

9160 LOCATE 11, 20: PRINT "求需氧量"  

9170 PRINT "<1>每天去除 1kg BOD 所需氧量" - - - 'DOB(I)  

9180 PRINT "<2>MLSS每天每公斤所需氧量" - - - 'DOB(I)  

9190 PRINT "<3>氧吸收率" - - - 'AB(I)  

9200 PRINT "<4>輸入完成  

9210 GOSUB 32000  

9220 PRINT CHR$(27); "L0, 135, 399, 381, B;";  

9230 E1$="**** 請選擇任一項 ****"  

9240 FOR X=0 TO 250: C$=INKEY$: IF C$=" " THEN NEXT ELSE  

    GOTO 9290  

9250 LOCATE 22, 20: PRINT SPACE$(18);  

9260 FOR X=0 TO 50: C$=INKEY$: IF C$=" " THEN NEXT ELSE

```

GOTO 9290
9270 LOCATE 22, 15: PRINT E1\$
9280 GOTO 9240
9290 C=INSTR("1234", CS): IF C=0 THEN 9240
9300 C1=1
9310 ON C GOTO 9320, 9350, 9380, 9410
9320 J(I)=1: OO(I)=.349: PP(I)=.5
9330 E2\$="約0.35—0.5": E3\$=""
9340 GOSUB 33000: GOTO 9220
9350 J(I)=2: OO(I)=.05: PP(I)=.24
9360 E2\$="約0.05—0.24": E3\$=""
9370 GOSUB 33000: GOTO 9220
9380 J(I)=3: OO(I)=.05: PP(I)=.150001
9390 E2\$="約0.05~0.15": E3\$=""
9400 GOSUB 33000: GOTO 9220
9410 PRINT CHR\$(27); "L0, 285, 399, 381, 0, BF, ";
9420 LOCATE 22, 15
9430 PRINT "資料輸入已完成(Y/N)";
9440 BEEP: FOR KK=1 TO 300: NEXT: BEEP
9450 INPUT " ", PAS\$
9460 IF PAS\$="Y" OR PAS\$="y" THEN 9490
9470 PRINT CHR\$(27); "L0, 285, 390, 381, 0, BF, ";
9480 GOTO 9210
9490 IF DOB(I)=0 OR DOS(I)=0 OR AB(I)=0 THEN 9510
9500 GOTO 9550
9510 LOCATE 22, 15
9520 PRINT "仍未輸入完畢 (按任一鍵)";
9530 IF INKEY\$="" THEN 9530
9540 GOTO 9210
9550 DO(I)=INT(DOB(I)*(SB2(5)-SB2(1))*Q2(I)*.001+DOS(I)*SS1(I)*
VO(I)*.001)
9560 QA(I)=INT(DO(I)/(.23*1.29*AB(I))+.5) '0.23 : 空氣中氧之重量組成比
 '1.29 : 空氣密度
9570 LOCATE 8, 52: PRINT "需氧量"; DO(I); "kg-O/day"
9580 LOCATE 9, 52: PRINT "空氣量"; QA(I); "M³/day"
9650 ***** 副程式 6-1-D ***** 是否重新設計 *****
9660 LOCATE 11, 55: PRINT "<1>需氧量重新設計"

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9670 LOCATE 12, 55: PRINT "<2>活性汚泥重新設計"
9680 LOCATE 13, 55: PRINT "<3>NEXT STEP設計"
9690 PRINT CHR$(27); "L430, 148, 639, 200, B;";
9700 LOCATE 14, 55: INPUT "** 請選擇 **", C$
9710 IF C$<>"1" AND C$<>"2" AND C$<>"3" THEN 9680
9720 IF C$<>"1" THEN 9760
9730 'DOB(I)=0: DOS(I)=0: AB(I)=0
9740 PRINT CHR$(27); "L400, 140, 639, 220, 0, BF;";
9750 GOTO 9210
9760 IF C$="3" THEN GOTO 8740
9775 C1=0
9780 PRINT CHR$(27); "L400, 140, 639, 220, 0, BF;";
9785 PRINT CHR$(27); "L0, 135, 639, 381, 0, BF;";
9790 GOTO 8300
10000 ' *** 副程式 6-2-A *** RBC ***
10005 C2=2
10010 PRINT CHR$(27); "L0, 15, 320, 120, 0, BF;";
10020 D(6)=3.2: IN(6)=20: TH(6)=2: WA(6)=.4: HL(6)=100: BL(6)=
    10: M(6)=40
10025 LOCATE 2, 1
10030 PRINT "進流水BOD"; SB1(5); " mg/ℓ"
10040 PRINT: PRINT "<1>由 Antonie 法計算"
10050 PRINT "<2>由輸入處理水 BOD負荷量計算";: INPUT " ", C$
10060 IF C$ <>"1" AND C$ <>"2" THEN 10020
10070 IF C$="1" THEN C3=1: GOTO 10090
10080 C3=2
10090 PRINT CHR$(27); "L0, 15, 320, 120, 0, BF;";
10100 LOCATE 2, 1
10110 COLOR 0, 7: PRINT "R";: COLOR 7, 0: PRINT "<1>圓板直徑
    M - - -"
10120 COLOR 0, 7: PRINT "B";: COLOR 7, 0: PRINT "<2>圓板間間隔
    MM - - -"
10130 COLOR 0, 7: PRINT "C";: COLOR 7, 0: PRINT "<3>圓板厚度
    MM - - -"
10140 COLOR 0, 7: PRINT "法";: COLOR 7, 0: PRINT "<4>浸水率
    - - -"
10150 IF C3=2 THEN 10190

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```
10160 PRINT "<5>水量面積負荷 1/m2•d      - - -"
10170 GOTO 10200
10190 PRINT "<6>處理水BOD負荷 g/m2•d    - - -"
10200 PRINT "<7>槽數          - - -"
10210 PRINT "<8>輸入完成"
10215 'GOTO 10700
10220 GOSUB 32000
10230 E1$="**** 請選擇任一項 ****"
10240 FOR X=0 TO 250: C$=INKEY$: IF C$=" " THEN NEXT ELSE
      GOTO 10290
10250 LOCATE 22, 20: PRINT SPACES$(18);
10260 FOR X=0 TO 50: C$=INKEY$: IF C$=" " THEN NEXT ELSE
      GOTO 10290
10270 LOCATE 22, 15: PRINT E1$
10280 GOTO 10240
10290 C=INSTR("1234567", C$): IF C=0 THEN 10240
10300 ON C GOTO 10310, 10340, 10370, 10400, 10430, 10530, 10560
10310 J(I)=1: OO(I)=2.4: PP(I)=3.6
10320 E2$="一般為 2.4      3.2": E3$="          3.6"
10330 GOSUB 33000: GOTO 10240
10340 J(I)=2: OO(I)=17: PP(I)=20
10350 E2$="發泡體 17mm": E3$="其餘為 20mm"
10360 GOSUB 33000: GOTO 10240
10370 J(I)=3: OO(I)=1: PP(I)=2
10380 E2$="為 1—2mm": E3$="發泡體則為 17mm"
10390 GOSUB 33000: GOTO 10240
10400 J(I)=4: OO(I)=.4: PP(I)=.7
10410 E2$="約.4—.7": E3$=" "
10420 GOSUB 33000: GOTO 10240
10430 IF C3=2 THEN 10500
10440 J(I)=5: OO(I)=100: PP(I)=250
10450 DL(I)=CINT(100*(SB2(5)-SB2(1))/SB2(5))
10460 E3$=STR$(DL(I))
10470 E2$="須查表(100—250)": E3$="BOD 去除率"+E3$+"%"
10480 GOSUB 33000: GOTO 10240
10500 J(I)=5: OO(I)=10: PP(I)=30
10510 E2$ = "約10—30": E3$=" "
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10520 GOSUB 33000: GOTO 10240
10530 J(I)=6: OO(I)=2: PP(I)=10
10540 E2$="可為多槽": E3$=""
10550 GOSUB 33000: GOTO 10240
10560 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;"; 
10570 LOCATE 22, 15
10580 PRINT "資料輸入已完成(Y/N)";
10590 BEEP: FOR KK=1 TO 300: NEXT: BEEP
10600 INPUT " ", PA$
10610 IF PA$="Y" OR PA$="y" THEN 10635
10620 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;"; 
10630 GOTO 10220
10635 IF C3=2 THEN 10645
10640 IF D(I)=0 OR IN(I)=0 OR TH(I)=0 OR WA(I)=0 OR HL(I)=0
      OR M(I)=0 THEN 10660
10641 GOTO 10800
10645 IF D(I)=0 OR IN(I)=0 OR TH(I)=0 OR WA(I)=0 OR BL(I)=0
      OR M(I)=0 THEN 10660
10650 GOTO 10800
10660 LOCATE 22, 15
10670 PRINT "仍未輸入完畢(按任一鍵)";
10680 IF INKEY$="" THEN 10680
10690 GOTO 10220
10700 'GOSUB 10800      '計算出結果並印出
10710 'GOSUB 11100      '是否重新設計
10720 RETURN            '最終沉澱池設計
10800 ' *** 副程式 6-2-B *** 計算出結果並印出 ***
10810 IN=.1*D(I)
10820 Q(I)=Q(5)-VO3(5)
10830 IF C3=2 THEN 10870
10840 BL(I)=SB2(5)*HL(I)*.001
10850 A(I)=INT(Q(I)*SB2(5)/BL(I))      'm2
10860 GOTO 10890
10870 A(I)=INT(Q(I)*SB2(5)/BL(I))      'm2
10880 HL(I)=1000*Q(I)/A(I)              'L/m2*d
10890 MA(I)=INT(4*A(I)/(2*3.14159*D(I)*D(I)))  '圓板數
10900 L(I)=CINT(((MA(I)-1)*IN(I)+MA(I)*TH(I))*001+2*IN)/M(I)) 'M

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10910 VO1(I)=INT(((D(I)/2+IN)2)*3.1416*WA(I)*L(I)) 'M3
10920 VO2(I)=INT(VO1(I)-3.14159*TH(I)*MA(I)*WA(I)*(D(I)2)*.001/
(4*M(I)))
10930 T(I)=CINT((VO2(I)*24*M(I)/Q(I))*10)/10
10940 G=CINT(VO2(I)*1000*10*M(I)/A(I))/10
10945 DL(I)=CINT((SB2(5)-SB2(1))*100/SB2(5))
10950 SS1(I)=SS2(5) 'RBC 無迴流污泥
10955 PRINT CHR$(27); "L400, 0, 639, 260, 0, BF;";;
10960 LOCATE 2, 65: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0
10970 LOCATE 3, 50: PRINT "槽設為半圓柱體，共"; M(I); "槽": LOCATE 4,
50: PRINT "共需圓板數"; MA(I); "片"
10980 LOCATE 5, 50: PRINT "半圓柱槽長"; L(I); "M×直徑"; D(I); "M"
10990 LOCATE 6, 50: PRINT "圓板與槽的壁及底間隔為"; IN; "M"
11000 LOCATE 7, 50: PRINT "每槽實容量"; VO2(I); "M3"
11010 LOCATE 8, 50: PRINT "停留時間"; T(I); "hrs"
11020 LOCATE 9, 50: PRINT "BOD去除率"; DL(I); "%"
11030 LOCATE 10, 50: PRINT "液量面積比(G值)"; G; "l/m2"
11040 'RETURN
11100 ' *** 副程式 6-2-C *** 是否重新設計 ***
11110 LOCATE 13, 50: COLOR 0, 7: PRINT "是否重新設計(Y/N)": COLOR
7, 0
11120 INPUT " ", E$
11130 BEEP: FOR KK=1 TO 500: NEXT: BEEP
11140 IF E$="Y" OR E$="y" THEN 11160
11150 GOTO 10720
11160 'D(I)=0: IN(I)=0: TH(I)=0: WA(I)=0: HL(I)=0: BL(I)=0: M(I)=0
11165 LOCATE 13, 50: PRINT " "
11170 GOTO 10220
11200 ' *** 副程式 6-3-A *** 標準濾濾法 ***
11205 C2=3
11210 PRINT CHR$(27); "L0, 15, 399, 380, 0, BF;";;
11215 RA(6)=.5: D(6)=50: HL1(6)=15: BL1(6)=1.2: BL2(6)=1: M1(6)
=16: M2(6)=8
11220 LOCATE 2, 1
11230 COLOR 0, 7: PRINT "標": COLOR 7, 0: PRINT "<1> 循環比 - - -"
11240 COLOR 0, 7: PRINT "準": COLOR 7, 0: PRINT "<2>濾料直徑 mm
- - -"

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11250 COLOR 0, 7: PRINT "滴";: COLOR 7, 0: PRINT "<3>散水負荷
 (第一段濾池) m³/m²•d - - -"
 11260 COLOR 0, 7: PRINT "濾";: COLOR 7, 0: PRINT "<4>第一段之
 BOD 負荷 kg/m²•day - - -"
 11270 COLOR 0, 7: PRINT "法";: COLOR 7, 0: PRINT "<5>第二段之
 BOD 負荷 kg/m²•day - - -"
 11280 PRINT "<6>池數 (第一段) - - -"
 11290 PRINT "<7>池數 (第二段) - - -"
 11300 PRINT "<8>輸入完成"
 11305 GOTO 11750
 11310 GOSUB 32000
 11320 E1\$="**** 請選擇任一項 ****"
 11330 FOR X=0 TO 250: C\$=INKEY\$: IF C\$=" " THEN NEXT ELSE
 GOTO 11380
 11340 LOCATE 22, 20: PRINT SPACES(18);
 11350 FOR X=0 TO 50: C\$=INKEY\$: IF C\$=" " THEN NEXT ELSE
 GOTO 11380
 11360 LOCATE 22, 15: PRINT E1\$
 11370 GOTO 11330
 11380 C=INSTR ("12345678", C\$): IF C=0 THEN 11330
 11390 ON C GOTO 11400, 11430, 11460, 11490, 11520, 11550, 11580, 11610
 11400 J(I)=1: OO(I)=.5: PP(I)=3!
 11410 E2\$="下水BOD<150為0.5: 每增150以內": E3\$="到 750—900 則為 4.5:
 則增.5"
 11420 GOSUB 33000: GOTO 11330
 11430 J(I)=2: OO(I)=50: PP(I)=60
 11440 E2\$="約50~60mm": E3\$=" "
 11450 GOSUB 33000: GOTO 11330
 11460 J(I)=3: OO(I)=10: PP(I)=30
 11470 F2\$="進流水之BOD=120 則為25": E3\$="若BOD=150則20: 若 BOD=200
 則15"
 11480 GOSUB 33000: GOTO 11330
 11490 J(I)=4: OO(I)=.3: PP(I)=1.2
 11500 E2\$="設施為小於1.2": E3\$=" "
 11510 GOSUB 33000: GOTO 11330
 11520 J(I)=5: OO(I)=.3: PP(I)=1.2
 11530 E2\$="須比<4>小": E3\$ ="(設施為小於1.2)"

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11540 GOSUB 33000: GOTO 11330
11550 J(I)=6: OO(I)=2: PP(I)=10
11560 E2$="二池以上": E3$=""
11570 GOSUB 33000: 11330
11580 J(I)=7: OO(I)=2: PP(I)=10
11590 E2$="二池以上": E3$=""
11600 GOSUB 33000: GOTO 11330
11610 PRINT CHR$(27); L0, 285, 399, 381, 0, BF;";"
11620 LOCATE 22, 15
11630 PRINT" 資料輸入已完成(Y/N)";
11640 BEEP: FOR KK=1 TO 300: NEXT: BEEP
11650 INPUT " ", PAS$
11660 IF PA$="Y" OR PA$="y" THEN 11690
11670 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;";"
11680 GOTO 11310
11690 IF RA(I)=0 OR D(I)=0 OR HL1(I)=0 OR BL1(I)=0 OR BL2(I)=0
    OR M1(I)=0 OR M2(I)=0 THEN 11710
11700 GOTO 11800
11710 LOCATE 22, 15
11720 PRINT "仍未輸入完畢 (按任一鍵)";
11730 IF INKEY$=" " THEN 11730
11740 GOTO 11310
11750 'GOSUB 11800
11760 'GOSUB 12300
11770 RETURN
11800 ' *** 副程式 6-3-B *** 計算出結果並印出 ***
11810 Q(I)=Q(5)-VO3(5)
11820 SB1(I)=INT((SB2(5)+SB2(1)*RA(I))*Q(I)*.001)          'kg/d
11830 VO1(I)=INT(SB1(I)/BL1(I))                                'M³
11840 F=(1+RA(I))/((1+RA(I)/10)2)
11850 DL1(I)=CINT(100/(1+.444*((BL1(I)/F)0.5)))            '%
11860 SB11(I)=INT(SB1(I)*(1-DL1(I)/100))                     'kg/d
11870 VO2(I)=INT(SB11(I)/BL2(I))
11880 A1(I)=INT((1+RA(I))*Q(I)/HL1(I))
11890 LOCATE 12, 5: PRINT "(進流水BOD為";SB11(I)*1000/Q(I);" mg/ℓ)"
11900 LOCATE 13, 5: PRINT "(BOD=120則負荷為25: 150->20: 200->15)"
11910 LOCATE 11, 3: PRINT "輸入散水負荷 (第二段濾池) M³/m²·day";
11920 INPUT " ", HL2$(I)
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11930 HL2(I)=VAL(HL2$(I))
11935 PRINT CHR$(27); "L0, 145, 400, 381, 0, BF;";
11940 IF HL2(I)>=10 AND HL2(I)<=30 THEN 11960
11950 BEEP: GOTO 11890
11960 A2(I)=INT((1+RA(I))*Q(I)/HL2(I))
11970 DL2(I)=CINT(100/(1+.444*((HL2(I)/F)0.5)/(1-DL1(I)/100)))
11980 H1(I)=CINT(10*VO1(I)/A1(I))/10
11990 H2(I)=CINT(10*VO2(I)/A2(I))/10
12000 D1(I)=CINT((A1(I)*4/(3.14159*M1(I)))0.5)
12010 D2(I)=CINT((A2(I)*4/(3.14159*M2(I)))0.5)
12020 SS1(I)=SS2(5)
12025 PRINT CHR$(27); "L360, 0, 639, 260, 0, BF;";
12030 LOCATE 1, 60: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0
12040 LOCATE 2, 45: PRINT "一段池濾料量"; VO1(I); "M3 濾料直徑"; D(I);
      "mm"
12050 LOCATE 3, 45: PRINT "一段池共"; M1(I); "池直徑"; D1(I); "M深";
      H1(I); "M"
12060 LOCATE 4, 45: PRINT "BOD 去除率"; DL1(I); "%"
12070 LOCATE 5, 45: PRINT "二段池濾料量"; VO2(I); "M3 濾料直徑"; D(I);
      "mm"
12080 LOCATE 6, 45: PRINT "二段池共"; M2(I); "池直徑"; D2(I); "M深";
      H2(I); "M"
12090 LOCATE 7, 45: PRINT "BOD去除率"; DL2(I); "%"
12100 'RETURN 11760
12300 ' *** 副程式 6-3-C *** 是否重新設計 ***
12310 LOCATE 13, 50: COLOR 0, 7: PRINT "是否重新設計(Y/N)": COLOR
      7, 0
12320 INPUT " ", ES
12330 BEEP: FOR KK=1 TO 500: NEXT: BEEP
12340 IF ES="Y" OR ES="y" THEN 12360
12350 GOTO 11770
12360 'D(I)=0: RA(I)=0: M1(I)=0: M2(I)=0: HL1(I)=0: BL1(I)=0:
      BL2(I)=0: HL2(I)=0
12365 LOCATE 13, 50: PRINT " "
12370 GOTO 11310
12500 ' *****
12510 ' *** 副程式 7-1 *** 最終沉澱池設計 ***

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12520 ' ****
12530 CLS: LOCATE 1, 25: COLOR 0, 7: PRINT "最終沉澱池設計": COLOR
7, 0
12531 GOTO 40000
12535 T(7)=2: H(7)=4: M(7)=8: RA1(7)=3: LO1(7)=150
12536 LOCATE 2, 1: CHECK(7)=1
12540 PRINT "<1>停留時間 hrs - - -"
12550 PRINT "<2>有效水深 M - - -"
12560 PRINT "<3>採用池數 - - -"
12570 PRINT "<4>長寬比 - - -"
12590 PRINT "<5>溢流堰負荷率 CMD/M - - -"
12600 PRINT "<6>輸入完成"
12605 'GOTO 13030
12610 GOSUB 32000
12620 E1\$=" **** 請選擇任一項 ****"
12630 FOR X=0 TO 250: C\$=INKEY\$: IF C\$=" " THEN NEXT ELSE
 GOTO 12680
12640 LOCATE 22, 20: PRINT SPACES\$(18);
12650 FOR X=0 TO 50: C\$=INKEY\$: IF C\$=" " THEN NEXT ELSE
 GOTO 12680
12660 LOCATE 22, 15: PRINT E1\$
12670 GOTO 12630
12680 C=INSTR ("123456", C\$): IF C=0 THEN 12630
12690 ON C GOTO 12700, 12730, 12760, 12790, 12850, 12880
12700 J(I)=1: OO(I)=2!: PP(I)=3!
12710 E2\$="設施標準為 2.5 hrs": E3\$=" "
12720 GOSUB 33000: GOTO 12630
12730 J(I)=2: OO(I)=2.5: PP(I)=4!
12740 E2\$="設施為 2.5-4M": E3\$=" "
12750 GOSUB 33000: GOTO 12630
12760 J(I)=3: OO(I)=2: PP(I)=10
12770 E2\$="二池以上 :E3\$=" "
12780 GOSUB 33000: GOTO 12630
12790 J(I)=4: OO(I)=3: PP(I)=5
12800 E2\$ "為3-5": E3\$=" "
12810 GOSUB 33000: GOTO 12630
12850 J(I)=5: OO(I)=50: PP(I)=150

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12860 E2$="<=150" : E3$=" "
12870 GOSUB 33000 GOTO 12630
12880 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;";;
12890 LOCATE 22,15
12900 PRINT "資料輸入已完成(Y/N)";
12910 BEEP: FOR KK=1 TO 300: NEXT: BEEP
12920 INPUT " ", PA$
12930 IF PA$="Y" OR PA$="y" THEN 12960
12940 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;";;
12950 GOTO 12610
12960 IF T(I)=0 OR H(I)=0 OR M(I)=0 OR RA1(I)=0 OR LO1(I)=0
     THEN 12980
12970 GOTO 13200
12980 LOCATE 22, 15
12990 PRINT "仍未輸入完畢 (投任一鍵)";
13000 IF INKEY$=" " THEN 13000
13010 GOTO 12610
13030 'GOSUB 13200
13040 'GOSUB 13600
13050 RETURN
13200 ' *** 副程式 7-2 *** 計算出結果並印出 ***
13210 Q(I)=Q(6)
13220 VO(I)=INT(Q(I)*T(I)/(M(I)*24))
13230 A(I)=INT(VO(I)/H(I))
13240 W(I)=CINT((A(I)/RA1(I))0.5)
13250 L(I)=CINT(A(I)/W(I))
13260 LO2(I)=CINT(10*Q(I)/(M(I)*L(I)*W(I)))/10
13270 IF LO2(I)>=20 AND LO2(I)<=30 THEN 13330
13275 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;";;
13280 LOCATE 21, 10: PRINT "表面負荷率爲"; LO2(I); "M3/m2•day"
13290 LOCATE 22, 10: PRINT "與設施20—30不合，是否重新輸入(Y/N)";
13300 INPUT " ", CS(I)
13310 IF CS(I)="N" OR CS(I)="n" THEN 13330
13320 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;";: GOTO 12610
13330 LW(I)=Q(I)/(M(I)*LO1(I))
13340 LW1(I)=CINT(10*LW(I)/(5*2))/10
13350 DL(I)=CINT((SS2(5)-SS2(1))*100/SS2(5))

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13355 PRINT CHR$(27); "L365, 0, 639, 260, 0, BF;";  
13360 LOCATE 1, 65: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0  
13370 LOCATE 2, 46: PRINT "採用"; M(I); "池 每池面積"; A(I); "m2"  
13380 LOCATE 3, 46: PRINT "長"; L(I); "M×寬"; W(I); "M×水深";  
    H(I); "M"  
13390 LOCATE 4, 46: PRINT "表面負荷率爲"; LO2(I); "M3/m2·day"  
13400 LOCATE 5, 46: PRINT "5集水槽，每槽長爲"; LW1(I); "M×50cm寬"  
13410 LOCATE 6, 46: PRINT "SS去除率"; DL(I); "%"  
13420 'RETURN  
13600 ' *** 副程式7-3 *** 是否重新設計 ***  
13610 LOCATE 13, 50: COLOR 0, 7: PRINT "是否重新設計(Y/N)": COLOR  
    7, 0  
13620 INPUT " ", ES  
13630 BEEP: FOR KK=1 TO 500: NEXT: BEEP  
13640 IF ES="Y" OR ES="y" THEN 13660  
13650 GOTO 13050  
13660 'T(I)=0: H(I)=0: M(I)=0: RA1(I)=0: LO1(I)=0  
13665 LOCATE 13, 50: PRINT "  
13666 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;";  
13670 GOTO 12610  
14000 ' ****  
14010 ' ***副程式 8-1 *** 污泥濃縮池設計 ***  
14020 ' ****  
14030 CLS: LOCATE 1, 24: COLOR 0, 7: PRINT "污泥濃縮池設計":  
    COLOR 7, 0  
14031 GOTO 40000  
14035 DL1(8)=.6: DL2(8)=.05: WA1(8)=.9899999: SP(8)=1.02: T(8)=10:  
    H(8)=4: WA2(8)=.96: M(8)=4  
14040 LOCATE 2, 1: CHECK(8)=1  
14050 PRINT "<1>去除BOD的污泥轉換率"      " - - -"  
14060 PRINT "<2>體內自行氧化率"      " 1/day"      " - - -"  
14070 PRINT "<3>含水率"      " - - -"  
14080 PRINT "<4>比重"      " - - -"  
14090 PRINT "<5>停留時間"      " hrs"      " - - -"  
14100 PRINT "<6>槽有效水深"      " m"      " - - -"  
14110 PRINT "<7>槽數"      " - - -"  
14120 PRINT "<8>濃縮後污泥含水率"      " - - -"
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14130 PRINT "<9>輸入完成"
14135 GOTO 14700
14140 GOSUB 32000
14150 E1$="**** 請選擇任一項 ****"
14160 FOR X=0 TO 250: CS=INKEY$: IF CS=" " THEN NEXT ELSE
    GOTO 14210
14170 LOCATE 22, 20: PRINT SPACES$(18);
14180 LOCATE 22, 15: PRINT E1$
14200 GOTO 14160
14210 C=INSTR("123456789", CS): IF C=0 THEN 14160
14260 ON C GOTO 14270, 14300, 14330, 14360, 14390, 14420, 14450, 14480,
    14550
14270 J(I)=1: OO(I)=.5: PP(I)=.8
14280 E2$="約為 .5—.8": E3$=" "
14290 GOSUB 33000: GOTO 14160
14300 J(I)=2: OO(I)=.01: PP(I)=.1
14310 E2$="約為0.01—0.1": E3$=" "
14320 GOSUB 33000: GOTO 14160
14330 J(I)=3: OO(I)=.96: PP(I)=.995
14340 E2$="活性汙泥法為.99—.995": E3$="濾瀘\RBC為.96—.98"
14350 GOSUB 33000: GOTO 14160
14360 J(I)=4: OO(I)=1!: PP(I)=1.05
14370 E2$="約為1.02左右": E3$=" "
14380 GOSUB 33000: GOTO 14160
14390 J(I)=5: OO(I)=10: PP(I)=14
14400 E2$="約為 12 hrs 左右": E3$=" "
14410 GOSUB 33000: GOTO 14160
14420 J(I)=6: OO(I)=3: PP(I)=5
14430 E2$="約為4m左右": E3$=" "
14440 GOSUB 33000: GOTO 14160
14450 J(I)=7: OO(I)=2: PP(I)=6
14460 E2$="二槽以上": E3$=" "
14470 GOSUB 33000: GOTO 14160
14480 J(I)=8: OO(I)=.94: PP(I)=.97
14490 E2$="約.96左右": E3$=" "
14500 GOSUB 33000: GOTO 14160
14550 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;";
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14560 LOCATE 22, 15
14570 PRINT "資料輸入已完成(Y/N)";
14580 BEEP: FOR KK=1 TO 300: NEXT: BEEP
14590 INPUT " ", PAS
14600 IF PAS=="Y" OR PAS=="y" THEN 14630
14610 PRINT CHR$(27); "L0, 285, 390, 381, 0, BF;"; 
14620 GOTO 14140
14630 IF DL1(I)=0 OR DL2(I)=0 OR WA1(I)=0 OR SP(I)=0 OR T(I)=0
     OR H(I)=0 OR M(I)=0 OR WA2(I)=0 OR THEN 14650
14640 GOTO 14800
14650 LOCATE 22, 15
14660 PRINT "仍未輸入完畢(按任一鍵)";
14670 IF INKEY$==" " THEN 14670
14680 GOTO 14140
14700 'GOSUB 14800
14710 'GOSUB 15500
14720 RETURN
14800 ' *** 副程式 8-2 *** 計算出結果並印出 ***
14810 VO1(I)=VO2(5)
14820 VO2(I)=INT((Q(5)-VO3(5))*(SS2(5)-SS2(1)) *.001)
14830 VO3(I)=INT((DL1(I)*(SB2(5)-SB2(1))-DL2(I)*SS1(6)*T(6)/24)*
     Q(6)*.001)
14840 VOT(I)=INT(VO1(I)+VO2(I)+VO3(I))
14850 VO4(I)=INT((VOT(I)*.001/((1-WA1(I))*SP(I))))
14860 VO5(I)=VO3(4)+VO3(5)+VO4(I)
14870 VO6(I)=INT(VO5(I)*T(I)/24)
14880 A(I)=INT(VO6(I)*10/(H(I)*M(I))+.5)/10
14890 D(I)=CINT(((A(I)*4/3.14159)0.5)*10)/10
14900 LO1(I)=CINT(10*VO5(I)/A(I))/10
14910 IF LO1(I)>=16 AND LO1(I)<=36 THEN 15000
14915 PRINT CHR$(27); "L0, 285, 400, 381, 0, BF;"; 
14920 LOCATE 21, 1: PRINT "水面積水力負荷為"; LO1(I); "CMD/m2 與設施
     16~36 不合"
14930 PRINT "池數太多或太少，是否重新設計(Y/N)";
14940 INPUT " ", CS
14950 IF CS=="N" OR CS=="n" THEN 15000
14960 PRINT CHR$(27); "L0, 285, 400, 381, 0, BF;";
```

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14970 GOTO 14140
15000 LO2(I)=CINT(10*VOT(I)/A(I)*M(I))/10
15010 IF LO2(I)>=60 AND LO1(I) <=90 THEN 15100
15015 PRINT CHR$(27); L0, 285, 420, 381, 0, BF;"";
15020 LOCATE 20, 1: PRINT "固體負荷爲"; LO2(I); "kg/m2•day 與設施
60—90 不合"
15030 PRINT "池數太多或太少，是否重新設計(Y/N)";
15040 INPUT " ", CS
15050 IF CS=="N" OR CS=="n" THEN 15100
15060 PRINT CHR$(27); "L0, 285, 400, 381, 0, BF;";
15070 GOTO 14140
15100 VO(I)=INT(VO5(I)*(1-WA1(I))/(1-WA2(I)))
15110 VO7(I)=INT(VO5(I)-VO(I))
15115 PRINT CHR$(27); "L365, 0, 639, 260, 0, BF;";
15120 LOCATE 1, 60: COLOR 0, 7: PRINT "計算結果": COLOR 7, 0
15130 LOCATE 2, 46: PRINT "初沉池污泥(SS)": VO1(I); "kg/day"
15140 LOCATE 3, 46: PRINT "終沉池污泥(SS)": VO2(I); "kg/day"
15150 LOCATE 4, 46: PRINT "終沉池污泥(BOD)": VO3(I); "kg/day"
15160 LOCATE 5, 46: PRINT "總污泥量": VOT(I); "kg/day"
15170 LOCATE 6, 46: PRINT "污泥體積": VO5(I); "CMD"
15180 LOCATE 7, 46: PRINT "池總容量爲": VO6(I); "M3 池數爲"; M(I)
15190 LOCATE 8, 46: PRINT "每槽面積": A(I); "m2採用直徑"; D(I); "M"
15200 LOCATE 9, 46: PRINT "水力面積負荷": LO1(I); "M3/m2•d"
15210 LOCATE 10, 46: PRINT "固體負荷": LO2(I); "kg/m2•d"
15220 LOCATE 11, 46: PRINT "濃縮後的污泥體積爲": VO(I); "CMD"
15230 LOCATE 12, 46: PRINT "上澄液體積爲": VO7(I); "CMD"
15240 'RETURN
15500 ' *** 副程式 8-3 *** 是否重新設計 ***
15510 LOCATE 15, 50: COLOR 0, 7: PRINT "是否重新設計(Y/N)": COLOR
7, 0
15520 INPUT " ", ES
15530 BEEP: FOR KK=1 TO 500: NEXT: BEEP
15540 IF ES=="Y" OR ES=="y" THEN 15560
15550 GOTO 14720
15560 'T(I)=0: SP(I)=0: H(I)=0 M(I)=0 DL1(I)=0: WA1(I)=0:
DL2(I)=0:
15565 LOCATE 15, 50: PRINT ""

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```
15570 GOTO 14140
16000 ' *****
16010 ' *** 第九單元 I=9 *** 副程式 9-1 ***
16020 ' *****
16030 CLS: LOCATE 1, 30: COLOR 0, 7: PRINT "脫水設備設計": COLOR 7, 0
16031 GOTO 40000
16040 LOCATE 2, 1: CHECK(9)=1
16045 T(I)=8: E1(I)=.33: E2(I)=.5: E3(I)=.0000025: E4(I)=.002: WA(I)
    = .75: E5(I)=.3: E6(I)=.1
16050 PRINT "<1>操作時間      (hr)      - - -"
16060 PRINT "<2>浸水比          - - -"
16070 PRINT "<3>脫水機旋轉數   (rpm)     - - -"
16080 PRINT "<4>K            (m2/s)    - - -"
16090 PRINT "<5>Uo          (M)        - - -"
16110 PRINT "<6> 脫水後污泥含水率      - - -"
16120 PRINT "<7>消石灰添加率      - - -"
16130 PRINT "<8>鐵鹽添加率      - - -"
16140 PRINT "<9>輸入完成"
16150 GOSUB 32000
16160 E1$="**** 請選擇任一項 ****"
16170 FOR X=0 TO 250: C$=INKEY$: IF C$=" " THEN NEXT ELSE
    GOTO 16230
16180 LOCATE 22, 20: PRINT SPACES(18);
16190 FOR X=0 TO 50: C$=INKEY$: IF C$=" " THEN NEXT ELSE
    GOTO 16230
16200 LOCATE 22, 15: PRINT E1$
16210 GOTO 16170
16230 C=INSTR("123456789", C$): IF C=0 THEN 16170
16240 ON C GOTO 16250, 16280, 16310, 16340, 16370, 16400, 16430, 16460, 16580
16250 J(I)=1: OO(I)=4: PP(I)=12
16260 E2$="視實際需要而定": E3$=" "
16270 GOSUB 33000: GOTO 16170
16280 J(I)=2: OO(I)=.1: PP(I)=.9
16290 E2$="依脫水機特性": E3$=" "
16300 GOSUB 33000: GOTO 16170
16310 J(I)=3: OO(I)=.08: PP(I)=3
16320 E2$="多室型1/12—1/3": E3$="單室型1/2—3"
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16330 GOSUB 33000: GOTO 16170
16340 J(I)=4: OO(I)=.0000001: PP(I)=9.999999E-06
16350 E2$="由 Buchner 漏斗試驗得之": E3$=" "
16360 GOSUB 33000: GOTO 16170
16370 J(I)=5: OO(I)=.0001: PP(I)=.01
16380 E2$="由 Buchner 漏斗試驗得之": E3$=" "
16390 GOSUB 33000: GOTO 16170
16400 J(I)=6: OO(I)=.73: PP(I)=.78
16410 E2$=".73~.78": E3$=" "
16420 GOSUB 33000: GOTO 16170
16430 J(I)=7: OO(I)=.3: PP(I)=.5
16440 E2$=".3~.5": E3$=" "
16450 GOSUB 33000: GOTO 16170
16460 J(I)=8: OO(I)=.05: PP(I)=.12
16470 E2$=".05~.12": E3$=" "
16480 GOSUB 33000: GOTO 16170
16580 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;"; 
16585 LOCATE 22, 15: PRINT "資料輸入已完成 (Y/N)"; 
16590 BEEP: FOR KK=1 TO 300: NEXT: BEEP
16600 INPUT " ", PA$
16610 IF PA$="Y" OR PA$="y" THEN 16640
16620 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;"; 
16630 GOTO 16170
16640 IF T(I)=0 OR E1(I)=0 OR E2(I)=0 OR E3(I)=0 OR
      E4(I)=0 OR WA(I)=0 OR E5(I)=0 OR E6(I)=0 THEN 16660
16650 GOTO 16700
16660 LOCATE 22, 15
16670 PRINT "仍未輸入完畢 (按任一鍵)"; 
16680 IF INKEY$=" " THEN 16680
16690 GOTO 16150
16700 GOTO 16800      '副程式 9-1 計算結果並印出
16710 RETURN
16800 IF CHECK(8)<>0 THEN 16860
16810 LOCATE 14, 1: PRINT "流入脫水機污泥含水率"
16820 PRINT "依二級處理或初沉池污泥而定 (請輸入)": INPUT " ", WA1$(I)
16830 WA1(I)=VAL(WA1$(I))
16840 IF WA1(I)<.9 OR WA1(I) >.99 THEN BEEP: GOTO 16810

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16850 GOTO 16870
16860 WA1(I)=(1-WA1(8))*1000
16870 R(I)=INT(10*WA1(I)*1000*(1-WA(I))/(1000*(1-WA(I))-WA1(I)))/10
16880 VE(I)=INT((10*R(I)/(E2(I)*60))*3600*((E4(I)^2+E3(I)*E1(I)*(E2(I)*60))0.5)-E4(I)))/10
16882 IF CHECK(8)<>0 THEN 16890
16883 VO1(I)=VO2(5)
16884 VO2(I)=INT((Q(5)-VO3(5))*(SS2(5)-SS2(1))*0.001)
16885 VO3(I)=INT((.5*(SB2(5)-SB2(1))- .05*SS1(6)*T(6)/24)*Q(6)*0.001)
16886 VOT(I)= VO1(I)+VO2(I)+VO3(I)
16887 VO4(I)=INT((VOT(I)*.001/((1-WA1(I))*1.02)))
16888 VO(8)=VO3(4)+VO3(5)+VO4(I)
16890 QA1(I)=INT(10*VO(8)*WA1(I)*E5(I)/T(I))/10
16900 QA2(I)=INT(10*VO(8)*WA1(I)*E6(I)/T(I))/10
16910 QA3(I)=INT(10*VO(8)*WA1(I)/T(I))/10
16920 QA(1)=QA1(I)+QA2(I)+QA3(I)
16930 A1(I)=INT(QA(I)*10/VE(I))/10
16940 E7(I)=.15 '餘裕率
16950 A2(I)=A1(I)*(1+E7(I))
16960 LO(I)=3000: D(I)=2900 'mm
16970 AN(I)=INT(1000000!*A2(I)/(LO(I)*D(I)*3.14159))+1
16972 IF QA>5000 THEN 16980
16974 L(I)=AN(I)*(D(I)/1000+1) 'm
16976 W(I)=D(I)/1000+2
16978 GOTO 17000
16980 IF QA>20000 THEN 16988
16982 L(I)=AN(I)*(D(I)/1000+1)\2
16984 W(I)=2*D(I)/1000+3 'm
16986 GOTO 17000
16988 IF QA>70000! THEN 16996
16990 L(I)=AN(I)*(D(I)/1000+1)\3
16992 W(I)=3*D(I)/1000+4 'm
16994 GOTO 17000
16996 L(I)=AN(I)*(D(I)/1000+1)\4
16998 W(I)=4*D(I)/1000+5 'm
17000 ' **** 管理樓 ****

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17010 IF QA>1000 THEN 17040
17020 AN10=1: W10=4
17030 L10=CINT(QA*.04/4): GOTO 17200
17040 IF QA>5000 THEN 17080
17050 AN10=2: W10=5
17060 L10=CINT(QA*.035/(W10*AN10))
17070 GOTO 17200
17080 IF QA>10000 THEN 17120
17090 AN10=3: W10=6
17100 L10=CINT(QA*.03/(AN10*W10))
17110 GOTO 17200
17120 IF QA>50000! THEN 17140
17125 AN10=4: W10=9
17130 L10=CINT(QA*.025/(AN10*W10))
17140 IF QA>70000! THEN 17170
17150 AN10=4: W10=10
17160 L10=CINT(QA*.015/(AN10*W10))
17165 GOTO 17200
17170 AN10=5: W10=10
17180 L10=CINT(QA*.01/(AN10*W10))
17185 GOTO 17200
17200 ' ***** 設計結果 *****
17210 LOCATE 1, 60: COLOR 0, 7: PRINT "設計結果": COLOR 7, 0
17220 LOCATE 2, 45: PRINT "過濾速度"; VE(I); "kg/m2·s"
17230 LOCATE 3, 45: PRINT "消石灰加入量"; QA1(I); "kg/hr"
17240 LOCATE 4, 45: PRINT "鐵鹽加入量"; QA2(I); "kg/hr"
17250 LOCATE 5, 45: PRINT "固體物加入量"; QA3(I); "kg/hr"
17260 LOCATE 6, 45: PRINT "餘裕率15%過率面積"; A2(I); "m2"
17270 LOCATE 7, 45: PRINT "真空過濾機2900mmD*3000mmL"; AN(I); "座"
17280 LOCATE 8, 45: PRINT "脫水機房"; L(I); "M長×"; W(I); "M寬"
17290 LOCATE 10, 45: PRINT "管理樓建為"; AN10; "樓"; L10; "M長×";
    W10; "M寬"
17400 ' ***** 是否重新設計 *****
17410 LOCATE 12, 50: COLOR 0, 7: PRINT "是否重新設計(Y/N)": COLOR
    7, 0
17420 INPUT " ", ES
17430 BEEP: FOR KK=1 TO 500: NEXT: BEEP

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```
17440 IF E$="Y" OR E$="y" THEN 17460
17450 GOTO 16710
17460 LOCATE 12, 50: PRINT " "; ;
17465 PRINT CHR$(27); "L0, 300, 399, 381, 0, BF;"; ;
17470 GOTO 16150
17990 ' ***** 印出各方法之結果 *****
18000 CLS: KEY OFF: LOCATE 1, 36: COLOR 0, 7: PRINT "基本資料": ;
    COLOR 7, 0: LOCATE 1, 55: PRINT "顯示下一頁 (按任一鍵)"
18010 LOCATE 2, 1: PRINT "平均日進流量"; QA; "(CMD)"
18020 LOCATE 2, 41: PRINT "最大日進流量"; QM; "(CMD)"
18030 LOCATE 3, 1: PRINT "進流水BOD"; SB1(1);" (mg/ℓ)
18040 LOCATE 3, 41: PRINT "進流水SS"; SS1(1);" (mg/ℓ)
18050 LOCATE 4, 1: PRINT "放流水BOD"; SB2(1);" (mg/ℓ)
18060 LOCATE 4, 41: PRINT "放流水SS"; SS2(1);" (mg/ℓ)
18080 LOCATE 5, 30: COLOR 0, 7: PRINT "抽水井及抽污水泵": COLOR 7, 0
18090 LOCATE 6, 1: PRINT "設計流量"; QD2; " CMD 抽水井 1 池"; L(2);
    "M長×"
18100 LOCATE 6, 41: PRINT "所須馬力數爲"; HP; "HP"
18110 LOCATE 7, 1: PRINT W(2); "M寬×"; R(2); "M深抽污水泵效率"; E(2)
18120 LOCATE 7, 41: PRINT "採用抽污水泵"; AN; " 臺，其中一臺備用"
18130 LOCATE 8, 1: PRINT "抽水機揚程"; H3(2);" (M)
18135 IF CHECK(2)=0 THEN QD2=0: GOTO 18140
18136 QD2=INT(QD2/(AN-1))
18140 LOCATE 8, 41: PRINT "每臺"; HP; "HPx"; QC2; "CMDx"; H3(2);"
    (M)
18150 LOCATE 9, 37: COLOR 0, 7: PRINT "欄污柵": COLOR 7, 0
18160 LOCATE 10, 1: PRINT "每100立方米下水所佔篩渣量"; B2(3);" %
18170 LOCATE 10, 41: PRINT "柵除物"; W(3);" (kg/day)
18180 LOCATE 11, 1: PRINT "柵除物之含水率"; E(3)
18190 LOCATE 11, 41: PRINT "污泥體積"; VO(3);" (M³/day)
18200 LOCATE 12, 1: PRINT "柵除物之比重"; SP(3)
18210 LOCATE 12, 41: PRINT " 約 "; Q(3); "CMD"
18220 LOCATE 13, 37: COLOR 0, 7: PRINT "沉砂池": COLOR 7, 0
18230 LOCATE 14, 1: PRINT "停留時間 "; T(4);" (秒)
18240 LOCATE 14, 41: PRINT "採用"; M(4); "池 ";
    L(4); "M長x"; W(4); "M寬x"; H(4); "M有效水深"
18250 LOCATE 15, 1: PRINT "每1000立方米下水所佔沉砂量"; B(4)
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18260 LOCATE 15, 41: PRINT "進流水SS"; SS1(4); "(mg/ℓ)"
 18270 LOCATE 16, 1: PRINT "沉砂之含水率"; E(4)
 18280 LOCATE 16, 41: PRINT "汚泥量"; VO2(4); "(kg/day)"
 18290 LOCATE 17, 1: PRINT "沉砂之比重"; SP(4)
 18300 LOCATE 17, 41: PRINT "汚泥體積"; VO3(4); "(CMD)"
 18310 LOCATE 18, 37: COLOR 0, 7: PRINT "初沉池": COLOR 7, 0
 18320 LOCATE 19, 1: PRINT "停留時間"; T(5); "(小時)"
 18330 LOCATE 19, 41: PRINT "採用"; M(5); "池長"; L(5);
 "MX寬"; W(5); "MX有效水深"; H(5)
 18340 LOCATE 20, 1: PRINT "溢流堰負荷率"; LO(5); "(M³/m²·d)"
 18350 LOCATE 20, 41: PRINT "5個集水支槽，每個長度"; LW(5); (M)
 18360 LOCATE 21, 1: PRINT "SS去除率"; DL(5)
 18370 LOCATE 21, 41: PRINT "汚泥量"; VO2(5); "(kg/day)"
 18380 LOCATE 22, 1: PRINT "生污泥之含水率"; E(5)
 18390 LOCATE 22, 41: PRINT "汚泥體積"; VO3(5); "(CMD)"
 18400 LOCATE 23, 1: PRINT "生污泥之比重"; SP(5);:
 LOCATE 23, 41: PRINT "出水SS"; SS2(5); "(mg/ℓ)"
 18420 LOCATE 24, 1: PRINT "VSS佔汚泥量"; RA2(5);:
 LOCATE 24, 41: PRINT "出水BOD"; SB2(5); "(mg/ℓ)"
 18440 IF INKEY\$=" " THEN 18440
 18445 BEEP: FOR KK=1 TO 500: NEXT: BEEP
 18450 CLS: LOCATE 1, 36: COLOR 0, 7: PRINT "二級處理": COLOR 7, 0
 18460 ON C2 GOTO 18470, 18610, 18770
 18470 LOCATE 2, 34: COLOR 07,: PRINT "活性汚泥法": COLOR 7, 0
 18480 LOCATE 3, 1: PRINT "迴流汚泥比"; RA1(6)
 18490 LOCATE 4, 1: PRINT "迴流汚泥濃度"; RI(6)
 18500 LOCATE 5, 1: PRINT "BOD汚泥負荷"; LO1(6)
 18510 LOCATE 6, 1: PRINT "BOD容積負荷"; LO2(6)
 18520 LOCATE 7, 1: PRINT "每天去除1kg BOD所需氧量"; DOB (6)
 18530 LOCATE 8, 1: PRINT "MLSS每天每公斤所需氧量"; DOS(6)
 18540 LOCATE 9, 1: PRINT "氧吸收率"; AB(6)
 18550 LOCATE 3, 41: PRINT "停留時間"; T(6); "(hrs)"
 18560 LOCATE 4, 41: PRINT "採用"; M(6); "池
 18565 LOCATE 5, 41: PRINT "每池長"; L(6); " M×寬"; W(6); "M×有效
 水深"; H(6); "M"
 18570 LOCATE 6, 41: PRINT "BOD去除率"; CINT(DL(6)*100); "%"
 18580 LOCATE 7, 41: PRINT "汚泥齡"; T1(6); "日"

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18590 LOCATE 8, 41: PRINT "需氧量"; DO(6); "(kg-O/day)"
18600 LOCATE 9, 41: PRINT "空氣量"; QA(6); "(M³/day)"
18605 GOTO 18870
18610 LOCATE 2, 38: COLOR 0, 7: PRINT "RBC法": COLOR 7, 0
18620 LOCATE 3, 1: IF C3= 1 THEN PRINT "由Antonie法計算"
18630 IF C3=2 THEN PRINT "由輸入處理水BOD負荷量計算"
18640 LOCATE 4, 1: PRINT "槽設為半圓柱體，共"; M(6); "槽，共需圓板數";
    MA(6); "片"
18650 LOCATE 5, 1: PRINT "半圓柱槽長"; L(6); "(M),直徑"; D(6); "(M)"
18660 LOCATE 6, 1: PRINT "圓板與槽的壁及底間隔為"; IN; "(M)"
18670 LOCATE 7, 1: PRINT "圓板厚度"; TH(6); "(mm)"
18680 LOCATE 8, 1: PRINT "浸水率"; WA(6)
18690 LOCATE 4, 41: PRINT "停留時間"; T(6); "(hrs)"
18700 LOCATE 5, 41: PRINT "每槽實容量"; VO2(6); "(M³)"
18710 IF C3=2 THEN 18740
18720 LOCATE 6, 41: PRINT "水量面積負荷"; HL(6); "(\ell/m²·d)"
18730 GOTO 18750
18740 LOCATE 6, 41: PRINT "處理水BOD負荷"; BL(6); "(g/m²·d)"
18750 LOCATE 7, 41: PRINT "BOD去除率"; DL(6); "%"
18760 LOCATE 8, 41: PRINT "液量面積比 (G 值)"; G; "(\ell/m²)"
18765 GOTO 18870
18770 LOCATE 2, 32: COLOR 0, 7: PRINT "高率滴濾法": COLOR 7, 0
18780 LOCATE 3, 1: PRINT "循環比"; RA(6)
18790 LOCATE 4, 1: PRINT "第一段池共"; M1(6); "池直徑"; D1(6); "M深";
    H1(6); "M"
18800 LOCATE 4, 41: PRINT "濾料量"; VO1(6); "(M³)濾料直徑"; D(6);
    "(mm)"
18810 LOCATE 5, 1: PRINT "BOD負荷"; BL1(6); "(kg/m²·day)"
18820 LOCATE 5, 41: PRINT "BOD去除率"; DL1(6); "%"
18830 LOCATE 6, 1: PRINT "第二段池共"; M2(6); "池直徑"; D2(6); "M 深";
    H2(6); "M"
18840 LOCATE 6, 41: PRINT "濾料量"; VO2(6); "(M³)濾料直徑"; D(6);
    "(mm)"
18850 LOCATE 7, 1: PRINT "BOD負荷"; BL2(6); "(kg/m²·day)"
18860 LOCATE 7, 41: PRINT "BOD去除率"; DL2(6); "%"
18870 IF C2=1 THEN KL=9
18880 IF C2=2 THEN KL=8
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18890 IF C2=3 THEN KL=7
 18895 IF CHECK(6)=0 THEN KL=1
 18900 LOCATE (KL+1), 32: COLOR 0, 7: PRINT "最終沉澱池": COLOR 7, 0
 18910 LOCATE (KL+2), 1: PRINT "停留時間"; T(7); "(hrs)"
 18920 LOCATE (KL+2), 41: PRINT "採用池數"; M(7); "池"
 18930 LOCATE (KL+3), 1: PRINT "每池面積"; A(7); "(m²)"
 18940 LOCATE (KL+3), 41: PRINT "長"; L(7); "Mx寬"; W(7); "Mx有效水深"; H(7); "M"
 18950 LOCATE (KL+4), 1: PRINT "溢流堰負荷率"; LO1(7); "(CMD/M)"
 18960 LOCATE (KL+4), 41: PRINT "5 集水槽，每槽長爲"; LW1(7); "M×50cm寬"
 18970 LOCATE (KL+5), 1: PRINT "表面負荷率"; LO2(7); "(M³/m²·day)"
 18980 LOCATE (KL+5), 41: PRINT "SS去除率"; DL(7); "%" "
 18990 LOCATE (KL+6), 32: COLOR 0, 7: PRINT "污泥濃縮池": COLOR 7, 0
 19000 LOCATE (KL+7), 1: PRINT "初沉池污泥(SS)": VO1(8); "(kg/day)"
 19010 LOCATE (KL+7), 41: PRINT "停留時間"; T(8); "(hrs)"
 19020 LOCATE (KL+8), 1: PRINT "終沉池污泥(SS)": VO2(8); "(kg/day)"
 19030 LOCATE (KL+8), 41: PRINT "濃縮後污泥含水率"; WA2(8)
 19040 LOCATE (KL+9), 1: PRINT "終沉池污泥(BOD)": VO3(8); "(kg/day)"
 19050 LOCATE (KL+9), 41: PRINT "槽總容量爲"; VO6(8); "(M³)，槽數爲"; M(8)
 19060 LOCATE (KL+10), 1: PRINT "總污泥量"; VOT(8); "(kg/day)"
 19070 LOCATE (KL+10), 41: PRINT "每槽面積"; A(8); "(m²)採用直徑"; D(8); "(M)"
 19080 LOCATE (KL+11), 1: PRINT "污泥體積"; VOT(8); "(kg/day)"
 19090 LOCATE (KL+11), 41: PRINT "水力面積負荷"; LO1(8); "(M³/m²·d)"
 19100 LOCATE (KL+12), 1: PRINT "去除BOD的污泥轉換率"; DL1(8)
 19110 LOCATE (KL+12), 41: PRINT "固體負荷"; LO2(8); "(kg/m²·d)"
 19120 LOCATE (KL+13), 1: PRINT "體內自行氧化率"; DL2(8); "(ℓ/day)"
 19130 LOCATE (KL+13), 41: PRINT "濃縮後的污泥體積爲"; VO(8); "(CMD)"
 19140 LOCATE (KL+14), 1: PRINT "含水率"; WA1(8)
 19150 LOCATE (KL+14), 41: PRINT "上澄液體積爲"; VO7(8); "(CMD)"
 19160 LOCATE (KL+15), 1: PRINT "比重"; SP(8);
 19170 LOCATE 1, 60: INPUT "同上一頁(Y/N)": BS: BEEP: FOR KK=1 TO 500: NEXT: BEEP: IF BS="Y" OR BS="y" THEN GOTO 18000
 19210 CLS: LOCATE 1, 32: COLOR 0, 7: PRINT "真空過濾機": COLOR 7, 0

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19220 LOCATE 2, 1: PRINT "過濾速度"; VE(I); "kg/m2•s"
19230 LOCATE 2, 41: PRINT "消石灰加入量"; QA1(I); "kg/hr"
19240 LOCATE 3, 1: PRINT "鐵鹽加入量"; QA2(I); "kg/hr"
19250 LOCATE 3, 41: PRINT "固體物加入量"; QA3(I); "kg/hr"
19260 LOCATE 4, 1: PRINT "餘裕率15%過濾面積"; A2(I); "m2"
19270 LOCATE 4, 41: PRINT "真空過濾機2900mmD×3000 mmL"; AN(I); "座"
19280 LOCATE 5, 1: PRINT "脫水機房"; L(I); "M長×"; W(I); "M寬"
19290 LOCATE 7, 32: COLOR 0, 7: PRINT "管理樓": COLOR 7, 0
19300 LOCATE 8, 1: PRINT "管理樓建為"; AN10; "樓"; L10; "M長×"; W10;
    "M寬"
19310 LOCATE 1, 60: INPUT "回上一頁(Y/N)": BS: BEEP: FOR KK=1
    TO 500: NEXT: BEEP: IF BS=="Y" OR BS=="y" THEN GOTO 18450
20000 GOTO 600
30000 ' **** 测試輸入資料是否正確 ****
30010 IF PP1=0 THEN 30120
30020 IF (PP1>=OO(I) AND PP1<=PP(I)) THEN 30180
30030 BEEP
30040 LOCATE 21, 27
30050 PRINT "與設施標準差太多"
30055 LOCATE 22, 30
30056 PRINT "或資料太離譜"
30060 LOCATE 23, 27
30070 PRINT "是否重新輸入(Y/N)";
30080 INPUT " ", PAS
30090 PRINT CHR$(27); "L0, 310, 399, 381, 0, BF; ";
30100 IF PAS=="N" OR PAS=="n" THEN 30180
30110 GOTO 33000
30120 LOCATE 23, 32
30130 PRINT "資料錯誤 重新輸入";
30140 PLAY "MFML03CC"
30150 PLAY "MFML02CC"
30155 PRINT " ";
30170 GOTO 33000
30180 PRINT CHR$(27); "L0, 300, 399, 381, 0, BF; ";
30190 RETURN
32000 ' **** 資料輸入的方法說明 ****
32010 LOCATE 19, 64
```

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32020 COLOR 0, 7
32030 PRINT "輸入的步驟說明"
32040 COLOR 7, 0
32050 LOCATE 21, 51
32060 PRINT "<A>按想輸入資料的阿拉伯號碼"
32070 LOCATE 22, 51
32080 PRINT "<B>輸入資料"
32090 LOCATE 23, 51
32100 PRINT "<C>若想重新更改資料"
32110 LOCATE 24, 51
32120 PRINT "再按該阿拉伯號碼";
32130 LOCATE 1, 1
32140 PRINT CHR$(27); "L400, 268, 639, 381, B;";
32150 LOCATE 1, 1
32160 RETURN
33000 ' ***** 副程式 ***** 接受輸入資料並顯示出 *****
33010 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;";
33015 LOCATE 20, 1: PRINT E2$
33016 LOCATE 21, 1: PRINT E3$
33017 K=0
33020 LOCATE 23, 1
33030 PRINT "輸入<";
33040 FOR K=1 TO 9
33050 IF J(I)<>K THEN NEXT
33060 COLOR 0, 7: PRINT K;: COLOR 7, 0
33070 PRINT ">的資料";
33080 ON I GOTO 33090, 33300, 33800, 34000, 34200, 34600, 35800, 36200, 36500
34600 ON C2 GOTO 34605, 35000, 35400
34605 IF C1=1 THEN 34800
34610 ON K GOTO 34620, 34650, 34680, 34710, 34740, 34770, 34792
34620 INPUT " ", RA1$(I): PP1=VAL(RA1$(I)): GOSUB 30000
34630 LOCATE 2, 40: PRINT " "
34640 RA1(I)=PP1: LOCATE 2, 40: PRINT RA1(I): GOTO 34900
34650 INPUT " ", RISS$(I): PP1=VAL(RISS$(I)): GOSUB 30000
34660 LOCATE 3, 40: PRINT " "
34670 RISS(I)=PP1: LOCATE 3, 40: PRINT RISS(I): GOTO 34900
34680 INPUT " ", LO1$(I): PP1=VAL(LO1$(I)): GOSUB 30000

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34690 LOCATE 4, 40: PRINT " "
34700 LO1(I)=PP1: LOCATE 4, 40: PRINT LO1(I): GOTO 34900
34710 INPUT " ", LO2$(I): PP1=VAL(LO2$(I)): GOSUB 30000
34720 LOCATE 5, 40: PRINT " "
34730 LO2(I)=PP1: LOCATE 5, 40: PRINT LO2(I): GOTO 34900
34740 INPUT " ", H$(I): PP1=VAL(H$(I)): GOSUB 30000
34750 LOCATE 6, 40: PRINT " "
34760 H(I)=PP1: LOCATE 6, 40: PRINT H(I): GOTO 34900
34770 INPUT " ", M$(I): PP1=VAL(M$(I)): GOSUB 30000
34780 LOCATE 7, 40: PRINT " "
34790 M(I)=PP1: LOCATE 7, 40: PRINT M(I): GOTO 34900
34792 INPUT " ", RA2$(I): PP1=VAL(RA2$(I)): GOSUB 30000
34793 LOCATE 8, 40: PRINT " "
34794 RA2(I)=PP1: LOCATE 8, 40: PRINT RA2(I): GOTO 34900
34800 ON K GOTO 34810, 34840, 34870
34810 INPUT " ", DOB$(I): PP1=VAL(DOB$(I)): GOSUB 30000
34820 LOCATE 12, 40: PRINT " "
34830 DOB(I)=PP1: LOCATE 12, 40: PRINT DOB(I): GOTO 34900
34840 INPUT " ", DOS$(I): PP1=VAL(DOS$(I)): GOSUB 30000
34850 LOCATE 13, 40: PRINT " "
34860 DOS(I)=PP1: LOCATE 13, 40: PRINT DOS(I): GOTO 34900
34870 INPUT " ", AB$(I): PP1=VAL(AB$(I)): GOSUB 30000
34880 LOCATE 14, 40: PRINT " "
34890 AB(I)=PP1: LOCATE 14, 40: PRINT AB(I): GOTO 34900
34900 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;"; 
34910 GOSUB 32000
34920 C1=0
34930 RETURN
34940 ' ***** I=6 *****
35000 ON K GOTO 35010, 35040, 35070, 35100, 35130, 35200
35010 INPUT " ", D$(I): PP1=VAL(D$(I)): GOSUB 30000
35020 LOCATE 2, 40: PRINT " "
35030 D(I)=PP1: LOCATE 2, 40: PRINT D(I): GOTO 35230
35040 INPUT " ", IN$(I): PP1=VAL(IN$(I)): GOSUB 30000
35050 LOCATE 3, 40: PRINT " "
35060 IN(I)=PP1: LOCATE 3, 40: PRINT IN(I): GOTO 35230
35070 INPUT " ", TH$(I): PP1=VAL(TH$(I)): GOSUB 30000
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35080 LOCATE 4, 40: PRINT " "
35090 TH(I)=PP1: LOCATE 4, 40: PRINT TH(I): GOTO 35230
35100 INPUT " ", WAS(I): PP1=VAL(WAS(I)): GOSUB 30000
35110 LOCATE 5, 40: PRINT " "
35120 WA(I)=PP1: LOCATE 5, 40: PRINT WA(I): GOTO 35230
35130 IF C3=2 THEN 35170
35140 INPUT " ", HLS(I): PP1=VAL(HLS(I)): GOSUB 30000
35150 LOCATE 6, 40: PRINT " "
35160 HL(I)=PP1: LOCATE 6, 40: PRINT HL(I): GOTO 35230
35170 INPUT " ", BL$(I): PP1=VAL(BL$(I)): GOSUB 30000
35180 LOCATE 6, 40: PRINT " "
35190 BL(I)=PP1: LOCATE 6, 40: PRINT BL(I): GOTO 35230
35200 INPUT " ", M$(I): PP1=VAL(M$(I)): GOSUB 30000
35210 LOCATE 7, 40: PRINT " "
35220 M(I)=PP1: LOCATE 7, 40: PRINT M(I): GOTO 35230
35230 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF;";;
35240 GOSUB 32000
35250 RETURN
35260 ***** I=6-2 *****
35400 ON K GOTO 35410, 35440, 35470, 35500, 35530, 35560, 35590
35410 INPUT " ", RAS(I): PP1=VAL(RAS(I)): GOSUB 30000
35420 LOCATE 2, 40: PRINT " "
35430 RA(I)=PP1: LOCATE 2, 40: PRINT RA(I): GOTO 35620
35440 INPUT " ", D$(I): PP1=VAL(D$(I)): GOSUB 30000
35450 LOCATE 3, 40: PRINT " "
35460 D(I)=PP1: LOCATE 3, 40: PRINT D(I): GOTO 35620
35470 INPUT " ", HL1$(I): PP1=VAL(HL1$(I)): GOSUB 30000
35480 LOCATE 4, 40: PRINT " "
35490 HL1(I)=PP1: LOCATE 4, 40: PRINT HL1(I): GOTO 35620
35500 INPUT " ", BL1$(I): PP1=VAL(BL1$(I)): GOSUB 30000
35510 LOCATE 5, 40: PRINT " "
35520 BL1(I)=PP1: LOCATE 5, 40: PRINT BL1(I): GOTO 35620
35530 INPUT " ", BL2$(I): PP1=VAL(BL2$(I)): GOSUB 30000
35540 LOCATE 6, 40: PRINT " "
35550 BL2(I)=PP1: LOCATE 6, 40: PRINT BL2(I): GOTO 35620
35560 INPUT " ", M1$(I): PP1=VAL(M1$(I)): GOSUB 30000
35570 LOCATE 7, 40: PRINT " "

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35580 M1(I)=PP1: LOCATE 7, 40: PRINT M1(I): GOTO 35620
35590 INPUT " ", M2$(I): PP1=VAL(M2$(I)): GOSUB 30000
35600 LOCATE 8, 40: PRINT " "
35610 M2(I)=PP1: LOCATE 8, 40: PRINT M2(I): GOTO 35620
35620 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF; ";
35630 GOSUB 32000
35640 RETURN
35800 ON K GOTO 35810, 35840, 35870, 35900, 35960
35810 INPUT " ", T$(I): PP1=VAL(T$(I)): GOSUB 30000
35820 LOCATE 2, 40: PRINT " "
35830 T(I)=PP1: LOCATE 2, 40: PRINT T(I): GOTO 36000
35840 INPUT " ", H$(I): PP1=VAL(H$(I)): GOSUB 30000
35850 LOCATE 3, 40: PRINT " "
35860 H(I)=PP1: LOCATE 3, 40: PRINT H(I): GOTO 36000
35870 INPUT " ", M$(I): PP1=VAL(M$(I)): GOSUB 30000
35880 LOCATE 4, 40: PRINT " "
35890 M(I)=PP1: LOCATE 4, 40: PRINT M(I): GOTO 36000
35900 INPUT " ", RA1$(I): PP1=VAL(RA1$(I)): GOSUB 30000
35910 LOCATE 5, 40: PRINT " "
35920 RA1(I)=PP1: LOCATE 5, 40: PRINT RA1(I): GOTO 36000
35960 INPUT " ", LO1$(I), PP1=VAL(LO1$(I)): GOSUB 30000
35970 LOCATE 6, 40: PRINT " "
35980 LO1(I)=PP1: LOCATE 6, 40: PRINT LO1(I): GOTO 36000
36000 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF; ";
36010 GOSUB 32000
36020 RETURN
36200 ON K GOTO 36210, 36240, 36270, 36300, 36330, 36360, 36390, 36420
36210 INPUT " ", DL1$(I): PP1=VAL(DL1$(I)): GOSUB 30000
36220 LOCATE 2, 38: PRINT " "
36230 DL1(I)=PP1: LOCATE 2, 38: PRINT DL1(I): GOTO 36460
36240 INPUT " ", DL2$(I): PP1=VAL(DL2$(I)): GOSUB 30000
36250 LOCATE 3, 38: PRINT " "
36260 DL2(I)=PP1: LOCATE 3, 38: PRINT DL2(I): GOTO 36460
36270 INPUT " ", WA1$(I): PP1=VAL(WA1$(I)): GOSUB 30000
36280 LOCATE 4, 38: PRINT " "
36290 WA1(I)=PP1: LOCATE 4, 38: PRINT WA1(I): GOTO 36460
36300 INPUT " ", SP$(I): PP1=VAL(SP$(I)): GOSUB 30000
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36310 LOCATE 5, 38: PRINT " "

 36320 SP(I)=PP1: LOCATE 5, 38: PRINT SP(I): GOTO 36460

 36330 INPUT " ", TS(I): PP1=VAL(TS(I)): GOSUB 30000

 36340 LOCATE 6, 38: PRINT " "

 36350 T(I)=PP1: LOCATE 6, 38: PRINT T(I): GOTO 36460

 36360 INPUT " ", HS(I): PP1=VAL(HS(I)): GOSUB 30000

 36370 LOCATE 7, 38: PRINT " "

 36380 H(I)=PP1: LOCATE 7, 38: PRINT H(I): GOTO 36460

 36390 INPUT " ", MS(I): PP1=VAL(MS(I)): GOSUB 30000

 36400 LOCATE 8, 38: PRINT " "

 36410 M(I)=PP1: LOCATE 8, 38: PRINT M(I): GOTO 36460

 36420 INPUT " ", WA2\$(I): PP1=VAL(WA2\$(I)): GOSUB 30000

 36430 LOCATE 9, 38: PRINT " "

 36440 WA2(I)=PP1: LOCATE 9, 38: PRINT WA2(I): GOTO 36460

 36460 PRINT CHR\$(27); "L0, 285, 399, 381, 0, BF; ";

 36470 GOSUB 32000

 36480 RETURN

 36500 ON K GOTO 36510, 36540, 36570, 36600, 36630, 36660, 36690, 36720

 36510 INPUT " ", TS(I): PP1=VAL(TS(I)): GOSUB 30000

 36520 LOCATE 2, 35: PRINT " "

 36530 T(I)=PP1: LOCATE 2, 35: PRINT T(I): GOTO 36760

 36540 INPUT " ", E1\$(I): PP1=VAL(E1\$(I)): GOSUB 30000

 36550 LOCATE 3, 35: PRINT " "

 36560 E1(I)=PP1: LOCATE 3, 35: PRINT E1(I): GOTO 36760

 36570 INPUT " ", E2\$(I): PP1=VAL(E2\$(I)): GOSUB 30000

 36580 LOCATE 4, 35: PRINT " "

 36590 E2(I)=PP1: LOCATE 4, 35: PRINT E2(I): GOTO 36760

 36600 INPUT " ", E3\$(I): PP1=VAL(E3\$(I)): GOSUB 30000

 36610 LOCATE 5, 35: PRINT " "

 36620 E3(I)=PP1: LOCATE 5, 35: PRINT E3(I): GOTO 36760

 36630 INPUT " ", E4\$(I): PP1=VAL(E4\$(I)): GOSUB 30000

 36640 LOCATE 6, 35: PRINT " "

 36650 E4(I)=PP1: LOCATE 6, 35: PRINT E4(I): GOTO 36760

 36660 INPUT " ", WAS(I): PP1=VAL(WAS(I)): GOSUB 30000

 36670 LOCATE 7, 35: PRINT " "

 36680 WA(I)=PP1: LOCATE 7, 35: PRINT WA(I): GOTO 36760

 36690 INPUT " ", E5\$(I): PP1=VAL(E5\$(I)): GOSUB 30000

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36700 LOCATE 8, 35: PRINT " "
36710 E5(I)=PP1: LOCATE 8, 35: PRINT E5(I): GOTO 36760
36720 INPUT " ", E6$(I): PP1=VAL(E6$(I)): GOSUB 30000
36730 LOCATE 9, 35: PRINT " "
36740 E6(I)=PP1: LOCATE 9, 35: PRINT E6(I): GOTO 36760
36760 PRINT CHR$(27); "L0, 285, 399, 381, 0, BF; ";
36770 GOSUB 32000
36780 RETURN
40000 LOCATE 2, 2: PRINT "<1>設計省略"
40010 LOCATE 3, 2: PRINT "<2>設計";: INPUT " ", CC$
40020 IF CC$<>"1" AND CC$<>"2" THEN 40000
40030 IF CC$="1" THEN 40050
40040 ON I GOTO 100, 1535, 4035, 5035, 6035, 8035, 12535, 14035, 16040
40050 LOCATE 4, 2: BEEP: PRINT "Are you sure? (Y/N)";: INPUT " ",
CD$
40051 IF CD$<>"Y" AND CD$<>"N" AND CD$<>"y" AND CD$<>"n"
THEN 40050
40052 IF CD$="N" OR CD$="n" THEN LOCATE 4, 2: PRINT": GOTO
40000
40060 ON I GOTO 40060, 40070, 40090, 40110, 40130, 40150, 40180, 40200, 40220
40070 QD1=QA*1.03: CHECK(2)=0
40080 GOTO 1940
40090 Q(3)=0: CHECK(3)=0
40100 GOTO 4400
40110 Q(4)=QD1-Q(3): VO3(4)=0: CHECK(4)=0: IF E(3)=0 THEN
SS1(4)=CINT(QA*SS1(1)/Q(4)) ELSE SS1(4)=CINT(QA*SS1(1)*
E(3)/Q(4))
40120 GOTO 5497
40130 Q(5)=Q(4)-VO3(4): VO3(5)=0: SS2(5)=SS1(4): VO2(5)=0:
CHECK(5)=0: SB1(5)=CINT(SB1(1)*QA/(Q(4)-VO3(4))):*
SB2(5)=SB1(5)
40140 GOTO 6690
40150 Q(6)=Q(5)-VO3(5): SS1(6)=SS2(5): T(6)=0: CHECK(6)=0
40160 GOTO 8195
40180 CHECK(7)=0
40190 GOTO 13050
40200 CHECK(8)=0
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40210 GOTO 14720
40220 CHECK(9)=0
47000 ' ***** 管理樓 *****
47010 IF QA>1000 THEN 47040
47020 AN10=1: W10=4
47030 L10=CINT(QA*.04/4): GOTO 47200
47040 IF QA>5000 THEN 47080
47050 AN10=2: W10=5
47060 L10=CINT(QA*.035/(W10*AN10))
47070 GOTO 47200
47080 IF QA>10000 THEN 47120
47090 AN10=3: W10=6
47100 L10=CINT(QA*.03/(AN10*W10))
47110 GOTO 47200
47120 IF QA>50000! THEN 47140
47125 AN10=4: W10=9
47130 L10=CINT(QA*.025/(AN10*W10))
47140 IF QA>70000! THEN 47170
47150 AN10=4: W10=10
47160 L10=CINT(QA*.015/(AN10*W10))
47165 GOTO 47200
47170 AN10=5: W10=10
47180 L10=CINT(QA*.01/(AN10*W10))
47200 GOTO 16710

100 ' ***** QA=1000 *****
110 OPEN "I", #1, "DATA"
120 FOR I=1 TO 9
130 INPUT #1, L(I), W(I), M(I), D(I), D1(I), D2(I)
140 NEXT I
150 INPUT #1, LW(5), LW1(7), L(9), W(9), L10, W10, M1(6), M2(6), C2
160 FOR I=2 TO 9: INPUT #1, CHECK(I): NEXT I
170 CLOSE #1
180 'FOR J=0 TO 9
190 KEY OFF
200 PRINT CHR$(27); "L0, 0, 639, 381, 0, BF;";
210 'C2=1: M(6)=2+J: L(6)=9+J: W(6)=5-J

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220 'C2=2: M(6)=6-J: L(6)=7-J: D(6)=2.4-J\2
 230 'C2=3: M1(6)=6-J\2: M2(6)=4-J\2: D1(6)=5+J: D2(6)=4-J
 240 'M(2)=1: M(4)=1+J/2: M(5)=2+J: M(7)=2+J: M(8)=1+J: M(9)=1
 250 'L(2)=2: L(4)=2+2*J: L(5)=6+2*J: L(7)=5+2*J: D(8)=2.8+J:
 L(9)=5+J: LW(5)=.5+J\2: LW1(7)=.4+J\2
 260 'W(2)=1: W(4)=.6: W(5)=2+J: W(7)=3+J: W(9)=3+J: L10=4:
 W10=2
 280 ON C2 GOTO 290, 340, 400
 290 L=L(4)+W(6)*M(6)+W(2)*M(2)+5
 300 IF (W(7)*M(7)+W(6)*M(6)+10)<=L THEN 320
 310 L=W(7)*M(7)+W(6)*M(6)+10
 320 IF (W(5)*M(5)+W(6)*M(6)+10)<=L THEN 530
 330 L=W(5)*M(5)+W(6)*M(6)+10: GOTO 530
 340 M1(6)=CINT(M(6)/2): M2(6)=M(6)-M1(6)
 350 L=W(2)+L(4)+D(6)*M1(6)+5
 360 IF (W(7)*M(7)+D(6)*M1(6)+10)<=L THEN 380
 370 L=W(7)*M(7)+D(6)*M1(6)+10
 380 IF (W(5)*M(5)+D(6)*M1(6)+10)<=L THEN 530
 390 L=W(5)*M(5)+D(6)*M1(6)+10: GOTO 530
 400 M3(6)=CINT(M1(6)/2): M32(6)=M1(6)-M3(6)
 410 M4(6)=CINT(M2(6)/2): M42(6)=M2(6)-M4(6)
 420 IF D1(6)*M3(6)-D2(6)*M4(6)<=0 THEN 480
 430 L=W(2)+L(4)+D1(6)*M3(6)+5
 440 IF (W(7)*M(7)+D1(6)*M3(6)+10)<=L THEN 460
 450 L=W(7)*M(7)+D1(6)*M3(6)+10
 460 IF (W(5)*M(5)+D1(6)*M3(6)+10)<=L THEN 530
 470 L=W(5)*M(5)+D1(6)*M3(6)+10: GOTO 530
 480 L=W(2)+L(4)+D2(6)*M4(6)+10
 490 IF (W(7)*M(7)+D2(6)*M4(6)+10)<=L THEN 510
 500 L=W(7)*M(7)+D2(6)*M4(6)+10
 510 IF (W(5)*M(5)+D2(6)*M4(6)+10)<=L THEN 530
 520 L=W(5)*M(5)+D2(6)*M4(6)+10
 530 IF (W(5)*M(5)+W10+L(9)+15)<=L THEN 550
 540 L=W(5)*M(5)+W10+L(9)+15
 550 IF (W(7)*M(7)+W10+L(9)+15)<=L THEN 570
 560 L=W(7)*M(7)+W10+L(9)+15
 570 IF (W(7)*M(7)+D(8)*M(8)+1)<=L THEN 590

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580 L=W(7)*M(7)+D(8)*M(8)+1
590 W=L(2)+L(5)+L(7)+11
600 IF (W(4)*M(4)+L(5)+L(7)+6)<=W THEN 620
610 W=W(4)*M(4)+L(5)+L(7)+6
620 ON C2 GOTO 630, 690, 750
630 IF (L(6)+L10+D(8)+10)<=W THEN 650
640 W=L(6)+L10+D(8)+10
650 IF (L(6)+L(7)+5)<=W THEN 670
660 W=L(6)+L(7)+5
670 IF (L(6)+W(9)+D(8)+2)<=W THEN 810
680 W=L(6)+W(9)+D(8)+2: GOTO 810
690 IF (L(6)*2+L10+D(8)+11)<=W THEN 710
700 W=L(6)*2+L10+D(8)+21
710 IF (L(6)*2+L(7)+5)<=W THEN 730
720 W=L(6)*2+L(7)+5
730 IF (L(6)*2+W(9)+D(8)+3)<=W THEN 810
740 W=L(6)*2+W(9)+D(8)+3: GOTO 810
750 IF ((D1(6) +D2(6))*2+L10+D(8)+14)<=W THEN 770
760 W=(D1(6)+D2(6))*2+L10+D(8)+14
770 IF ((D1(6)+D2(6))*2+L(7)+5)<=W THEN 790
780 W=(D1(6)+D2(6))*2+L(7)+5
790 IF ((D1(6)+D2(6))*2+W(9)+D(8)+6)<=W THEN 810
800 W=(D1(6)+D2(6))*2+W(9)+D(8)+6
810 IF (600/L-370/W)<=0 THEN 830
820 LL=370/W: GOTO 840
830 LL=600/L
840 X1=LL: Y1=X1
850 LOCATE 4, 1: COLOR 0, 7: PRINT "平": COLOR 7, 0
860 LOCATE 8, 1: COLOR 0, 7: PRINT "面": COLOR 7, 0
870 LOCATE 12, 1: COLOR 0, 7: PRINT "圖": COLOR 7, 0
880 X2=29: Y2=5
890 FOR K=1 TO 9
900 ON K GOTO 2940, 910, 2940, 970, 1070, 1260, 2030, 2440, 2860
910 X(K)=INT(X2+W(K)*M(K)*X1)
920 Y(K)=INT(Y2+L(K)*Y1)
930 IF CHECK(2)=0 THEN 2940
940 LOCATE 1, 2: PRINT "抽水站"

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950 PRINT CHR$(27); "L49, 5,"; X(K); ","; Y(K); ",B;";  
960 LOCATE 1, 1: GOTO 2940  
970 X(K)=INT(X(2)+5*X1+L(K)*Y1)  
980 Y(K)=Y2  
990 YY(K)=INT(W(K)*X1)  
1000 S=INT(X(K)/8)+1  
1010 IF CHECK(4)=0 THEN 2940  
1020 LOCATE 1, S: PRINT "沉砂池"  
1030 FOR KK1=1 TO M(K)  
1040 PRINT CHR$(27); "L"; INT(X(K)-L(K)*X1); ",5,"; X(K); ","; Y(K)  
    +KK1*YY(K); ",B;";  
1050 LOCATE 1, 1: NEXT KK1  
1060 GOTO 2940  
1070 XX(K)=INT(W(K)*X1)  
1080 X(K)=X2  
1090 IF CHECK(4)=0 THEN Y(K)=INT(Y(2)+Y1+L(K)*Y1): GOTO  
    1110  
1095 IF L(2)>W(4)*M(4) THEN Y(K)=INT(Y(2)+Y1+L(K)*Y1): GOTO  
    1110  
1100 Y(K)=INT(Y(4)+M(4)*YY(4)+L(K)*Y1+YI)  
1110 VER=INT(Y(K)-L(K)*Y1)/15.24+2  
1120 IF CHECK(5)=0 THEN 2940  
1130 LOCATE VER, 4: PRINT "初沉池"  
1140 FOR KK1=1 TO M(K)  
1150 PRINT CHR$(27); "L29,"; INT(Y(K)-L(K)*Y1); ","; KK1*XX(K)  
    +X(K); ","; Y(K); ",B;";  
1160 LOCATE 1, 1  
1170 FOR KK2=1 TO 5  
1180 A=XX(K)/5  
1190 B=KK2*A+X(K)+(KK1-1.09)*XX(K)  
1200 C=B+.5*X1  
1210 PRINT CHR$(27); "L"; CINT(C); ","; Y(K)-INT(LW(5)*Y1);  
    ","; INT(B); ","; Y(K); ",B;";  
1220 LOCATE 1, 1  
1230 NEXT KK2  
1240 NEXT KK1  
1250 GOTO 2940
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1260 ON C2 GOTO 1270, 1420, 1650
1270 IF (W(5)*M(5)-W(7)*M(7))<=0 THEN 1300
1280 X(K)=INT(M(5)*XX(5)+X(5)+6*X1)
1290 GOTO 1320
1300 X(K)=INT(M(7)*W(7)*X1+X2+5*X1)
1310 IF CHECK(5)=0 AND CHECK(7)=0 THEN X(K)=INT(X(4)+5*X1)
1320 XX(K)=INT(W(K)*X1)
1330 Y(K)=INT(Y2+L(6)*Y1)
1340 S=INT(X(K)/8)+3
1350 IF (CHECK(6)=0 THEN 2940
1360 LOCATE 4, S: PRINT "活性汚泥"
1370 FOR KK1=1 TO M(K)
1380 PRINT CHR$(27); "L"; X(K); ",5,"; KK1*XX(K)+X(K); ","; Y(K);
      ",B;";
1390 LOCATE 1, 1
1400 NEXT KK1
1410 GOTO 2940
1420 IF (W(5)*M(5)-W(7)*M(7))<=0 THEN 1450
1430 X1(K)=INT(M(5)*XX(5)+X(5)+6*X1)
1440 GOTO 1470
1450 X1(K)=INT(M(7)*W(7)*X1+X2+5*X1)
1460 IF CHECK(5)=0 AND CHECK(7)=0 THEN X1(K)=INT(X(4)+5*X1)
1470 X2(K)=X1(K)
1480 XX(K)=INT(D(K)*X1)
1490 Y1(K)=INT(Y2+L(6)*Y1)
1500 Y2(K)=INT(Y2+L(6)*2*Y1+Y1)
1510 S1=INT(X1(K)/8)+3
1520 S2=S1
1530 R2=INT((Y1(K)+Y1)/15.24)+2
1540 IF CHECK(6)=0 THEN 2940
1550 LOCATE 3, S1: PRINT "第一段RBC"
1560 LOCATE R2, S2: PRINT "第二段RBC"
1570 FOR KK1=1 TO M1(K)
1580 PRINT CHR$(27); "L"; X1(K); ",5,"; X1(K)+KK1*XX(K); ",";
      Y1(K); ",B;";
1590 LOCATE 1, 1: NEXT KK1
1600 FOR KK1=1 TO M2(K)

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```
1610 PRINT CHR$(27); "L"; X2(K); ","; Y1(K)+INT(Y1); ","; X2(K)+  
    KK1*XX(K); ","; Y2(K); ",B;";  
1620 LOCATE 1, 1  
1630 NEXT KK1  
1640 GOTO 2940  
1650 IF (W(5)*M(5)-W(7)*M(7))<=0 THEN 1690  
1660 X1(K)=INT(M(5)*XX(5)+X(5)+6*X1+D1(K)*X1/2)  
1670 X2(K)=INT(M(5)*XX(5)+X(5)+6*X1+D2(K)*X1/2)  
1680 GOTO 1720  
1690 X1(K)=INT(M(7)*W(7)*X1+X2+5*X1+D1(K)*X1/2)  
1700 X2(K)=INT(M(7)*W(7)*X1+X2+5*X1+D2(K)*X1/2)  
1710 IF CHECK(5)=0 AND CHECK(7)=0 THEN X1(K)=INT(X(4)+5*X1+  
    D1(K)*X1/2): X2(K)=INT(X(4)+5*X1+D2(K)*X1/2)  
1720 XX1(K)=INT(D1(K)*X1)  
1730 Y1(K)=INT(Y2+D1(K)*Y1/2)  
1740 Y2(K)=INT(Y1(K)+Y1+D1(K)*Y1/1.4)  
1750 Y3(K)=INT(Y2(K)+2*Y1+D2(K)*Y1/1.3)  
1760 XX2(K)=INT(D2(K)*X1)  
1770 Y4(K)=INT(Y3(K)+Y1+D2(K)*Y1/1.4)  
1780 R1=3  
1790 R2=INT(Y2(K)/15.24)+1  
1800 R3=INT(Y3(K)/15.24)+2  
1810 R4=INT(Y4(K)/15.24)+1  
1820 S=INT(X1(K)/8)+3  
1830 IF CHECK(6)=0 THEN 2940  
1840 LOCATE R1, S: PRINT "第一段"  
1850 LOCATE R2, S: PRINT "滴濾池"  
1860 LOCATE R3, S: PRINT "第二段"  
1870 LOCATE R4, S: PRINT "滴濾池"  
1880 FOR KK1=0 TO M3(K)-1  
1890 PRINT CHR$(27); "C"; X1(K)+KK1*XX1(K); ","; Y1(K); ",";  
    INT(D1(K)*X1/2); ";";  
1900 LOCATE 1, 1: NEXT KK1  
1910 FOR KK1=0 TO M32(K)-1  
1920 PRINT CHR$(27); "C"; X1(K)+KK1*XX1(K); ","; Y2(K); ",";  
    INT(D1(K)*X1/2); ";";  
1930 LOCATE 1, 1
```

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1940 NEXT KK1
1950 FOR KK2=0 TO M4(K)-1
1960 PRINT CHR$(27); "C"; X2(K)+KK2*XX2(K); ","; Y3(K); ",";
    INT(D2(K)*X1/2); ";";
1970 LOCATE 1, 1: NEXT KK2
1980 FOR KK2=0 TO M42(K)-1
1990 PRINT CHR$(27); "C"; X2(K)+ KK2*XX2(K); ","; Y4(K); ",";
    INT(D2(K)*X1/2); ";";
2000 LOCATE 1, 1
2010 NEXT KK2
2020 GOTO 2940
2030 X(K)=X2
2040 XX(K)=INT(W(K)*X1)
2050 ON C2 GOTO 2060, 2140, 2220
2060 IF Y(6)-Y(5)-Y2-M(4)*W(4)*Y1>=0 THEN 2110
2070 Y(K)=INT(Y(5)+5*Y1+L(K)*Y1): IF CHECK(7)=0 THEN 2940
2080 R2=INT((Y(K)-L(K)*Y1)/15.24)+2
2090 R1=INT((Y(5)+5*Y1)/15.24)-1
2100 GOTO 2310
2110 Y(K)=INT(Y(6)+L(K)*Y1): IF CHECK(7)=0 THEN 2940
2120 R1=INT(Y(6)/15.24)-1
2130 R2=INT(Y(6)/15.24)+2: GOTO 2310
2140 IF Y2(6)-Y(5)-Y(2)-M(4)*W(4)*Y1>=0 THEN 2190
2150 Y(K)=INT(Y(5)+5*Y1+L(K)*Y1): IF CHECK(7)=0 THEN 2940
2160 R2=INT((Y(5)+6*Y1)/15.24)+2
2170 R1=INT((Y(5)+5*Y1)/15.24)-1
2180 GOTO 2310
2190 Y(K)=INT(Y2(6)+L(K)*Y1): IF CHECK(7)=0 THEN 2940
2200 R1=INT(Y2(6)/15.24)-1
2210 R2=INT(Y2(6)/15.24)+2: GOTO 2310
2220 IF Y4(6)-Y(5)-Y2-M(4)*W(4)*Y1>=0 THEN 2270
2230 Y(K)=INT(Y(5)+5*Y1+D2(6)*Y1/2+L(K)*Y1): IF CHECK(7)=0
    THEN 2940
2240 R2=INT((Y(K)-L(K)*Y1)/15.24)+2
2250 R1=INT ((Y(5)+5*Y1)/15.24)-1
2260 GOTO 2310
2270 Y(K)=INT(Y4(6)+L(K)*Y1): IF CHECK(7)=0 THEN 2940

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2280 IF CHECK(5)=0 AND CHECK(6)=0 THEN Y(K)=INT(Y(4)+5*Y1)
2290 R1=INT(Y4(6)/15.24)-1
2300 R2=INT(Y4(6)/15.24)+2: GOTO 2310
2310 'LOCATE R1, 8: PRINT "道路"
2320 LOCATE R2, 8: PRINT "終沉池"
2330 FOR KK1=1 TO M(K)
2340 PRINT CHR$(27); "L29,"; INT(Y(K)-L(K)*Y1); ","; X(K)+KK1*
    XX(K); ","; Y(K); ",B;";
2350 LOCATE 1, 1
2360 FOR KK2=1 TO 5
2370 A=XX(K)/5
2380 B=KK2*A+X(K)+(KK1-1.09)*XX(K)
2390 C=B+.5*X1
2400 PRINT CHR$(27); "L"; CINT(C); ","; Y(K)-INT(LW1(K)*Y1); ","
    INT(B); ":"; Y(K); ",B;";
2410 LOCATE 1, 1
2420 NEXT KK2: NEXT KK1
2430 GOTO 2940
2440 ON C2 GOTO 2450, 2480, 2510
2450 X10=INT(X(6)+5*X1)
2460 Y10=INT(Y(6)+5*Y1)
2470 GOTO 2530
2480 X10=INT(X2(6)+5*X1)
2490 Y10=INT(Y2(6)+5*Y1)
2500 GOTO 2530
2510 X10=INT(X2(6)+5*X1)
2520 Y10=INT(Y4(6)+5*Y1+D2(6)*Y1/2)
2530 R=INT(Y10/15.24): S=INT(X10/8)
2540 LOCATE R+1, S: PRINT "管"
2550 LOCATE R+2, S: PRINT "理"
2560 LOCATE R+3, S: PRINT "樓"
2570 PRINT CHR$(27); "L"; X10; ","; Y10; ","; X10+INT(W10*X1); ","
    Y10+INT(L10*Y1); ",B;";
2580 LOCATE 1, 1
2590 X(K)=INT(X(7)+M(7)*XX(7)+X1+D(K)*X1/2)
2600 XX(K)=INT(D(K)*X1)
2610 ON C2 GOTO 2620, 2670, 2720
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2620 IF (Y(6)+(L10+10)*Y1-Y(7))>=0 THEN 2650
2630 Y(K)=INT(Y(7)-D(K)*Y1/2)
2640 GOTO 2770
2650 Y(K)=INT(Y(6)+(L10+6)*Y1+D(K)*Y1/2)
2660 GOTO 2770
2670 IF (Y2(6)+(L10+10)*Y1-Y(7))>=0 THEN 2700
2680 Y(K)=INT(Y(7)-D(K)*Y1/2)
2690 GOTO 2770
2700 Y(K)=INT(Y2(6)+(L10+6)*Y1+D(K)*Y1/2)
2710 GOTO 2770
2720 IF (Y4(6)+D2(6)*Y1/2+(L10+10)*Y1-Y(7))>=0 THEN 2750
2730 Y(K)=INT(Y(7)-D(X)*Y1/2)
2740 GOTO 2770
2750 Y(K)=INT(Y4(6)+D2(6)*Y1/2+(L10+6)*Y1+D(K)*Y1/2)
2760 GOTO 2770
2770 S=INT(X(K)/8)+2
2780 R=INT(Y(K)/15.24)+1
2790 IF CHECK(8)=0 THEN 2940
2800 LOCATE R, S: PRINT "濃縮槽";
2810 FOR KK1=0 TO M(K)-1
2820 PRINT CHR$(27); "C"; X(K)+KK1*XX(K); ","; Y(K); ","; INT
(D(K)*X1/2); ";";
2830 LOCATE 1, 1
2840 NEXT KK1
2850 GOTO 2940
2860 X(K)=INT(W10*X1+5*X1)+X10
2870 Y(K)=INT(Y(8)-D(8)*Y1/2-Y1-W(K)*Y1)
2880 S=INT(X(K)/8)+4
2890 R=INT(Y(K)/15.24)+2
2900 IF CHECK(9)=0 THEN 2940
2910 LOCATE R, S: PRINT "脫水機房"
2920 PRINT CHR$(27); "L"; X(K); ","; Y(K); ","; X(K)+INT(L(K)*X1);
","; Y(K)+INT(W(K)*Y1); ",B;";
2930 LOCATE 1, 1
2940 NEXT K
2950 XX=CINT(200/X1)/10
2960 PRINT CHR$(27); "L1, 350, 101, 360, BF;";
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```
2970 LOCATE 1, 1
2980 FOR KK=0 TO 4
2990 X=19
3000 PRINT CHR$(27); "L"; 2+KK*(X+1); ",349,"; (KK+1)*(X+1);
      ",361, 0, BF;";
3010 LOCATE 1, 1
3020 NEXT KK
3030 PRINT CHR$(27); "L1, 355, 101, 355, B;";
3040 LOCATE 1, 1
3050 LOCATE 25, 1: COLOR 0, 7: PRINT "一格爲";: PRINT USING
      "#.#"; XX;: PRINT "米";: COLOR 7, 0
3060 LOCATE 18, 1: COLOR 0, 7: PRINT "縱": COLOR 7, 0
3070 LOCATE 19, 1: COLOR 0, 7: PRINT "橫": COLOR 7, 0
3080 LOCATE 20, 1: COLOR 0, 7: PRINT "比": COLOR 7, 0
3090 LOCATE 21, 1: COLOR 0, 7: PRINT "1 ": COLOR 7, 0
3100 LOCATE 22, 1: COLOR 0, 7: PRINT ": ": COLOR 7, 0
3110 LOCATE 23, 1: COLOR 0, 7: PRINT "1 ": COLOR 7, 0
3120 IF INKEY$=" " THEN 3120
3130 'NEXT J
3140 RUN "REPORTA"
3150 END
```