

臺中市建造執照結構設計自主檢查表 目錄

工程名稱:臺中市 西屯 區 春安 段 小段 801 地號等 4 筆土地

臺中市南屯區春安國民小學新校舍興建工程

	檢查項目		必要性	頁次
地基調查報告	☐ 引用鄰地鑽探資料 ☒ 簡易地基調查報告			
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		3. 取樣及試驗	☒ 應附 ☐ 免附	地質鑽探報告書~P5、6
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7. 有無山坡地審查意見? ☐ 有 ☒ 無		8. ☐ 有 ☐ 尚未按意見設計或修正		
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臺中市南屯區春安國民小學新校舍新建工程

結構計算書

建築設計：吳嘉栩建築師事務所
結構設計：宏利工程顧問有限公司
中華民國：114 年 02 月
CASE：A113024



內政部 函

機關地址：105404臺北市松山區八德路2段342號(營建署)

聯絡人：鄭棋

聯絡電話：02-87712689

電子郵件：chengchi@cpami.gov.tw

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台中市西區華美西街一段85號5樓之2

受文者：陳冠宏君

發文日期：中華民國111年2月16日

發文字號：內授營建管字第11108017101號

速別：普通件

密等及解密條件或保密期限：

附件：如文

(請至本署附件下載區<http://docDL.cpami.gov.tw/>下載附件，驗證碼：2VBJMU)

主旨：關於專業技師朱耀光等40位辦理建築物結構與設備專業工程簽證業務1案，業經本部111年2月16日內授營建管字第1110801710號公告（如附件）許可，請查照。

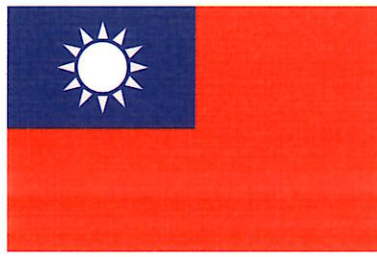
說明：

- 一、依據朱耀光等40位專業技師辦理建築物結構與設備專業工程簽證許可申請函辦理。
- 二、檢附朱耀光等40位繳費收據，請查收（如附件）。

正本：社團法人桃園市土木技師公會、朱耀光君、鄭正仁君、沈岱範君、石建愉君、李榮忠君、莊永川君、劉全修君、柯振益君、郭賢立君、任萬山君、陳俊樺君、李俊慶君、林祐賢君、何竹天君、陳順添君、林登發君、呂宸有君、陳裕賓君、陳芳隆君、簡宗益君、周泉盛君、江文財君、陳家賢君、林健春君、陳敬賢君、陳建雲君、許銘揚君、呂理雄君、王育相君、王丕忠君、施教鑒君、王從良君、練福田君、洪永哲君、陳顯榮君、許銘義君、陳至忠君、廖振資君、陳冠宏君、葉瑞堯君、社團法人中華民國大地工程技師公會、中華民國電機技師公會、台北市冷凍空調技師公會、臺中市結構工程技師公會、臺北市應用地質技師公會、台灣省結構工程技師公會、社團法人臺中市土木技師公會、高雄市土木技師公會、台南市土木技師公會、社團法人新北市結構工程技師公會、台北市結構工程工業技師公會、社團法人新北市土木技師公會、台北市機械技師公會、社團法人臺灣省土木技師公會、臺灣省應用地質技師公會、台南市結構工程技師公會、臺灣省冷凍空調技師公會、台北市土木技師公會、桃園市結構工程技師公會

副本：本部營建署(建築管理組)(含附件)

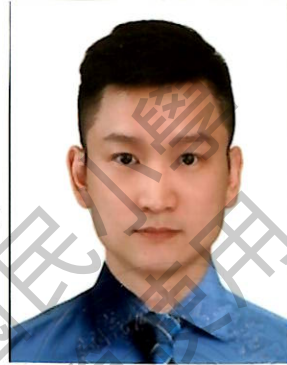
部長徐國勇



技師執業執照

技執字第 008706 號

技師 陳冠宏 申請執業核與技師法規定
相符合行發給執業執照准予執業登記事項如下：



一、姓名：陳冠宏 性別：男
身分證明文件字號：L123

二、出生年月日：民國 75 年 5 月 27 日

三、執業方式：技師法第 7 條第 1 項第 2 款

四、執業機構名稱：宏利工程顧問有限公司

所在地：臺中市南屯區公益路 2 段 61 號 4 樓之 3

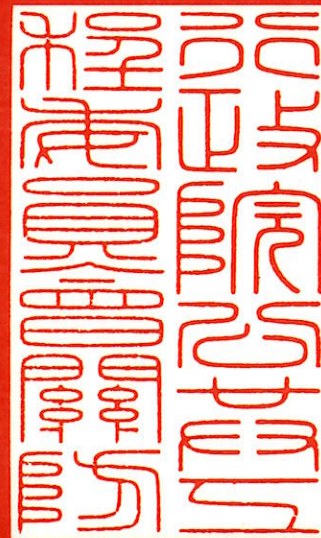
五、技師科別及證書字號：土木工程科 技證字第 010205 號
結構工程科 技證字第 010203 號

六、執業範圍：(如背面)

七、執照有效期間：自民國 113 年 12 月 18 日至 119 年 12 月 17 日止

行政院公共工程委員會
主任委員

陳金德



中華民國 113 年 12 月 18 日 (換發)

土木工程科執業範圍：

從事混凝土、鋼架、隧道、涵渠、橋樑、道路、鐵路、碼頭、堤岸、港灣、機場、土石方、土壤、岩石、基礎、建築物結構、土地開發、防洪、灌溉等工程以及其他有關土木工程之調查、規劃、設計、研究、分析、試驗、評價、鑑定、施工、監造、養護、計畫及營建管理等業務。但建築物結構之規劃、設計、研究、分析業務限於高度 36 公尺以下。

備註：於民國 67 年 9 月 18 日以前取得土木技師資格並於 76 年 10 月 2 日以前具有 36 公尺以上高度建築物結構設計經驗者不受建築物結構高度 36 公尺之限制。

結構工程科執業範圍：

從事橋樑、壩、建築及道路系統等結構物及基礎等之調查、規劃、設計、研究、分析、評價、鑑定、施工、監造及養護等業務。

僅限「臺中市南屯區春安國民小學」
新校舍新建工程」結構計算使用

內政部許可專業技師辦理建築物結構與設備專業工程簽證業務名冊

內授營建管字第1110801710號公告

序號	姓名	技師執業執照號碼	技師科別	登記號碼	許可事項
1	朱耀光	003783	大地工程	415147	新許可。
2	鄭正仁	004145	冷凍空調工程	B15148	新許可。
3	沈岱範	009563	電機工程	A35149	新許可。
4	石建愉	001004	結構工程	135150	新許可。
5	李榮忠	009580	土木工程 結構工程	235151	新許可。
6	莊永川	009579	機械工程	C15152	新許可。
7	劉全修	007366	大地工程	435153	新許可。
8	柯振益	002348	土木工程	235154	新許可。
9	郭賢立	009022	應用地質	335155	新許可。
10	任萬山	005630	結構工程	115156	新許可。
11	陳俊樺	004972	大地工程	414157	新許可。
12	李俊慶	006276	冷凍空調工程	B34569	原許可期限已屆滿，重新許可。
13	林祐賢	007445	電機工程	A33733	原許可期限已屆滿，重新許可。
14	何竹天	001880	土木工程	230004	原許可期限已屆滿，重新許可。
15	陳順添	003201	電機工程	A10076	原許可期限已屆滿，重新許可。
16	林登發	004560	電機工程	A10199	原許可期限已屆滿，重新許可。
17	呂宸有	008713	電機工程	A24572	原許可期限已屆滿，重新許可。
18	陳裕賓	001505	結構工程	130188	原許可期限已屆滿，重新許可。
19	陳芳隆	006860	冷凍空調工程	B13690	原許可期限已屆滿，重新許可。
20	簡宗益	004036	電機工程	A10032	原許可期限已屆滿，重新許可。
21	周泉盛	003485	結構工程	112555	原許可期限已屆滿，重新許可。
22	江文財	000348	結構工程 土木工程	213718	原許可期限已屆滿，重新許可。
23	陳家賢	003650	電機工程	A10102	原許可期限已屆滿，重新許可。
24	林健春	001250	土木工程	210039	原許可期限已屆滿，重新許可。
25	陳敬賢	007369	結構工程 土木工程	114202	原許可期限已屆滿，重新許可。

26	陳建雲	008722	結構工程	134591	原許可期限已屆滿，重新許可。
27	許銘揚	004138	電機工程	A10079	原許可期限已屆滿，重新許可。
28	呂理雄	002394	電機工程	A12525	原許可期限已屆滿，重新許可。
29	王育相	003128	電機工程	A22562	原許可期限已屆滿，重新許可。
30	王丕忠	005827	電機工程	A12202	原許可期限已屆滿，重新許可。
31	施教鑒	001212	電機工程	A10033	原許可期限已屆滿，重新許可。
32	王從良	005857	電機工程	A10252	原許可期限已屆滿，重新許可。
33	練福田	003971	電機工程	A10089	原許可期限已屆滿，重新許可。
34	洪永哲	006520	電機工程	A23080	原許可期限已屆滿，重新許可。
35	陳顯榮	004062	電機工程	A10098	原許可期限已屆滿，重新許可。
36	許銘義	003056	應用地質	313088	原許可期限已屆滿，重新許可。
37	陳至忠	003706	土木工程 結構工程	133721	原許可期限已屆滿，重新許可。
38	廖振資	007942	電機工程	A14595	原許可期限已屆滿，重新許可。
39	陳冠宏	008706	土木工程 結構工程	134575	原許可期限已屆滿，重新許可。
40	葉瑞堯	002199	結構工程	134574	原許可期限已屆滿，重新許可。

- 一、建築物結構與設備專業工程技師簽證規則第4條規定：「專業技師辦理建築物結構與設備專業工程簽證（以下簡稱簽證）時，應先檢具左列資料，申經中央主管建築機關許可，並公告後始得為之。一、申請書：載明技師執業機構名稱、執業技師助理人員姓名及學、經歷。二、執業技師之簽名及印鑑卡、執業圖記。三、執業執照及其影本各一份。四、公會會員證及其影本各一份。前項許可期限為三年，期滿二個月前得向中央主管建築機關重新申請許可。專業技師於許可事項有變更時，應於十五日內申報中央主管建築機關。其變更事項並由中央主管建築機關公告之。」同規則第9條規定：「專業技師辦理簽證業務時，其簽證報告、執行業務所製作之圖樣及書表，應由技師本人簽署，並加蓋技師執業圖記，簽證報告並應載明中央主管建築機關許可文號。」
- 二、本表專業技師許可期限，係自本案公告發文日起算3年至114年2月15日止。



臺中市土木技師公會
TAICHUNG PROFESSIONAL CIVIL ENGINEERS ASSOC.

編號: 00430

姓名: 陳冠宏



會員證

有效日期 2025-01-01 ~ 2025-12-31



會員姓名

陳冠宏

執業機構

宏利工程顧問有限公司



臺中市土木技師公會
TAICHUNG PROFESSIONAL CIVIL ENGINEERS ASSOC.

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僅限「臺中市南屯區春安國民小學
新校舍新建工程」結構計算使用



臺中市結構工程技師公會
Taichung Professional Structural Engineers Association

會員證

會員編號：

095

姓

名：

陳冠宏

有效期間至民國114年12月底止



僅限「臺中市南屯區春安國民小學
新校舍新建工程」結構計算使用

計算書目錄

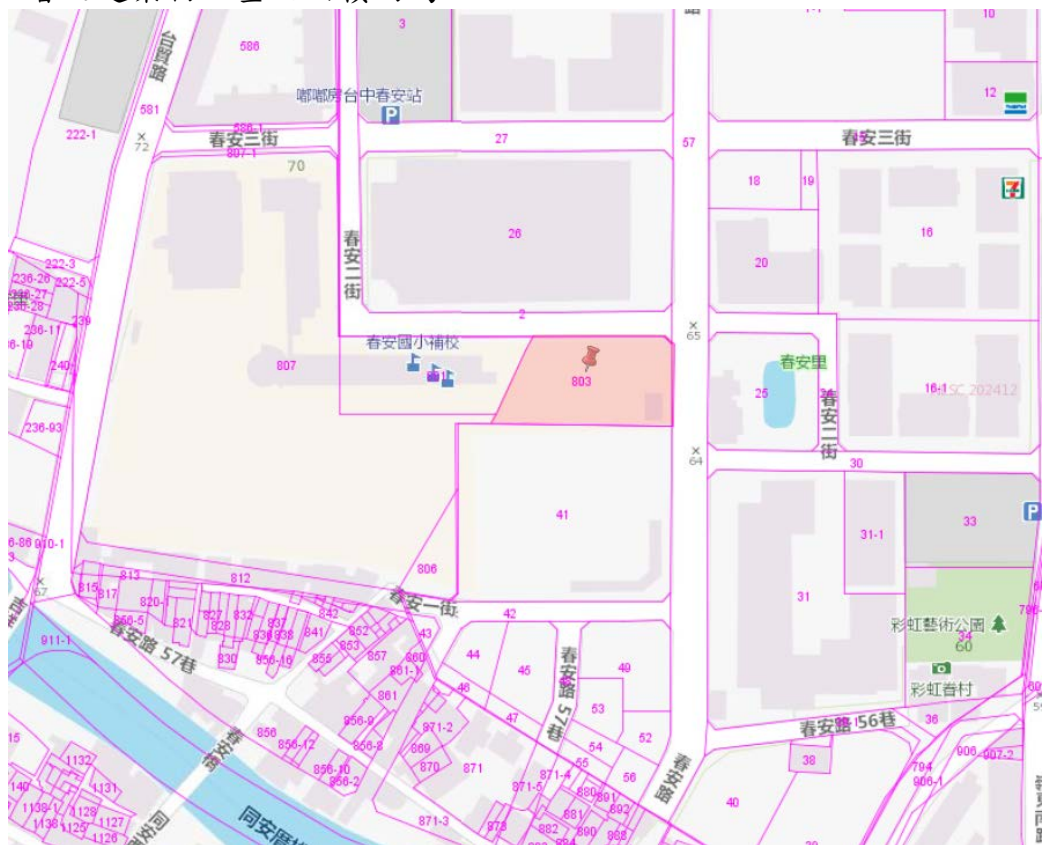
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附件 B、總和報告(輸入檔)	
附件 E、程式函	

第一章 一般說明

1.1 工程概述

本案基地位於臺中市南屯區春安段 801, 803, 806, 807 等 4 筆地號，為地上 3 層、屋突 1 層之建築物，基地面積約為 1333 m²。



1.2 建築規模及用途

樓層	樓高	用途	活載重(kgf/cm ²)
RFL	-	屋頂平台	300
R1FL	4	水塔間/屋頂平台	300
3FL	4	屋頂平台/教室/走廊/辦公室	300
2FL	4	屋頂平台/教室/走廊/辦公室	300
1FL	4	教室/走廊/辦公室	500
1F抬高	0	-	-

註：建築物高12 m=4x3（不含屋突）。

第二章 結構概述

2.1 結構系統

本案結構系統採用鋼筋混凝土二元系統，以抵抗垂直及水平方向之載重及地震力，基礎採用筏式基礎，室內隔間牆則使用輕隔間牆以減輕自重，減少地震力作用。

結構分析採用三向度立體剛構架，樓版假設為剛隔板，地震分析時依規定考慮百分之五樓面尺寸偏心扭轉效應，並進行動力模擬，其中各層間變位角與碰撞距離均依法規檢核。非高層之載重平衡將依個別設定之剛隔板質心加入法規規定之地震力，經 ETABS 分析結果設計。

2.2 結構材料規格

材料強度

1. 混凝土抗壓強度(標準圓柱試體28天齡期)

$f_c' = 280 \text{ Kg/cm}^2$ (28Days) [全部]

2. 鋼骨抗拉降伏強度

柱及大梁: SN490B $f_y = 3300 \text{ kg/cm}^2$

小梁: SN400B $f_y = 2400 \text{ kg/cm}^2$

3. 竹節鋼筋抗拉降伏強度

[#3~#10] $F_y = 4200 \text{ Kg/cm}^2$ (CNS SD-420W)

CNS SD-420 須符合下列規定

(1) 出廠實測降伏強度不得超出規定降伏強度 1200 kg/cm^2 以上。

(2) 實測極限抗拉強度與實測降伏強度之比值不得小於1.25。

4. 續接器: SA級續接器

懸臂樑, 版未詳者, 斷面及配筋由鄰樑, 版延伸。

鋼筋估算及施工, 依配筋標準圖規定。

5. 本圖中標示為剪力牆或RC wall均屬於結構牆，原則上不得拆除或修改。

6. 本案結構由地震力控制

結構基礎之短期容許地承载力以 150 T/m^2 設計。

若不足者，則營造商須以地盤改良或其地方式增加承载力。

2.3 樓版設計載重

樓層		版厚 (cm)	樓版 (tf/m ²)	鋪面粉刷 (tf/m ²)	防水隔熱 (tf/m ²)	隔間牆/女兒牆 (tf/m ²)	覆土 (tf/m ²)	水箱 (tf/m ²)	靜載重 (tf/m ²)	活載重 (tf/m ²)
RFL	(屋頂平台)	25	0.60	-	0.17	0.10	-	-	0.87	0.30
		20	0.48	-	0.17	0.10	-	-	0.75	0.30
R1FL	(屋頂平台)	20	0.48	-	0.17	0.10	-	-	0.75	0.30
	(水塔間)	20	0.48	0.10	-	0.20	-	0.72	1.50	0.30
2~3FL	(屋頂平台)	20	0.48	-	0.17	0.10	-	-	0.75	0.30
		25	0.60	-	-	0.10	0.90	-	1.60	0.30
	(教室、走廊、辦公室)	20	0.48	0.10	-	0.20	-	-	0.78	0.30
1FL	(教室、走廊、辦公室)	20	0.48	0.10	-	0.20	-	-	0.78	0.50

註：機械設備、水箱、水塔、泳池及覆土重量按實際計算，並於計算地震力時列入自重。

2.4 樓層重量計算

樓層	面積(m ²)	重量計算統計					
		版(tf)	柱(tf)	梁(tf)	牆及其他(tf)	合計(tf)	單位重量(tf/m ²)
RFL	86.40	47.67	15.21	36.12	49.12	148.12	1.71
R1FL	933.65	448.15	93.86	337.49	434.05	1313.56	1.41
3FL	1180.13	576.84	170.21	424.63	654.04	1825.72	1.55
2FL	1206.11	583.20	191.19	454.95	617.30	1846.64	1.53

第三章 結構分析

3.1 設計規範

- 1) 『建築技術規則』最新修訂版。
 - 2) 『建築物耐震設計規範及解說』，內政部，113 年 3 月。
 - 3) 『建築物耐風設計規範及解說』，內政部，104 年 1 月。
 - 4) 『建築物混凝土結構設計規範』，內政部，113 年 2 月。
- 梁、柱：強度設計法(U. S. D)
 - 版：強度設計法(U. S. D)

3.2 分析設計程式

CSI-ETABS V9.0.0

三向度立體剛構架結構分析程式，具靜力、動力分析及韌性設計之功能

3.3 結構分析模擬

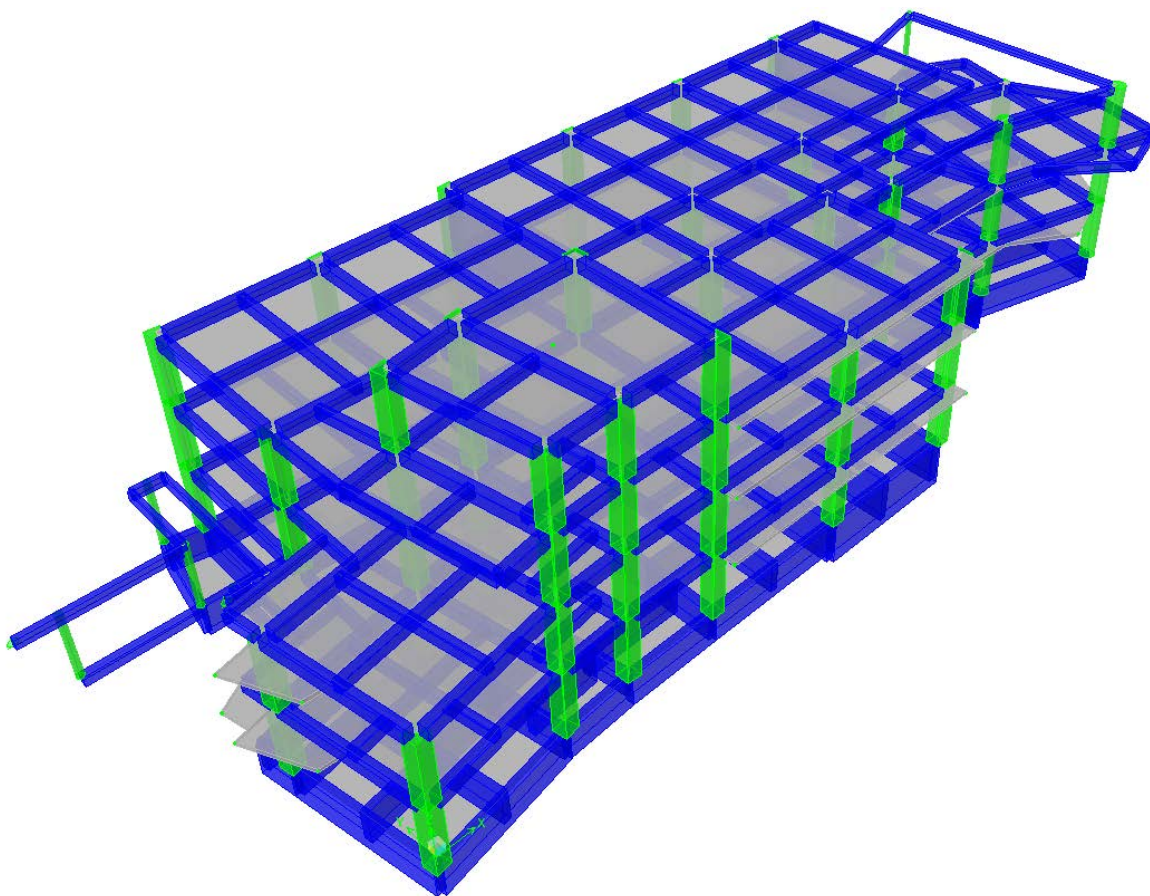
1. 上部及下部結構系統

- (1). 分析採用三向度立體剛構架模擬分析，並固接於基礎。
- (2). 梁、柱以 Frame Element 模擬。
- (3). 剪力牆與地下室外牆以 Shell Element 模擬。
- (4). 樓板以 Membrane 模擬，並假設為剛性樓板 (Rigid Diaphragm)，地震力施加於質心上。
- (5). 樓板外加靜載重與活載重以面載重方式外加於樓板元素。
- (6). 分析時考慮 P-Delta 效應。
- (7). 依照規範 3.7 節規定將質心位置偏移至 $\pm 5\%$ 尺度的四個點上，分別進行動力分析，即可一併考慮動態扭矩及動態意外扭矩的效應。
- (8). 動力分析採用 C.Q.C (Complete Quadratic Combination) 振態疊加法，進行動力分析時考慮足夠之振態數目，使 X 向、Y 向及扭轉方向之有效質量均超過上部建築物總質量的 90%。結構物週期係採用動力週期與法規週期放大 C_u 倍之較少者計算。

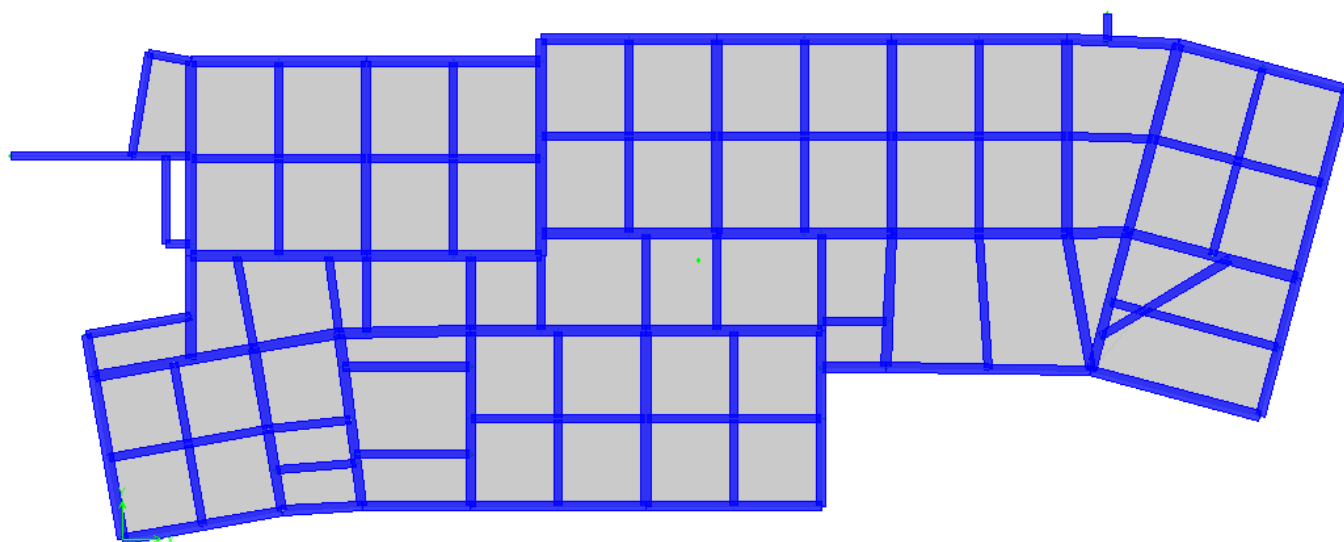
2. 基礎結構系統

分析模式係考慮基礎為一柔性體，將土壤彈簧 (Soil Spring) 以面彈簧之方式模擬成 No Tension Spring 進行分析及設計。

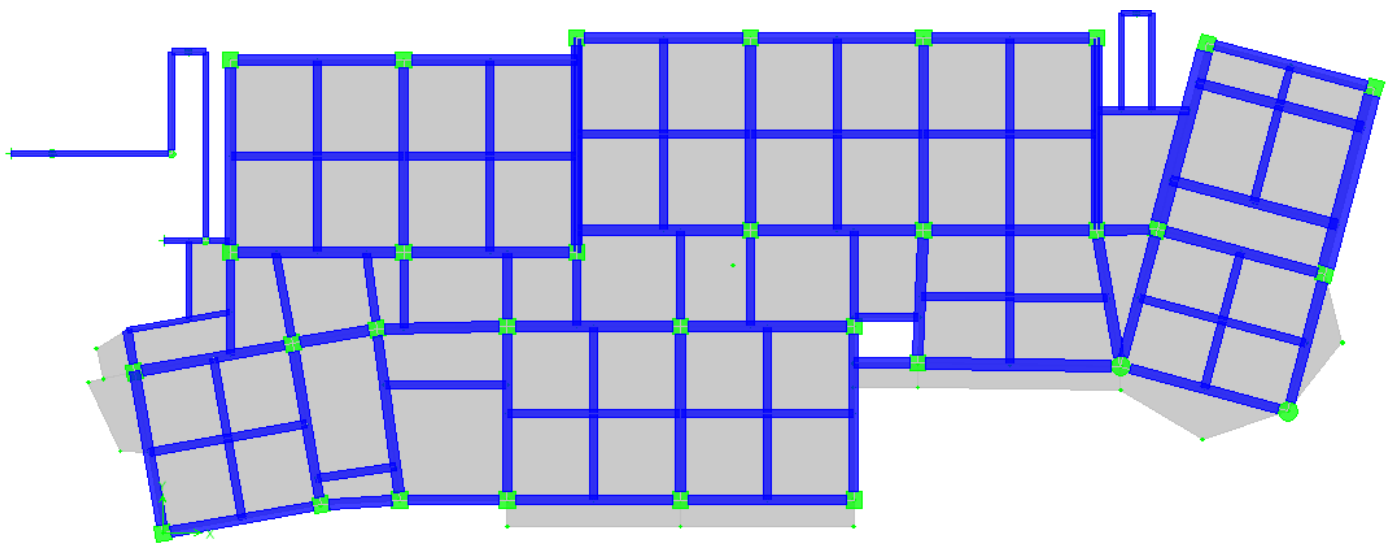
3.4 結構分析模型



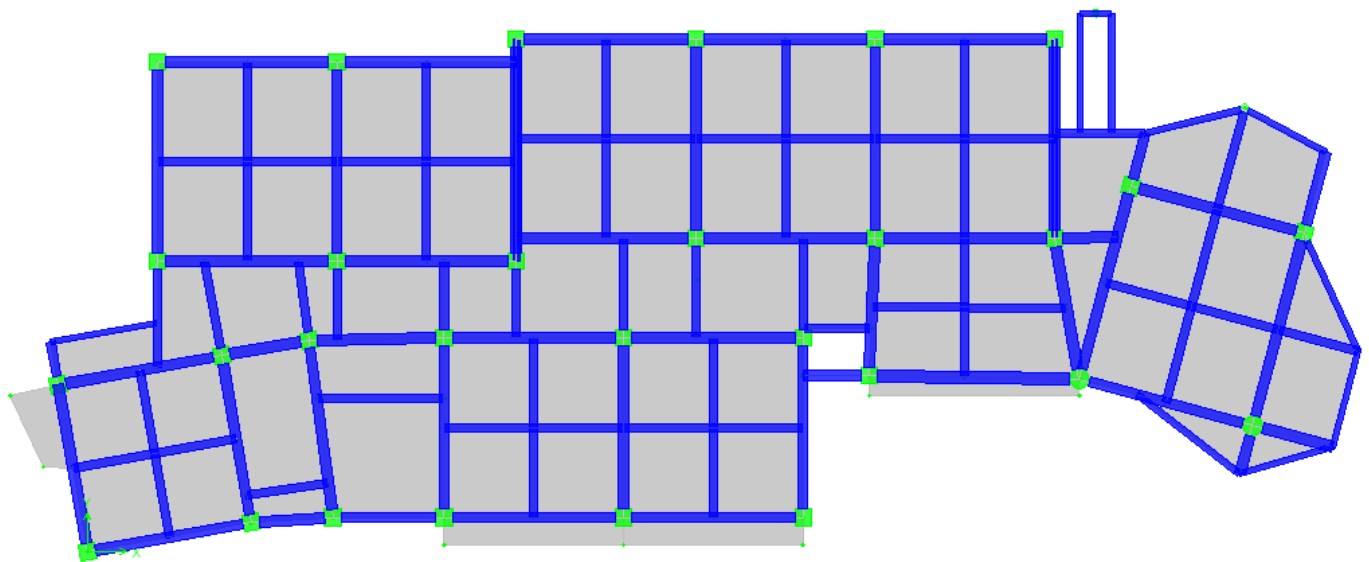
3D 模型



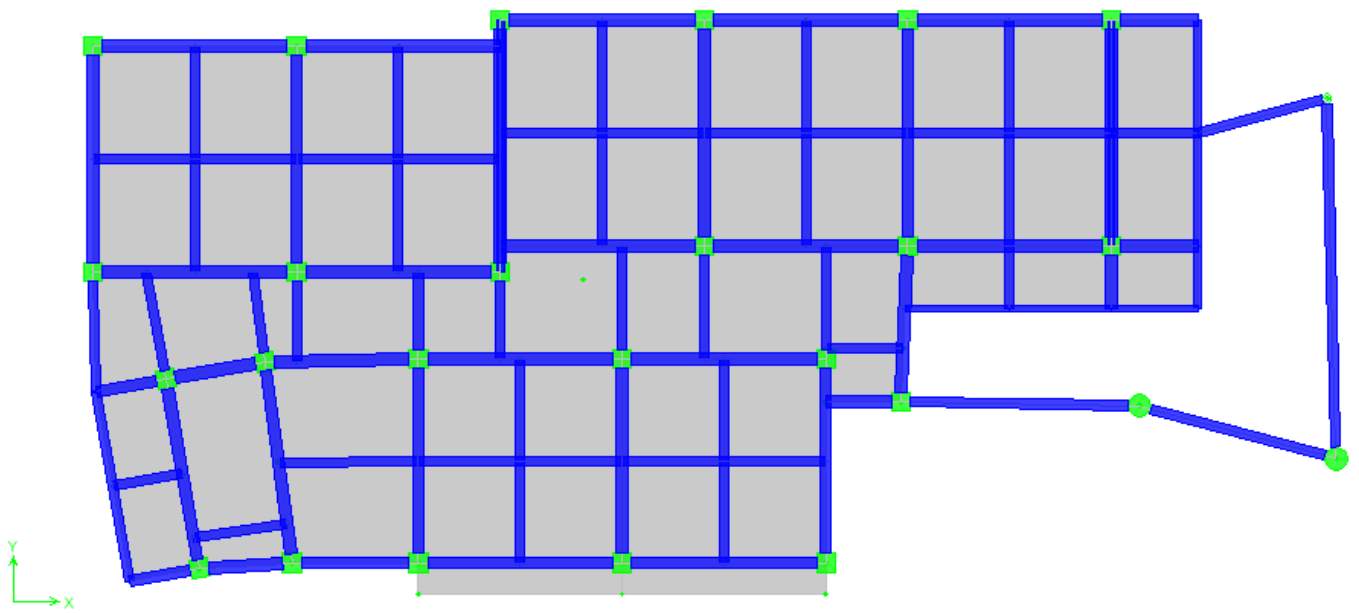
1FL PLAN



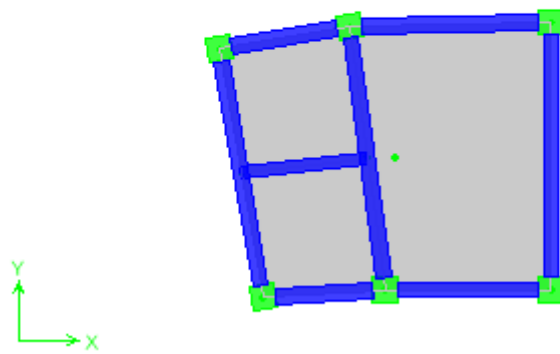
2FL PLAN



3FL PLAN



R1FL PLAN



RFL PLAN

3.5 設計載重組合

3.5.1 結構分析基本載重

- (1) 靜載重(DL)
- (2) 活載重(LL)
- (3) 風力(WX&WY)
- (4) 地震力(EX&EY)：本案由地震力控制。

3.5.2 載重組合

1. 1.4D
2. 1.2D+1.6L
3. 1.2D+1.0L±1.0Eqxp±0.3Eqv
4. 1.2D+1.0L±1.0Eqxn±0.3Eqv
5. 1.2D+1.0L±1.0Eqyp±0.3Eqv
6. 1.2D+1.0L±1.0Eqyn±0.3Eqv
7. 1.2D+1.0L±0.3Eqxp±1.0Eqv
8. 1.2D+1.0L±0.3Eqxn±1.0Eqv
9. 1.2D+1.0L±0.3Eqyp±1.0Eqv
10. 1.2D+1.0L±0.3Eqyn±1.0Eqv
11. 0.9D±1.0Eqxp±0.3Eqv
12. 0.9D±1.0Eqxn±0.3Eqv
13. 0.9D±1.0Eqyp±0.3Eqv
14. 0.9D±1.0Eqyn±0.3Eqv
15. 0.9D±0.3Eqxp±1.0Eqv
16. 0.9D±0.3Eqxn±1.0Eqv
17. 0.9D±0.3Eqyp±1.0Eqv
18. 0.9D±0.3Eqyn±1.0Eqv

其中 D：建築物靜載重，L：建築物活載重。

Eqxp：X 向水平地震力(作用點 Y 向偏心+5%)，Eqxn：X 向水平地震力(作用點 Y 向偏心-5%)。

Eqyp：Y 向水平地震力(作用點 X 向偏心+5%)，Eqyn：Y 向水平地震力(作用點 X 向偏心-5%)。

Eqv：垂直向地震力。

3.6 地震力分析

3.6.1 有效質量百分比

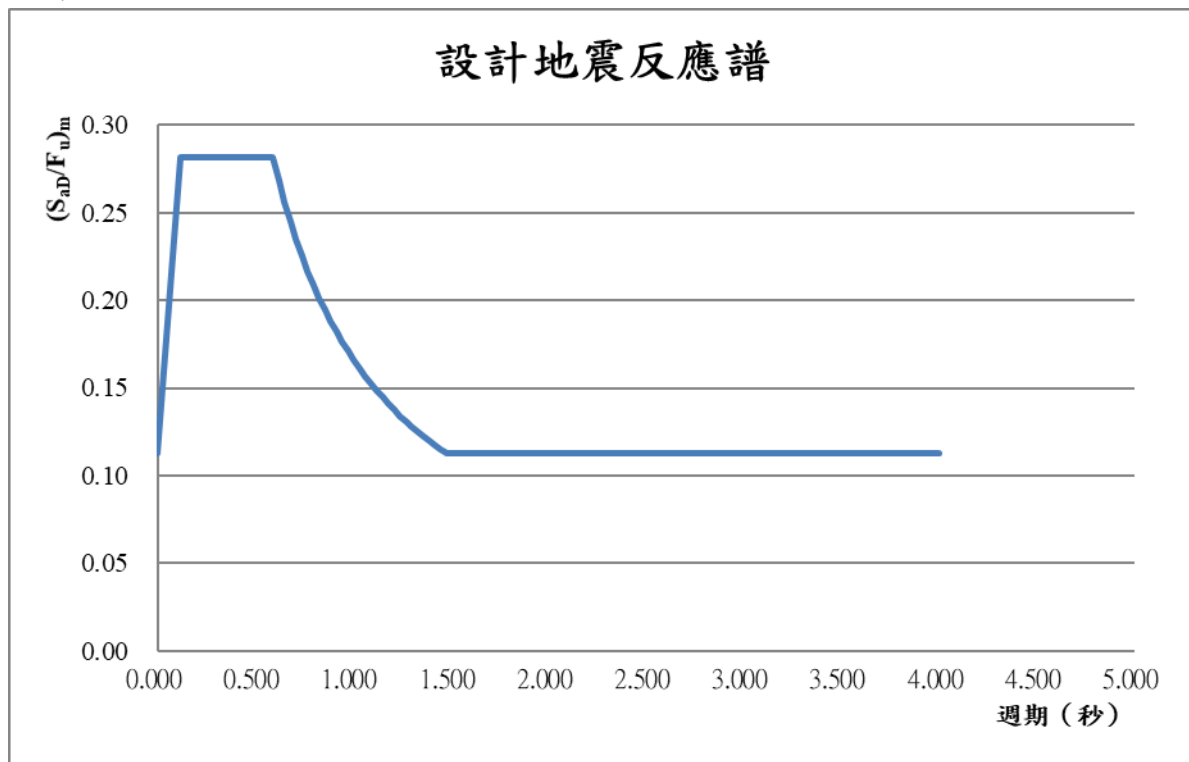
1. 依建築物耐震設計規範及解說 3.5：建築物之動力分析，主要以多振態反應譜疊加法進行。所考慮之振態數目應使 X 向、Y 向及扭轉方向之有效質量和均已超過建築物總質量的 90%。
2. 本建築物分析結果之有效質量和為 100%，符合規範之規定。

Mode	Period	UX	UY	SumUX	SumUY	RZ	SumRZ
1	0.737	0.002 %	0.197 %	0.002 %	0.197 %	0.771 %	0.771 %
2	0.462	81.341 %	0.002 %	81.343 %	0.199 %	0.019 %	0.791 %
3	0.454	0.078 %	0.010 %	81.421 %	0.209 %	0.077 %	0.867 %
4	0.386	0.417 %	6.101 %	81.838 %	6.310 %	11.326 %	12.193 %
5	0.373	0.154 %	32.994 %	81.991 %	39.304 %	33.294 %	45.487 %
6	0.291	0.294 %	0.020 %	82.285 %	39.325 %	0.008 %	45.494 %
7	0.254	0.004 %	44.115 %	82.289 %	83.439 %	37.323 %	82.818 %
8	0.210	0.123 %	0.010 %	82.412 %	83.449 %	0.010 %	82.828 %
9	0.206	0.002 %	0.273 %	82.414 %	83.722 %	0.440 %	83.268 %
10	0.144	12.842 %	0.001 %	95.256 %	83.724 %	0.034 %	83.302 %
11	0.116	0.017 %	3.744 %	95.272 %	87.467 %	4.157 %	87.459 %
12	0.109	0.033 %	0.124 %	95.305 %	87.591 %	1.128 %	88.587 %
13	0.087	0.041 %	0.049 %	95.346 %	87.640 %	2.781 %	91.368 %
14	0.083	1.992 %	0.033 %	97.339 %	87.673 %	0.666 %	92.034 %
15	0.081	0.005 %	0.036 %	97.343 %	87.709 %	0.010 %	92.044 %
16	0.074	0.801 %	2.026 %	98.144 %	89.735 %	2.752 %	94.797 %
17	0.067	1.792 %	1.922 %	99.936 %	91.656 %	0.034 %	94.831 %
18	0.063	0.052 %	6.672 %	99.988 %	98.328 %	3.540 %	98.370 %
19	0.051	0.000 %	0.004 %	99.988 %	98.332 %	0.020 %	98.390 %
20	0.050	0.011 %	0.256 %	99.999 %	98.588 %	1.403 %	99.792 %
21	0.042	0.000 %	0.152 %	99.999 %	98.740 %	0.087 %	99.879 %
22	0.041	0.000 %	1.247 %	99.999 %	99.987 %	0.111 %	99.990 %
23	0.031	0.000 %	0.010 %	99.999 %	99.997 %	0.006 %	99.996 %
24	0.031	0.001 %	0.001 %	100.000 %	99.998 %	0.003 %	99.999 %
25	0.020	0.000 %	0.000 %	100.000 %	99.999 %	0.000 %	99.999 %
26	0.020	0.000 %	0.000 %	100.000 %	99.999 %	0.000 %	99.999 %
27	0.020	0.000 %	0.000 %	100.000 %	99.999 %	0.000 %	99.999 %
28	0.018	0.000 %	0.002 %	100.000 %	100.000 %	0.001 %	100.000 %
29	0.017	0.000 %	0.000 %	100.000 %	100.000 %	0.000 %	100.000 %
30	0.017	0.000 %	0.000 %	100.000 %	100.000 %	0.000 %	100.000 %

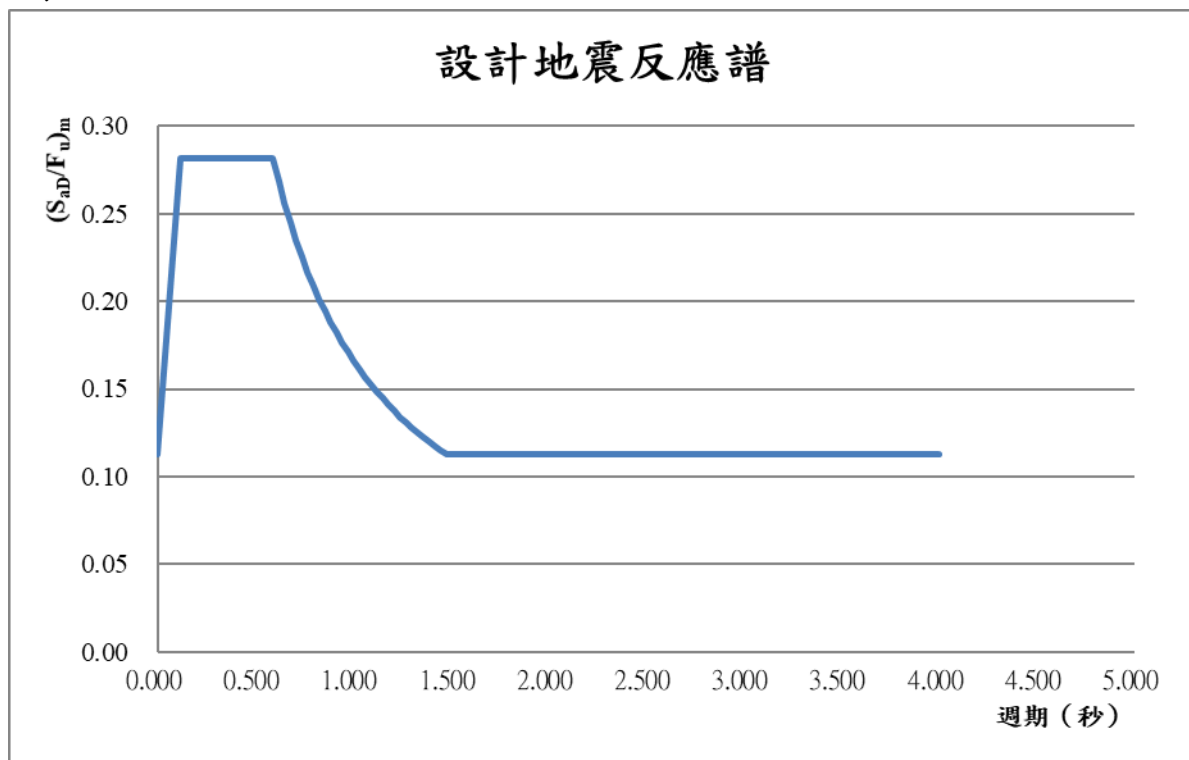
3.6.2 地震力計算

1. 動力分析反應譜

X 向



Y 向



2. 水平地震力

法規地震力計算						
縣市	鄉鎮市區	村里	地盤類別	分區	樓高(公尺)	用途係數, I
臺中市	南屯區	--	第一類	近斷層工址	12.00	1.25
耐震規範查表2-1						
				建築物有效阻尼比 ξ (%)=		5
S_S^D =	0.80	S_I^D =	0.45	B_S =	1.000	
S_S^M =	1.00	S_I^M =	0.55	B_I =	1.000	
地震區域設計係數						
斷層名稱	大甲斷層全段、 鐵砧山斷層、彰化斷層	車籠埔斷層全段	-	-	-	大甲斷層全 段、鐵砧山斷 層、彰化斷層
	7.90 km	11.40 km		-	-	7.90
S_S^D	0.861	0.816	-	-	-	0.861
S_I^D	0.486	0.474	-	-	-	0.486
S_S^M	1.077	1.016	-	-	-	1.077
S_I^M	0.637	0.598	-	-	-	0.637
F_a^D =	1	F_v^D =	1.00			
F_a^* =	1	F_v^* =	1.00			
F_a^M =	1	F_v^M =	1.00	T_0^D =	0.564 秒	
S_{DS} =	0.861	S_{D1} =	0.486	T_0^* =	0.563 秒	
S_{MS} =	1.077	S_{M1} =	0.637	T_0^M =	0.591 秒	
X向結構系統			Y向結構系統			
非結構刚性牆		無	非結構刚性牆		無	
剪力牆		無	剪力牆		有	
加勁構材		無	加勁構材		無	
結構系統		RC	結構系統		RC	
設計方法		極限強度設計	設計方法		極限強度設計	
起始降伏地震力放大倍數 α_y =		1.0	起始降伏地震力放大倍數 α_y =		1.0	
韌性容量 R=		4.0	韌性容量 R=		4.0	
容許韌性容量 R_a =		3.0	容許韌性容量 R_a =		3.0	
規範週期, Tcode (0.07h^0.75)		0.451 秒	規範週期, Tcode (0.05h^0.75)		0.322 秒	
動力週期, T _{dyna.}		0.462 秒	動力週期, T _{dyna.}		0.254 秒	
X向動力週期小於 1.4xTcode (1.40x0.451=0.632)			Y向動力週期小於 1.4xTcode (1.40x0.322=0.451)			
(設計地震力由動力週期控制)			(設計地震力由動力週期控制)			

X向構件設計用地震力			Y向構件設計用地震力		
	T_{Design}	0.462 秒		T_{Design}	0.254 秒
	$S_{ad} =$	0.861		$S_{ad} =$	0.861
	$S_{aM} =$	1.077		$S_{aM} =$	1.077
	$F_u =$	2.655		$F_u =$	2.236
	$F_{uM} =$	3.260		$F_{uM} =$	2.646
	$S_{ad}/F_u =$	0.324		$S_{ad}/F_u =$	0.385
	$(S_{ad}/F_u)_m =$	0.313		$(S_{ad}/F_u)_m =$	0.344
	$S_{aM}/F_{uM} =$	0.330		$S_{aM}/F_{uM} =$	0.407
	$(S_{aM}/F_{uM})_m =$	0.316		$(S_{aM}/F_{uM})_m =$	0.356
中小度地震	$S_{ad}^* =$	0.800	中小度地震	$S_{ad}^* =$	0.800
	$F_u^* =$	2.659		$F_u^* =$	2.236
	$S_{ad}^*/F_u^* =$	0.301		$S_{ad}^*/F_u^* =$	0.358
	$(S_{ad}^*/F_u^*)_m =$	0.300		$(S_{ad}^*/F_u^*)_m =$	0.330
最小設計地震力, $V_D =$		0.2791 W	最小設計地震力, $V_D =$		0.3073 W
避免中小地震降伏, $V^* =$		0.2378 W	避免中小地震降伏, $V^* =$		0.2196 W
避免最大地震崩坍, $V_M =$		0.2819 W	避免最大地震崩坍, $V_M =$		0.3175 W
	$V_{Design} =$	0.282 W		$V_{Design} =$	0.317 W
X向側位移角檢核用地震力			Y向側位移角檢核用地震力		
	$S_{ad} =$	0.800		$S_{ad} =$	0.800
	$F_u =$	2.655		$F_u =$	2.236
	$S_{ad}/F_u =$	0.301		$S_{ad}/F_u =$	0.358
	$(S_{ad}/F_u)_m =$	0.301		$(S_{ad}/F_u)_m =$	0.330
	$V_{drift} =$	0.1901 W		$V_{drift} =$	0.1757 W
$V_{drift} / V_{Design} =$		0.674	$V_{drift} / V_{Design} =$		0.553

3. 垂直地震力

垂直地震力		
	$T_V=$	0.113 秒
	$R_V=$	3
	$R_{a, V}=$	2.3
	$F_{u, V}=$	1.915
	$F_{uM, V}=$	2.179
	$S_{aD}=$	0.861
	$S_{aD, V}=$	0.574
	$S_{aM}=$	1.047
	$S_{aM, V}=$	0.698
	$S_{aD, V}/F_{u, V}=$	0.300
	$(S_{aD, V}/F_{u, V})_m=$	0.252
	$S_{aM, V}/F_{uM, V}=$	0.320
	$(S_{aM, V}/F_{uM, V})_m=$	0.263
中小度地震	$S_{aD}^*=$	0.800
	$S_{aD, V}^*=$	0.533
	$F_{u, V}^*=$	1.915
	$S_{aD, V}^*/F_{u, V}^*=$	0.279
	$(S_{aD, V}^*/F_{u, V}^*)_m=$	0.241
最小設計地震力, $V_{ZD}=$		0.225 W
避免中小地震降伏, $V_Z^*=$		0.137 W
避免最大地震崩坍, $V_{ZM}=$		0.234 W
	$V_{ZSB}=$	0.234 W
柱之垂直地震力 $V_{col}=$		0.359 W

3.6.3 地震力豎向分配

屋突層

樓層	層高(m)	高度hi(m)	W _i (tf)	ω _i (tf/m ²)	X向				Y向			
					h _i x W _i	F _i (tf)	ΣF _i (tf)	M _x (tf-m)	h _i x W _i	F _i (tf)	ΣF _i (tf)	M _y (tf-m)
RFL	4.00	4.00	148.12	1.71	592.48	88.48	88.48	353.92	592.48	98.41	98.41	393.64
總和			148.12		592.48	88.48		353.92	592.48	98.41		393.64

一般層

樓層	層高(m)	高度hi(m)	W _i (tf)	ω _i (tf/m ²)	X向				Y向			
					h _i x W _i	F _i (tf)	ΣF _i (tf)	M _x (tf-m)	h _i x W _i	F _i (tf)	ΣF _i (tf)	M _y (tf-m)
R1FL	4.00	12.00	1461.68	1.57	17540.16	642.16	642.16	2922.55	17540.16	723.19	723.19	3286.41
3FL	4.00	8.00	1825.72	1.55	14605.76	534.73	534.73	2138.91	14605.76	602.21	602.21	2408.82
2FL	4.00	4.00	1846.64	1.53	7386.56	270.43	805.16	5359.53	7386.56	304.55	906.76	6035.86
總和			5134.04		39532.48	1447.31		10421.00	39532.48	1629.95		11731.09

OVERTURNING MOMENT = 6035.86 t-m

3.6.4 意外扭矩計算

意外扭矩放大係數 A_x 計算

依據「建築物耐震設計規範及解說」2.14 節意外扭矩規定，為計及質量分布之不確定性，各層質心之位置應由計算所得之位置偏移與地震力垂直方向尺度±5%進行結構分析與設計，計算公式如下。

$$A_x = \left(\frac{\delta_{\max}}{1.2\delta_{\text{avg}}} \right)^2$$

其中，δ_{max} 為第 x 層最大位移。

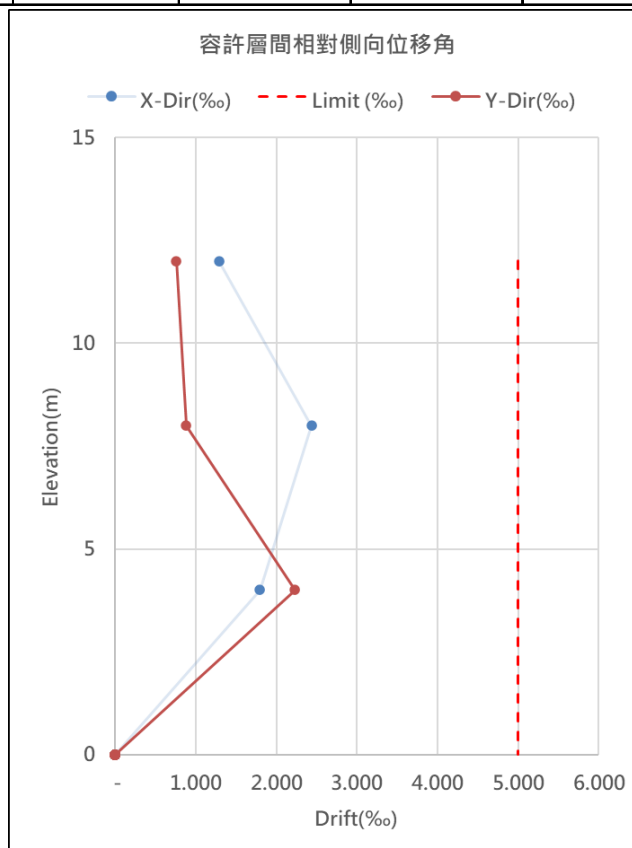
δ_{avg} 為第 x 層兩最外點位移之平均值。

意外扭矩								
Story	X向地震力(PEQXP)				Y向地震力(PEQYP)			
	δ _{avg} (m)	δ _{max}	(δ _{max} /1.2δ _{avg}) ²	A _x	δ _{avg} (m)	δ _{max}	(δ _{max} /1.2δ _{avg}) ²	A _y
RFL	0.0281	0.0284	0.712	1.000	0.0200	0.0206	0.740	1.000
R1FL	0.0237	0.0241	0.721	1.000	0.0117	0.0159	1.283	1.283
3FL	0.0160	0.0163	0.721	1.000	0.0077	0.0111	1.462	1.462
2FL	0.0067	0.0068	0.726	1.000	0.0036	0.0050	1.378	1.378

3.6.5 層間相對側向位移角

1. 依據「建築物耐震設計規範及解說」2.16.1 容許層間相對側向位移角之規定，在地震力作用下，每一樓層與其上、下鄰層之相對側向位移除以層高，計算時應計及平移與扭轉位移，其值不得超過 0.005。

Story	Elevation	X-Dir(‰)	Y-Dir(‰)	Limit (‰)	Check
R1FL	12.00	1.288	0.760	5	OK
3FL	8.00	2.436	0.880	5	OK
2FL	4.00	1.794	2.228	5	OK



3.6.6 碰撞距離

依據「建築物耐震設計規範及解說」2.16.2 建築物之間隔之規定，為避免地震時所引起的變形造成鄰棟建築物間的相互碰撞，建築物應自留設之間隔，不得小於依 $V = \frac{I}{1.4\alpha_y} (\frac{S_{aD}}{F_u})_m W$ 作用下所產生之位移乘以 $0.6 \times 1.4 \times \alpha_y \times R_a$ 倍。

方向	Ra	放大倍數 ($0.6 \times 1.4 \times \alpha_y$)	頂層最大變位	碰撞距離 (cm)
X-Dir	3	0.84	2.410	6.073
Y-Dir	3	0.84	1.590	4.007

3.7 風力系統

本案為鋼筋混凝土結構，由地震力控制，無需風力分析。

第四章 結構設計

4.1 梁設計

F.NO=10-1 1F				"1FFB1"(50*185)			
TOP.req		22.38	31.02	21.20			
TOP1	#8	5	7	5			
TOP2	#8	0	0	0			
BOT2				#8	0	0	0
BOT1	#8	4	3	7			
BOT.req		18.89	3.89	32.50			
STIR				#4@20	#4@20	#4@20	
STIR.req		0.0417	0.0673	0.0527			
WEB				5#4			
WEB.req		0.00					
LEVEL				0.00	0.00		
BM. H. LR				0			0
C-CLEN				0	805		0
UCOL. W				80			80
DCOL. W				-50			-50
DCOL. H				-185			-185
F.NO=4-1 1F				"1FFB2"(50*185)			
TOP.req		2.31	0.00	0.00			
TOP1	#8	3	3	3			
TOP2	#8	0	0	0			
BOT2				#8	0	0	0
BOT1	#8	3	3	3			
BOT.req		11.52	11.11	11.17			
STIR				#4@20	#4@20	#4@20	
STIR.req		0.0000	0.0000	0.0000			
WEB				5#4			
WEB.req		0.00					
LEVEL				0.00	0.00		
BM. H. LR				0			0
C-CLEN				0	397		0
UCOL. W				81			80
DCOL. W				-50			-50
DCOL. H				-185			-125
F.NO=XX-1 1F				"1FFB3"(50*185)			
"1FFB4"(50*185)				"1FFB5"(50*285)			
TOP.req		14.09	4.74	2.87			
10.94	32.28	11.86	8.91	32.17	21.63		
TOP1	#8	3	3	3	#8		
3	7	3	3	7	5		
TOP2	#8	0	0	0	#8		
0	0	0	0	0	0		
BOT2				#8	0	0	#8
0	0	0	0	0	0	0	
BOT1	#8	5	4	3	#8		
7	3	7	4	3	3		
BOT.req		25.20	18.29	9.92			
32.44	1.59	31.29	19.71	0.11	12.55		
STIR				#4@20	#4@20	#4@20	
#4@20	#4@20	#4@20	#4@20	#4@20			
STIR.req				0.0000	0.0000	0.0417	
0.0417	0.0417	0.0417	0.0417	0.0417	0.0417	0.0417	

WEB				5#4			5#4
9#4							
WEB.req				0.00			0.00
0.00							
LEVEL				0.00			0.00
0.00				0.00			
BM. H. LR				0			
0							
C-CLEN				0	540		870
870					0		
UCOL. W				80			80
80					80		
DCOL. W				-50			-50
-50					-50		
DCOL. H				-125			-185
-285					-285		
F.NO=10-3 1F				"1FFB6"(50*185)			
"1FFB7"(50*185)					17.09	22.48	16.01
TOP.req							0.82
0.00				2.37			
TOP1				#8	4	5	4
3				3			#8
TOP2				#8	0	0	0
0				0			#8
BOT2				#8	0	0	0
0				0			#8
BOT1				#8	4	3	5
3				3			#8
BOT.req					17.36	5.22	25.31
7.26				4.92			9.50
STIR				#4@20	#4@20	#4@20	#4@20
#4@20				#4@20			
STIR.req					0.0417	0.0417	0.0417
0.0000				0.0000			0.0000
WEB				5#4			5#4
WEB.req				0.00			0.00
LEVEL				0.00			0.00
0.00							
BM. H. LR				0			
0							
C-CLEN				0	805		430
0							
UCOL. W				80			80
80							
DCOL. W				-50			-40
-40							
DCOL. H				-185			-185
-185							
F.NO=1-2 1F				"1FFB8"(50*185)			
TOP.req					12.94	6.00	6.11
TOP1				#8	3	3	3
TOP2				#8	0	0	0
BOT2				#8	0	0	0
BOT1				#8	4	3	3
BOT.req					15.53	3.72	12.13
STIR				#4@20	#4@20	#4@20	
STIR.req					0.0417	0.0417	0.0000
WEB				5#4			
WEB.req				0.00			
LEVEL				0.00	0.00		
BM. H. LR				0			0

C-CLEN	0	655	0
UCOL. W	81		80
DCOL. W	-40		-40
DCOL. H	-185		-185

F. NO=XX-7 1F		"1FFB9"(50*185)			
"1FFB10"(50*285)					
TOP. req		11.91	24.00	1.91	12.22
22.24	14.49				
TOP1	#8	3	5	3	#8 3
5	3				
TOP2	#8	0	0	0	#8 0
0	0				
BOT2	#8	0	0	0	#8 0
0	0				
BOT1	#8	4	3	5	#8 4
3	4				
BOT. req		19.85	5.37	20.96	19.79
0.00	15.36				

STIR	#4@20	#4@20	#4@20	#4@20
#4@20	#4@20			
STIR. req	0.0417	0.0417	0.0417	0.0417
0.0417	0.0417			
WEB	5#4			9#4
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	870		870
0				
UCOL. W	80			80
80				
DCOL. W	-40			-50
-50				
DCOL. H	-185			-285
-285				

F. NO=XX-5 1F		"1FFB11"(50*185)			
"1FFB12"(50*185)					
TOP. req		4.03	0.11	0.00	9.93
24.29	9.89				
TOP1	#8	3	3	3	#8 3
5	3				
TOP2	#8	0	0	0	#8 0
0	0				
BOT2	#8	0	0	0	#8 0
0	0				
BOT1	#8	7	7	7	#8 7
3	5				
BOT. req		8.99	12.05	15.96	32.88
2.93	24.36				

STIR	#4@20	#4@20	#4@20	#4@20
#4@20	#4@20			
STIR. req	0.0417	0.0417	0.0000	0.0417
0.0417	0.0417			
WEB	5#4			5#4
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	320		1020

0			
UCOL. W	0		80
100			
DCOL. W	-50		-50
-50			
DCOL. H	-285		-285
-285			

F. NO=-15-1 1F		"1FFB13"(50*185)			
TOP. req		23.44	8.43	20.55	
TOP1	#8	5	3	5	
TOP2	#8	0	0	0	
BOT2	#8	0	0	0	
BOT1	#8	3	3	4	
BOT. req		4.22	11.51	19.87	

STIR	#4@20	#4@20	#4@20
STIR. req	0.0417	0.0417	0.0000
WEB	5#4		
WEB. req	0.00		
LEVEL	0.00	0.00	
BM. H. LR	0		0
C-CLEN	0	870	0
UCOL. W	100		100
DCOL. W	-50		-50
DCOL. H	-285		-185

F. NO=XX-11 1F		"1FFB14"(50*185)					
"1FFB15"(50*185)							
TOP. req		13.90	15.88	5.79		10.01	
32.18	30.08						
TOP1	#8	3	4	3	#8	3	
7	6						
TOP2	#8	0	0	0	#8	0	
0	0						
BOT2	#8	0	0	0	#8	0	
0	3						
BOT1	#8	4	3	6	#8	7	
3	7						
BOT. req		19.90	0.00	28.49		32.46	
8.58	47.26						

STIR	#4@20	#4@20	#4@20	#4@20
#4@20	#4@20			
STIR. req	0.0417	0.0417	0.0417	0.0417
0.1183	0.1085			
WEB	5#4			5#4
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	870		870
0				
UCOL. W	80			80
80				
DCOL. W	-50			-50
-50				
DCOL. H	-185			-185
-185				

F. NO=XX-13 1F		"1FFB16"(50*185)			
"1FFB17"(50*185)		"1FFB18"(50*285)			
TOP. req		22.98	29.54	14.00	4.18

20.74	5.42		10.65	29.80	19.22		
TOP1	#8		5	6	3	#8	3
5	3	#8	3	6	4		
TOP2	#8		0	0	0	#8	0
0	0	#8	0	0	0		
BOT2	#8		2	0	0	#8	0
0	0	#8	0	0	3		
BOT1	#8		6	6	6	#8	6
3	5	#8	6	3	7		
BOT. req			36.04	6.36	28.44		28.97
1.23	25.00		27.89	2.77	48.57		
STIR		#4@20	#4@20	#4@20		#4@20	
#4@20	#4@20		#4@20	#4@20	#4@20		
STIR. req			0.0421	0.0578	0.0417		0.0417
0.0417	0.0417		0.0417	0.0634	0.0519		
WEB			5#4				5#4
9#4							
WEB. req			0.00				0.00
0.00							
LEVEL			0.00				0.00
0.00	0.00						
BM. H. LR		0					
0							
C-CLEN		0	870				870
870			0				
UCOL. W		0				80	
80				80			
DCOL. W		-50				-50	
-50				-50			
DCOL. H		-185				-185	
-285				-285			
F. NO=1-3 1F			"1FFB19" (50*285)				
TOP. req			16.91	5.39	0.30		
TOP1	#8		4	4	4		
TOP2	#8		0	0	0		
BOT2	#8		2	2	2		
BOT1	#8		7	7	7		
BOT. req			44.95	29.49	18.80		
STIR		#4@20	#4@20	#4@20			
STIR. req			0.0417	0.0417	0.0417		
WEB			9#4				
WEB. req			0.00				
LEVEL			0.00	0.00			
BM. H. LR		0					0
C-CLEN		0	304				0
UCOL. W		80					83
DCOL. W		-50					-50
DCOL. H		-285					-285
F. NO=-15-4 1F			"1FFB20" (50*185)				
TOP. req			12.30	25.50	22.18		
TOP1	#8		3	6	5		
TOP2	#8		0	0	0		
BOT2	#8		0	0	0		
BOT1	#8		5	3	4		
BOT. req			23.29	0.71	18.44		
STIR		#4@20	#4@20	#4@20			
STIR. req			0.0417	0.0417	0.0417		
WEB			5#4				
WEB. req			0.00				

LEVEL		0.00	0.00				
BM. H. LR		0					0
C-CLEN		0	870				0
UCOL. W		80					80
DCOL. W		-50					-50
DCOL. H		-285					-285
F. NO=XX-19 1F			"1FFB21" (50*185)				
"1FFB22" (50*185)							
TOP. req			4.46	15.66	2.14		14.27
33.31	43.03						
TOP1	#8		3	4	3	#8	3
7							
TOP2	#8		0	0	0	#8	0
0	2						
BOT2	#8		0	0	0	#8	0
0	7						
BOT1	#8		4	3	7	#8	7
7							
BOT. req			17.74	4.75	33.88		34.44
13.65	68.67						
STIR		#4@20	#4@20	#4@20		#4@12	
#4@12	#4@12						
STIR. req			0.0417	0.0417	0.0417		0.0417
0.1782	0.1582						
WEB			5#4				5#4
WEB. req			0.00				0.00
LEVEL			0.00				0.00
0.00							
BM. H. LR		0					
0							
C-CLEN		0	870				870
0							
UCOL. W		80					80
0							
DCOL. W		-50					-50
-50							
DCOL. H		-185					-185
-185							
F. NO=XX-21 1F			"1FFB23" (50*185)				
"1FFB24" (50*185)			"1FFB25" (50*285)				
TOP. req			44.98	42.58	25.31		6.61
25.50	7.27		11.18	28.21	32.00		
TOP1	#8		7	7	5	#8	3
6	3	#8	3	6	7		
TOP2	#8		2	2	0	#8	0
0	0	#8	0	0	0		
BOT3	#8		2	0	0	#8	0
0	0	#8	0	0	0		
BOT2	#8		6	0	0	#8	0
0	0	#8	0	0	5		
BOT1	#8		7	4	7	#8	7
3	6	#8	5	3	7		
BOT. req			71.84	19.56	30.97		31.02
1.19	25.70		22.01	4.93	59.70		
STIR		#4@12	#4@12	#4@12		#4@20	
#4@20	#4@20		#4@20	#4@20	#4@20		
STIR. req			0.1896	0.2022	0.0417		0.0417
0.0417	0.0417		0.0417	0.0820	0.0705		
WEB			5#4				5#4
9#4							
WEB. req			0.00				0.00

0.00				
LEVEL		0.00		0.00
0.00	0.00			
BM. H. LR	0			
0				
C-CLEN	0	870		870
870		0		
UCOL. W	80			80
80			80	
DCOL. W	-50			-50
-50			-50	
DCOL. H	-185			-185
-285			-285	

F. NO=-3-1 1F		"1FFB26" (50*285)		
TOP. req		30.51	12.18	20.98
TOP1	#8	7	3	5
TOP2	#8	0	0	0
BOT2	#8	5	2	0
BOT1	#8	7	6	3
BOT. req		57.14	39.60	10.10

STIR	#4@20	#4@20	#4@20	
STIR. req	0.0417	0.0420	0.0499	
WEB	9#4			
WEB. req	0.00			
LEVEL	0.00	0.00		
BM. H. LR	0			0
C-CLEN	0	554		0
UCOL. W	80			82
DCOL. W	-50			-50
DCOL. H	-285			-285

F. NO=-15-8 1F		"1FFB27" (50*285)		
TOP. req		26.10	33.07	22.69
TOP1	#8	6	7	5
TOP2	#8	0	0	0
BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		6.34	3.21	13.07

STIR	#4@20	#4@20	#4@20	
STIR. req	0.0417	0.0417	0.0417	
WEB	9#4			
WEB. req	0.00			
LEVEL	0.00	0.00		
BM. H. LR	0			0
C-CLEN	0	870		0
UCOL. W	80			80
DCOL. W	-50			-50
DCOL. H	-285			-285

F. NO=100-1 1F		"1FFG1" (50*185)		
"1FFG2" (50*185)				
TOP. req		17.57	24.37	7.29
0.93	0.53			1.64
TOP1	#8	4	5	3
3	3			#8
TOP2	#8	0	0	0
0	0			#8
BOT2	#8	0	0	0
0	0			#8
BOT1	#8	4	3	4
				#8

4	4			
BOT. req		19.79	4.20	19.41
10.26	3.89			16.17

STIR	#4@20	#4@20	#4@20	#4@20
#4@20	#4@20			
STIR. req	0.0417	0.0417	0.0417	0.0417
0.0417	0.0417			
WEB	5#4			5#4
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	820		210
0				
UCOL. W	80			80
0				
DCOL. W	-50			-50
-40				
DCOL. H	-185			-185
-185				

F. NO=YY-13 1F		"1FFG1A" (40*185)		
"1FFG11" (50*185)				
TOP. req		27.40	3.31	27.34
30.51	17.89			4.93
TOP1	#8	4	5	4
7	4			#8
TOP2	#8	2	0	2
0	0			#8
BOT3	#8	0	0	6
0	0			#8
BOT2	#8	2	3	5
0	0			#8
BOT1	#8	4	5	5
3	3			#8
BOT. req		30.01	36.10	77.60
0.00	11.50			17.91

STIR	#4@10	#4@10	#4@10	#4@20
#4@20	#4@20			
STIR. req	0.2368	0.2330	0.2254	0.0417
0.0417	0.0417			
WEB	9#4			5#4
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	480		965
0				
UCOL. W	0			80
80				
DCOL. W	-50			-50
-50				
DCOL. H	-285			-185
-185				

F. NO=YY-4 1F		"1FFG3" (50*185)		
"1FFG4" (50*185)				
TOP. req		6.65	0.59	2.28
10.56	17.36			7.03
TOP1	#8	3	3	3
3	4			#8
TOP2	#8	0	0	0
				#8

0 0

BOT2	#8	0	0	0	#8	0
0	0					
BOT1	#8	4	4	5	#8	4
3	4					
BOT. req		6.75	10.33	21.80		15.81
4.34	17.70					

STIR	#4@20	#4@20	#4@20	#4@20
#4@20	#4@20			
STIR. req		0.0000	0.0417	0.0417
0.0417	0.0000			0.0417
WEB		5#4		5#4
WEB. req		0.00		0.00
LEVEL		0.00		0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	512		965
0				
UCOL. W	0		80	
80				
DCOL. W	-50		-50	
-50				
DCOL. H	-185		-185	
-185				

F. NO=100-4 1F	"1FFG5" (50*185)
TOP. req	35.30 38.20 11.31
TOP1	#8 7 6 3
TOP2	#8 0 2 0

BOT2	#8	0	0	0
BOT1	#8	5	3	5
BOT. req		20.54	0.00	23.95

STIR	#4@20	#4@20	#4@20
STIR. req		0.0417	0.0417
WEB		5#4	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		185
C-CLEN	0	820	464
UCOL. W	80		80
DCOL. W	-50		-50
DCOL. H	-185		-185

F. NO=98-1 1F	"1FFG6" (50*125)
TOP. req	22.46 20.33 10.56
TOP1	#8 5 5 3
TOP2	#8 0 0 0

BOT2	#8	0	0	0
BOT1	#8	5	3	5
BOT. req		24.27	0.00	20.69

STIR	#4@20	#4@20	#4@20
STIR. req		0.0417	0.0000
WEB		3#4	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		185
C-CLEN	0	865	386
UCOL. W	81		80
DCOL. W	-50		-50
DCOL. H	-185		-185

F. NO=YY-6 1F	"1FFG7" (50*185)
TOP. req	10.87 32.91 19.93
TOP1	#8 3 7 4
TOP2	#8 0 0 0

BOT2	#8	0	0	0
BOT1	#8	5	3	4
BOT. req		22.81	1.41	16.89

STIR	#4@20	#4@20	#4@20
STIR. req		0.0417	0.0417
WEB		5#4	
WEB. req		0.00	
LEVEL		0.00	0.00

BM. H. LR	185		0
C-CLEN	380	965	0
UCOL. W	80		80
DCOL. W	-50		-50
DCOL. H	-185		-185

F. NO=YY-8 1F	"1FFG8" (50*185)
TOP. req	31.55 30.44 20.67
TOP1	#8 7 7 5
TOP2	#8 0 0 0

BOT2	#8	0	0	0
BOT1	#8	4	3	4
BOT. req		16.85	0.00	18.47

STIR	#4@20	#4@20	#4@20
STIR. req		0.0417	0.0417
WEB		5#4	
WEB. req		0.00	
LEVEL		0.00	0.00

BM. H. LR	0		185
C-CLEN	0	870	370
UCOL. W	80		80
DCOL. W	-50		-50
DCOL. H	-185		-185

F. NO=YY-9 1F	"1FFG9" (50*185)
TOP. req	19.46 34.85 30.74
TOP1	#8 4 7 7
TOP2	#8 0 0 0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		8.11	9.53	11.59

STIR	#4@20	#4@20	#4@20
STIR. req		0.0000	0.0000
WEB		5#4	
WEB. req		0.00	
LEVEL		0.00	0.00

BM. H. LR	185		0
C-CLEN	370	1075	0
UCOL. W	80		80
DCOL. W	-50		-50
DCOL. H	-185		-185

F. NO=YY-12 1F	"1FFG10" (50*285)
TOP. req	24.15 41.54 19.18
TOP1	#8 5 7 4
TOP2	#8 0 2 0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		9.14	0.00	4.35

STIR		#4@20	#4@20	#4@20
STIR. req		0.0417	0.0417	0.0417
WEB		9#4		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			185
C-CLEN	0	870		480
UCOL. W	80			80
DCOL. W	-50			-50
DCOL. H	-285			-285

F. NO=YY-16 1F		"1FFG12"(50*285)		
TOP. req		14.89	27.77	13.33
TOP1	#8	3	6	3
TOP2	#8	0	0	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		8.22	0.00	6.41

STIR		#4@20	#4@20	#4@20
STIR. req		0.0417	0.0417	0.0417
WEB		9#4		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			185
C-CLEN	0	870		480
UCOL. W	80			80
DCOL. W	-50			-50
DCOL. H	-285			-285

F. NO=87-1 1F		"1FFG13"(50*285)		
TOP. req		8.86	9.89	1.29
TOP1	#8	3	3	3
TOP2	#8	0	0	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		6.87	6.80	13.98

STIR		#4@20	#4@20	#4@20
STIR. req		0.0000	0.0417	0.0000
WEB		9#4		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			0
C-CLEN	0	666		0
UCOL. W	80			80
DCOL. W	-50			-50
DCOL. H	-185			-285

F. NO=YY-17 1F		"1FFG14"(50*285)		
TOP. req		11.58	37.97	22.05
TOP1	#8	3	6	5
TOP2	#8	0	2	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		13.82	0.00	6.44

STIR		#4@20	#4@20	#4@20
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STIR. req		0.0417	0.0417	0.0417
WEB		9#4		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			0
C-CLEN	0	965		0
UCOL. W	80			80
DCOL. W	-50			-50
DCOL. H	-285			-285

F. NO=100-5 1F		"1FFG15"(50*285)		
TOP. req		28.74	10.90	24.64
TOP1	#8	6	3	5
TOP2	#8	0	0	0

BOT2	#8	0	0	2
BOT1	#8	3	5	7
BOT. req		7.34	21.84	44.68

STIR		#4@20	#4@20	#4@20
STIR. req		0.0417	0.0417	0.0417
WEB		9#4		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			0
C-CLEN	0	690		0
UCOL. W	100			81
DCOL. W	-50			-50
DCOL. H	-285			-285

F. NO=YY-19 1F		"1FFG16"(50*285)		
TOP. req		27.03	40.47	31.58
TOP1	#8	6	6	7
TOP2	#8	0	2	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		11.75	7.36	1.04

STIR		#4@20	#4@20	#4@20
STIR. req		0.0000	0.0417	0.0000
WEB		9#4		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			0
C-CLEN	0	965		0
UCOL. W	80			80
DCOL. W	-50			-50
DCOL. H	-285			-285

F. NO=75-1 1F		"1FFG17"(50*285)				
"1FFG18"(50*285)						
TOP. req		5.29	11.73	9.88		13.38
27.11 15.55						
TOP1	#8	3	3	3	#8	3
6 4						
TOP2	#8	0	0	0	#8	0
0 0						
BOT2	#8	0	0	0	#8	0
0 0						
BOT1	#8	4	3	5	#8	4
3 3						
BOT. req		18.19	5.34	24.61		18.62
0.00 0.82						

STIR	#4@20	#4@20	#4@20	#4@20
#4@20	#4@20			
STIR.req	0.0417	0.0417	0.0417	0.0417
0.0417	0.0000			
WEB	9#4		9#4	
WEB.req	0.00		0.00	
LEVEL	0.00		0.00	
0.00				
BM.H.LR	0			
0				
C-CLEN	0	710		965
0				
UCOL.W	100		80	
80				
DCOL.W	-50		-50	
-50				
DCOL.H	-185		-285	
-285				

F.NO=75-4 1F		"1FFG19"(50*185)		
"1FFG20"(50*285)				
TOP.req	12.65	35.45	6.28	12.16
29.67	18.65			
TOP1	#8	3	7	3 #8
6	4			
TOP2	#8	0	0	0 #8
0	0			
BOT2	#8	0	0	0 #8
0	0			
BOT1	#8	5	3	5 #8
3	3			
BOT.req	20.75	0.00	20.43	9.66
0.50	2.59			

STIR	#4@20	#4@20	#4@20	#4@20
#4@20	#4@20			
STIR.req	0.0417	0.0506	0.0417	0.0417
0.0417	0.0000			
WEB	5#4		9#4	
WEB.req	0.00		0.00	
LEVEL	0.00		0.00	
0.00				
BM.H.LR	0			
0				
C-CLEN	0	710		965
0				
UCOL.W	100		80	
80				
DCOL.W	-50		-50	
-50				
DCOL.H	-185		-185	
-285				

F.NO=10-2 1F		"1FFJB1"(40*185)		
TOP.req	7.75	12.70	7.02	
TOP1	#7	3	4	3
TOP2	#7	0	0	0
BOT2	#7	0	0	0
BOT1	#7	3	3	4
BOT.req	10.69	6.61	12.74	

STIR	#4@20	#4@20	#4@20
STIR.req	0.0000	0.0333	0.0000
WEB	9#4		
WEB.req	0.00		

LEVEL	0.00	0.00	
BM.H.LR	0		0
C-CLEN	0	805	0
UCOL.W	0		0
DCOL.W	-50		-50
DCOL.H	-185		-185

F.NO=10-4 1F		"1FFJB2"(40*185)	
TOP.req	12.93	8.32	10.10
TOP1	#7	4	3
TOP2	#7	0	0
BOT2	#7	0	0
BOT1	#7	5	3
BOT.req	17.11	7.67	9.37

STIR	#4@20	#4@20	#4@20
STIR.req	0.0339	0.0333	0.0333
WEB	5#4		
WEB.req	0.00		
LEVEL	0.00	0.00	
BM.H.LR	0		0
C-CLEN	0	526	0
UCOL.W	0		0
DCOL.W	-50		-50
DCOL.H	-185		-185

F.NO=7-1 1F		"1FFJB2A"(40*125)	
TOP.req	0.68	2.23	4.90
TOP1	#7	3	3
TOP2	#7	0	0
BOT2	#7	0	0
BOT1	#7	3	3
BOT.req	2.85	2.57	1.36

STIR	#4@20	#4@20	#4@20
STIR.req	0.0000	0.0000	0.0000
WEB	3#4		
WEB.req	0.00		
LEVEL	0.00	0.00	
BM.H.LR	0		0
C-CLEN	0	413	0
UCOL.W	0		0
DCOL.W	-50		-50
DCOL.H	-185		-125

F.NO=XX-16 1F		"1FFJB3"(40*285)	
TOP.req	8.12	14.68	7.84
TOP1	#7	3	4
TOP2	#7	0	0
BOT2	#7	0	0
BOT1	#7	3	3
BOT.req	3.69	1.58	12.60

STIR	#4@20	#4@20	#4@20
STIR.req	0.0000	0.0333	0.0000
WEB	9#4		
WEB.req	0.00		
LEVEL	0.00	0.00	
BM.H.LR	185		0
C-CLEN	870	870	0
UCOL.W	0		0
DCOL.W	-50		-50
DCOL.H	-285		-285

F.NO=-1-1 1F		"1FFJB4"(40*285)		
TOP.req		0.00	0.00	4.15
TOP1	#7	3	3	3
TOP2	#7	0	0	0

BOT2	#7	0	0	0
BOT1	#7	4	3	3
BOT.req		14.86	10.00	3.89

STIR		#4@20	#4@20	#4@20
STIR.req		0.0000	0.0333	0.0333
WEB		9#4		
WEB.req		0.00		
LEVEL		0.00	0.00	
BM.H.LR	0			0
C-CLEN	0	429		0
UCOL.W	0			0
DCOL.W	-50			-40
DCOL.H	-285			-285

F.NO=YY-5 1F		"1FFJG1"(40*185)		
TOP.req		10.25	19.16	11.20
TOP1	#7	3	5	3
TOP2	#7	0	0	0

BOT2	#7	0	0	0
BOT1	#7	5	3	3
BOT.req		15.87	1.69	3.82

STIR		#4@20	#4@20	#4@20
STIR.req		0.0333	0.0333	0.0000
WEB		9#4		
WEB.req		0.00		
LEVEL		0.00	0.00	
BM.H.LR	0			0
C-CLEN	0	965		0
UCOL.W	0			0
DCOL.W	-50			-50
DCOL.H	-185			-185

F.NO=94-1 1F		"1FFJG2"(40*185)		
TOP.req		0.57	1.66	4.85
TOP1	#7	3	3	3
TOP2	#7	0	0	0

BOT2	#7	0	0	0
BOT1	#7	3	3	3
BOT.req		3.03	5.17	5.28

STIR		#4@20	#4@20	#4@20
STIR.req		0.0000	0.0000	0.0000
WEB		5#4		
WEB.req		0.00		
LEVEL		0.00	0.00	
BM.H.LR	0			0
C-CLEN	0	674		0
UCOL.W	0			0
DCOL.W	-50			-50
DCOL.H	-185			-285

F.NO=YY-18 1F		"1FFJG3"(40*285)		
TOP.req		11.09	21.33	11.95
TOP1	#7	3	4	4
TOP2	#7	0	2	0

BOT2	#7	0	0	0
BOT1	#7	3	3	3
BOT.req		2.82	1.49	0.47

STIR		#4@20	#4@20	#4@20
STIR.req		0.0000	0.0333	0.0000
WEB		9#4		
WEB.req		0.00		
LEVEL		0.00	0.00	
BM.H.LR	0			0
C-CLEN	0	965		0
UCOL.W	0			0
DCOL.W	-50			-50
DCOL.H	-285			-285

F.NO=XX-12 1F		"1FTB1"(40* 60)		
TOP.req		41.38	20.98	7.05
TOP1	#7	5	5	5
TOP2	#7	2	2	2

BOT2	#7	2	2	2
BOT1	#7	5	5	5
BOT.req		2.32	14.76	44.83

STIR		#4@10	#4@10	#4@10
STIR.req		0.6155	0.6137	0.6101
WEB		2#4		
WEB.req		0.00		
LEVEL		0.00	0.00	
BM.H.LR	0			0
C-CLEN	0	125		0
UCOL.W	40			80
DCOL.W	-40			-50
DCOL.H	-60			-185

F.NO=10-1 R1F		"R1FCB2"(50* 70)		
TOP.req		10.83	10.83	16.42
TOP1	#8	4	4	4
TOP2	#8	0	0	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT.req		10.83	10.83	10.83

STIR		#4@12	#4@12	#4@12
STIR.req		0.0417	0.1933	0.2055
WEB		0#3		
WEB.req		0.00		
LEVEL		0.00	0.00	
BM.H.LR	0			0
C-CLEN	0	302		0
UCOL.W	0			80
DCOL.W	-40			80
DCOL.H	-70			0

F.NO=4-1 R1F		"R1FB2"(50* 70)		
TOP.req		29.33	10.83	20.92
TOP1	#8	6	6	6
TOP2	#8	0	0	0

BOT2	#8	0	0	0
BOT1	#8	5	5	5
BOT.req		20.86	10.83	23.64

STIR		#4@12	#4@12	#4@12
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STIR. req		0. 2118	0. 2001	0. 1757
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	397		0
UCOL. W	81			80
DCOL. W	81			80
DCOL. H	0			0

F. NO=10-1 3F		"3FB1"(50* 70)		
TOP. req		37. 77	10. 83	38. 15
TOP1	#8	6	3	6
TOP2	#8	2	0	2
BOT2	#8	0	0	0
BOT1	#8	5	3	5
BOT. req		20. 52	10. 83	18. 92

STIR	#4@15	#4@20	#4@15	
STIR. req		0. 1245	0. 0417	0. 1278
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	805		0
UCOL. W	0			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=4-1 3F		"3FB2"(50* 70)		
TOP. req		42. 60	10. 83	38. 97
TOP1	#8	7	7	7
TOP2	#8	2	2	2
BOT2	#8	2	2	2
BOT1	#8	6	6	6
BOT. req		37. 88	10. 83	39. 19

STIR	2#4@15	2#4@15	2#4@15	
STIR. req		0. 3427	0. 3310	0. 3219
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	397		0
UCOL. W	81			80
DCOL. W	81			80
DCOL. H	0			0

F. NO=XX-22 3F		"3FB1A"(30* 60)		
TOP. req		25. 51	5. 50	5. 50
TOP1	#8	4	4	4
TOP2	#8	2	2	2
BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		5. 50	5. 50	10. 25

STIR	#4@12	#4@12	#4@12	
STIR. req		0. 1472	0. 0250	0. 0250
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	150		0

UCOL. W	0			0
DCOL. W	40			40
DCOL. H	0			0

F. NO=10-1 2F		"2FB1"(50* 70)		
TOP. req		39. 00	10. 83	37. 23
TOP1	#8	6	3	6
TOP2	#8	2	0	2
BOT2	#8	0	0	0
BOT1	#8	5	3	5
BOT. req		20. 64	10. 83	19. 28

STIR	#4@15	#4@20	#4@15	
STIR. req		0. 1263	0. 0417	0. 1255
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	805		0
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=4-1 2F		"2FB2"(50* 70)		
TOP. req		47. 12	10. 83	38. 40
TOP1	#8	7	7	7
TOP2	#8	3	3	3
BOT2	#8	2	2	2
BOT1	#8	7	7	7
BOT. req		37. 40	10. 83	41. 56

STIR	2#4@12	2#4@12	2#4@12	
STIR. req		0. 4059	0. 3942	0. 3698
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	397		0
UCOL. W	81			80
DCOL. W	81			80
DCOL. H	0			0

F. NO=XX-12 2F		"2FB1A"(30* 60)		
TOP. req		13. 91	7. 57	11. 84
TOP1	#8	3	3	3
TOP2	#8	2	2	2
BOT2	#8	2	2	2
BOT1	#8	3	3	3
BOT. req		13. 18	13. 95	21. 01

STIR	2#5@8	2#5@8	2#5@8	
STIR. req		1. 0398	1. 0363	1. 0398
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	60			0
C-CLEN	209	500		0
UCOL. W	0			80
DCOL. W	40			-50
DCOL. H	0			-70

F. NO=XX-1 R1F		"R1FB3"(50* 70)		
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"R1FB4" (50* 70)			"R1FB5" (50* 70)		
TOP. req	24.76	10.83	31.76		32.29
10.83 38.36	34.17	10.83	32.44		
TOP1 #8	5	3	7 #8		7
3 6 #8	6	3	7		
TOP2 #8	0	0	0 #8		0
0 2 #8	2	0	0		
BOT2 #8	0	0	0 #8		0
0 0 #8	0	0	0		
BOT1 #8	5	3	4 #8		4
3 4 #8	4	3	4		
BOT. req	22.93	10.83	19.53		11.99
13.10 11.10	10.99	13.76	12.33		
STIR	#4@15	#4@18	#4@15		#4@15
#4@20 #4@15	#4@15	#4@20	#4@15		
STIR. req	0.0886	0.1401	0.1658		0.1313
0.0417 0.1543	0.1423	0.0417	0.1356		
WEB	0#3				0#3
0#3					
WEB. req	0.00				0.00
0.00					
LEVEL	0.00				0.00
0.00 0.00					
BM. H. LR	0				
0					
C-CLEN	0	540			870
870	0				
UCOL. W	80				80
0		0			
DCOL. W	80				80
80		80			
DCOL. H	0				0
0		0			
F. NO=XX-1 3F		"3FB3" (50* 70)			
"3FB4" (50* 70)		"3FB5" (50* 70)			
TOP. req	37.10	10.83	46.48		41.45
10.83 48.63	41.68	10.83	44.72		
TOP1 #8	6	3	7 #8		7
3 7 #8	7	3	7		
TOP2 #8	2	0	3 #8		3
0 3 #8	3	0	2		
BOT2 #8	2	0	0 #8		0
0 0 #8	0	0	0		
BOT1 #8	6	3	7 #8		7
3 5 #8	5	3	5		
BOT. req	37.26	10.83	33.69		17.46
13.14 14.93	14.86	13.06	14.50		
STIR	#4@10	#4@10	#4@10		#4@15
#4@20 #4@12	#4@15	#4@20	#4@15		
STIR. req	0.1841	0.2380	0.2596		0.1603
0.0548 0.1838	0.1646	0.0417	0.1701		
WEB	0#3				0#3
0#3					
WEB. req	0.00				0.00
0.00					
LEVEL	0.00				0.00
0.00 0.00					
BM. H. LR	0				
0					
C-CLEN	0	540			870
870	0				
UCOL. W	80				80
80		80			

DCOL. W	80				80
80				80	
DCOL. H	0				0
0				0	
F. NO=XX-1 2F		"2FB3" (50* 70)			
"2FB4" (50* 70)		"2FB5" (50* 70)			
TOP. req	35.48	10.83	47.83		40.94
10.83 48.88	43.69	10.83	41.66		
TOP1 #8	6	3	7 #8		7
3 7 #8	7	3	7		
TOP2 #8	2	0	3 #8		3
0 3 #8	3	0	2		
BOT2 #8	2	0	0 #8		0
0 0 #8	0	0	0		
BOT1 #8	6	3	7 #8		7
3 5 #8	5	3	5		
BOT. req	36.78	10.83	32.71		17.74
13.31 14.88	14.13	13.66	15.82		
STIR	#4@10	#4@10	#4@10		#4@15
#4@20 #4@12	#4@15	#4@20	#4@15		
STIR. req	0.1889	0.2428	0.2644		0.1593
0.0559 0.1848	0.1706	0.0417	0.1643		
WEB	0#3				0#3
0#3					
WEB. req	0.00				0.00
0.00					
LEVEL	0.00				0.00
0.00 0.00					
BM. H. LR	0				
0					
C-CLEN	0	540			870
870	0				
UCOL. W	80				80
80		80			
DCOL. W	80				80
80		80			
DCOL. H	0				0
0		0			
F. NO=10-3 R1F		"R1FCB7" (50* 70)			
"R1FB7" (50* 70)					
TOP. req	10.83	11.81	21.95		30.76
10.83 26.92					
TOP1 #8	5	5	5 #8		7
3 6					
TOP2 #8	0	0	0 #8		0
0 0					
BOT2 #8	0	0	0 #8		0
0 0					
BOT1 #8	3	3	3 #8		5
3 5					
BOT. req	10.83	10.83	10.83		23.45
10.83 23.67					
STIR	#4@10	#4@10	#4@10		#4@12
#4@12 #4@12					
STIR. req	0.2167	0.2449	0.2620		0.2163
0.1959 0.1793					
WEB	0#3				0#3
WEB. req	0.00				0.00
LEVEL	0.00				0.00
0.00					
BM. H. LR	0				

0					
C-CLEN	0	302			430
0					
UCOL. W	0			80	
80					
DCOL. W	-40			80	
80					
DCOL. H	-70			0	
0					
F. NO=1-2 R1F		"R1FB8" (50* 70)			
TOP. req		27.25	10.83	31.13	
TOP1	#8	7	3	7	
TOP2	#8	0	0	0	
BOT2	#8	0	0	0	
BOT1	#8	4	3	4	
BOT. req		17.02	10.83	14.80	
STIR		#4@15	#4@20	#4@15	
STIR. req		0.1230	0.0417	0.1426	
WEB		0#3			
WEB. req		0.00			
LEVEL		0.00	0.00		
BM. H. LR	0				0
C-CLEN	0	655			0
UCOL. W	81				80
DCOL. W	81				80
DCOL. H	0				0
F. NO=10-3 3F		"3FB6" (50* 70)			
"3FB7" (50* 70)					
TOP. req		39.97	10.83	45.91	44.18
10.83	44.92				
TOP1	#8	6	3	7	#8 7
3	7				
TOP2	#8	2	0	3	#8 3
0	2				
BOT2	#8	0	0	2	#8 2
0	2				
BOT1	#8	4	3	6	#8 6
3	6				
BOT. req		18.40	13.27	16.30	39.64
10.83	38.76				
STIR		#4@15	#4@20	#4@12	2#4@15
2#4@15	2#4@15				
STIR. req		0.1531	0.0808	0.1844	0.3170
0.3009	0.3213				
WEB		0#3			0#3
WEB. req		0.00			0.00
LEVEL		0.00			0.00
0.00					
BM. H. LR	0				
0					
C-CLEN	0	805			430
0					
UCOL. W	0				80
80					
DCOL. W	80				80
80					
DCOL. H	0				0
0					
F. NO=1-2 3F		"3FB8" (50* 70)			

TOP. req		36.18	10.83	41.47	
TOP1	#8	7	3	7	
TOP2	#8	2	0	2	
BOT2	#8	0	0	0	
BOT1	#8	6	3	6	
BOT. req		28.26	10.83	26.50	
STIR		#4@15	#4@20	#4@12	
STIR. req		0.1666	0.0482	0.1790	
WEB		0#3			
WEB. req		0.00			
LEVEL		0.00	0.00		
BM. H. LR	0				0
C-CLEN	0	655			0
UCOL. W	81				80
DCOL. W	81				80
DCOL. H	0				0
F. NO=10-3 2F		"2FB6" (50* 70)			
"2FB7" (50* 70)					
TOP. req		41.97	10.83	45.31	48.03
10.83	44.78				
TOP1	#8	7	3	7	#8 7
3	7				
TOP2	#8	2	0	3	#8 3
0	2				
BOT2	#8	0	0	2	#8 2
0	2				
BOT1	#8	5	3	6	#8 6
3	7				
BOT. req		18.57	13.71	16.27	39.94
10.83	40.56				
STIR		#4@15	#4@20	#4@12	2#4@12
2#4@15	2#4@15				
STIR. req		0.1680	0.0807	0.1869	0.3695
0.3492	0.3124				
WEB		0#3			0#3
WEB. req		0.00			0.00
LEVEL		0.00			0.00
0.00					
BM. H. LR	0				
0					
C-CLEN	0	805			430
0					
UCOL. W	80				80
80					
DCOL. W	80				80
80					
DCOL. H	0				0
0					
F. NO=1-2 2F		"2FB8" (50* 70)			
TOP. req		34.90	10.83	41.54	
TOP1	#8	7	3	7	
TOP2	#8	2	0	2	
BOT2	#8	0	0	0	
BOT1	#8	6	3	6	
BOT. req		28.11	10.83	26.33	
STIR		#4@15	#4@20	#4@12	
STIR. req		0.1594	0.0479	0.1795	
WEB		0#3			
WEB. req		0.00			

LEVEL		0.00	0.00			
BM. H. LR	0				0	
C-CLEN	0	655			0	
UCOL. W	81				80	
DCOL. W	81				80	
DCOL. H	0				0	
F. NO=XX-7 R1F		"R1FB9"(50* 70)				
"R1FB10"(50* 70)						
TOP. req		31.45	10.83	35.58		36.49
10.83	37.03					
TOP1	#8	7	3	6	#8	6
3	6					
TOP2	#8	0	0	2	#8	2
0	2					
BOT2	#8	0	0	0	#8	0
0	0					
BOT1	#8	4	3	4	#8	4
3	4					
BOT. req		10.83	14.69	10.83		11.73
15.10	12.60					
STIR		#4@15	#4@20	#4@15		#4@15
#4@20	#4@15					
STIR. req		0.1231	0.0417	0.1507		0.1582
0.0417	0.1584					
WEB		0#3				0#3
WEB. req		0.00				0.00
LEVEL		0.00				0.00
0.00						
BM. H. LR	0					
0						
C-CLEN	0	870				870
0						
UCOL. W	80				0	
0						
DCOL. W	80				80	
80						
DCOL. H	0				0	
0						
F. NO=XX-7 3F		"3FB9"(50* 70)				
"3FB10"(50* 70)						
TOP. req		42.47	10.83	46.43		45.60
10.83	49.26					
TOP1	#8	7	3	7	#8	7
3	7					
TOP2	#8	2	0	3	#8	2
0	3					
BOT2	#8	0	0	0	#8	0
0	0					
BOT1	#8	5	4	5	#8	5
4	5					
BOT. req		16.93	15.39	13.75		15.81
15.89	14.23					
STIR		#4@15	#4@20	#4@12		#4@12
#4@20	#4@12					
STIR. req		0.1601	0.0522	0.1841		0.1753
0.0556	0.1923					
WEB		0#3				0#3
WEB. req		0.00				0.00
LEVEL		0.00				0.00
0.00						
BM. H. LR	0					

0						
C-CLEN	0	870				870
0						
UCOL. W	80				80	
80						
DCOL. W	80				80	
80						
DCOL. H	0				0	
0						
F. NO=XX-7 2F		"2FB9"(50* 70)				
"2FB10"(50* 70)						
TOP. req		41.81	10.83	46.03		46.56
10.83	47.24					
TOP1	#8	7	3	7	#8	7
3	7					
TOP2	#8	2	0	3	#8	3
0	3					
BOT2	#8	0	0	0	#8	0
0	0					
BOT1	#8	5	4	5	#8	5
4	5					
BOT. req		17.16	15.41	14.00		15.51
15.74	15.39					
STIR		#4@15	#4@20	#4@12		#4@12
#4@20	#4@12					
STIR. req		0.1563	0.0507	0.1824		0.1862
0.0579	0.1876					
WEB		0#3				0#3
WEB. req		0.00				0.00
LEVEL		0.00				0.00
0.00						
BM. H. LR	0					
0						
C-CLEN	0	870				870
0						
UCOL. W	80				80	
80						
DCOL. W	80				80	
80						
DCOL. H	0				0	
0						
F. NO=XX-5 R1F		"R1FB11"(50* 70)				
"R1FB10"(50* 70)						
TOP. req		10.83	13.27	23.89		
10.83						
TOP1	#8	5	5	5		
3						
TOP2	#8	0	0	0		
0						
BOT2	#8	0	0	0		
0						
BOT1	#8	3	3	3		
3						
BOT. req		10.83	10.83	14.24		
10.83						
STIR		#4@12	#4@12	#4@12		
#4@12						
STIR. req		0.1463	0.1673	0.1805		
0.1463						
WEB		0#3				
WEB. req		0.00				
LEVEL		0.00	0.00			
0.00						
BM. H. LR	0					0
0						
C-CLEN	0	320				0
0						
UCOL. W	0					0
0						
DCOL. W	-50					80
DCOL. H	-70					0
F. NO=XX-5 3F		"3FB11"(50* 70)				

"3FB12"(60* 60)							
TOP. req		10.83	21.57	39.01		47.31	
11.00	50.45						
TOP1	#8	6	6	6	#8	8	
3	8						
TOP2	#8	2	2	2	#8	2	
0	2						
BOT2	#8	0	0	0	#8	0	
0	0						
BOT1	#8	5	5	5	#8	5	
4	5						
BOT. req		10.83	12.49	23.17		16.23	
18.73	14.68						
STIR		2#4@15	2#4@15	2#4@15		#4@12	
#4@20	#4@12						
STIR. req		0.3185	0.3303	0.3381		0.1755	
0.0500	0.1774						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	320				1020	
0							
UCOL. W	0				80		
100							
DCOL. W	-50				80		
100							
DCOL. H	-70				0		
0							
F.NO=-15-1 3F "3FCB13"(50* 70)							
TOP. req		43.69	10.83	42.22		50.53	
21.20	10.54						
TOP1	#8	7	3	7	#8	7	
7	7						
TOP2	#8	2	0	2	#8	3	
2	2						
BOT2	#8	0	0	0	#8	0	
0	0						
BOT1	#8	5	3	5	#8	5	
5	5						
BOT. req		14.97	12.16	13.59		0.00	
0.00	8.95						
STIR		#4@15	#4@20	#4@15		#4@15	
#4@15	#4@15						
STIR. req		0.1555	0.0445	0.1639		0.1311	
0.1019	0.0417						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	870				402	
0							
UCOL. W	100				100		
0							
DCOL. W	100				100		
-30							
DCOL. H	0				0		
-60							

F.NO=XX-5 2F "2FB12"(60* 60)							
TOP. req		10.83	22.26	41.26		51.72	
11.00	54.65						
TOP1	#8	7	7	7	#8	8	
3	8						
TOP2	#8	2	2	2	#8	3	
0	3						
BOT2	#8	0	0	0	#8	0	
0	0						
BOT1	#8	5	5	5	#8	6	
5	6						
BOT. req		10.83	12.85	23.50		17.24	
20.34	16.23						
STIR		2#4@12	2#4@12	2#4@12		#4@12	
#4@20	#4@12						
STIR. req		0.3426	0.3648	0.3795		0.2136	
0.0500	0.2157						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	320				1020	
0							
UCOL. W	0					80	
100							
DCOL. W	-50					80	
100							
DCOL. H	-70					0	
0							
F.NO=-15-1 2F "2FB13"(50* 70)							
TOP. req		54.66	10.83	43.17			
TOP1	#8	7	3	7			
TOP2	#8	4	0	4			
BOT2	#8	0	0	0			
BOT1	#8	6	4	6			
BOT. req		14.29	15.77	17.33			
STIR		#4@10	#4@20	#4@12			
STIR. req		0.2478	0.0618	0.2167			
WEB		0#3					
WEB. req		0.00					
LEVEL		0.00	0.00				
BM. H. LR	0					0	
C-CLEN	0	870				0	
UCOL. W	100					100	
DCOL. W	100					100	
DCOL. H	0					0	

F.NO=XX-11 R1F "R1FB15"(50* 70)							
TOP. req		37.24	10.83	36.66		33.67	
10.83	35.79						
TOP1	#8	6	3	6	#8	6	
3	6						
TOP2	#8	2	0	2	#8	2	
0	2						
BOT2	#8	0	0	0	#8	0	

0	0						
BOT1	#8	4	4	4	#8	4	
3	4						
BOT. req		12.51	16.14	12.22		11.28	
14.74	10.83						
STIR		#4@15	#4@20	#4@15		#4@15	
#4@20	#4@15						
STIR. req		0.1645	0.0417	0.1709		0.1375	
0.0417	0.1475						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	870				870	
0							
UCOL. W	0					0	
0							
DCOL. W	80					80	
80							
DCOL. H	0					0	
0							
F. NO=XX-11 3F		"3FB14"(50* 70)					
"3FB15"(50* 70)							
TOP. req		49.41	10.83	46.36		41.81	
10.83	46.47						
TOP1	#8	7	3	7	#8	7	
3	7						
TOP2	#8	3	0	3	#8	3	
0	3						
BOT2	#8	0	0	0	#8	0	
0	0						
BOT1	#8	5	4	5	#8	5	
3	5						
BOT. req		16.28	15.41	13.86		16.22	
14.45	15.38						
STIR		#4@12	#4@20	#4@12		#4@15	
#4@20	#4@12						
STIR. req		0.1947	0.0417	0.1942		0.1615	
0.0499	0.1760						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	870				870	
0							
UCOL. W	80					80	
80							
DCOL. W	80					80	
80							
DCOL. H	0					0	
0							
F. NO=XX-11 2F		"2FB14"(50* 70)					
"2FB15"(50* 70)							
TOP. req		46.53	10.83	46.44		43.40	
10.83	45.43						
TOP1	#8	7	3	7	#8	7	
3	7						
TOP2	#8	3	0	3	#8	3	

0	2						
BOT2	#8	0	0	0	#8	0	
0	0						
BOT1	#8	5	4	5	#8	5	
3	5						
BOT. req		16.22	15.96	14.10		15.81	
14.97	16.38						
STIR		#4@12	#4@20	#4@12		#4@15	
#4@20	#4@15						
STIR. req		0.1904	0.0417	0.1962		0.1648	
0.0467	0.1631						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	870				870	
0							
UCOL. W	80					80	
80							
DCOL. W	80					80	
80							
DCOL. H	0					0	
0							
F. NO=XX-13 R1F		"R1FB16"(50* 70)					
"R1FB17"(50* 70)		"R1FB18"(50* 70)					
"R1FCB18"(50* 70)							
TOP. req		34.83	10.83	37.92		36.32	
10.83	38.08		37.32	10.83	41.24		29.08
12.46	11.22						
TOP1	#8	7	3	6	#8	6	
3	6	#8	6	3	7	#8	7
7	7						
TOP2	#8	0	0	2	#8	2	
0	2	#8	2	0	2	#8	2
2	2						
BOT2	#8	0	0	0	#8	0	
0	0	#8	0	0	0	#8	0
0	0						
BOT1	#8	4	4	4	#8	4	
4	4	#8	4	4	5	#8	5
5	5						
BOT. req		11.73	15.26	10.83		12.28	
15.55	11.47		12.82	17.72	12.96		0.00
0.00	0.65						
STIR		#4@15	#4@20	#4@15		#4@15	
#4@20	#4@15	#4@15	#4@20	#4@12		#4@12	
#4@12	#4@12						
STIR. req		0.1387	0.0417	0.1628		0.1622	
0.0417	0.1673		0.1696	0.0417	0.1773		0.0417
0.0417	0.0417						
WEB		0#3				0#3	
0#3							
WEB. req		0.00		0#3			0.00
0.00				0.00			
LEVEL		0.00					0.00
0.00				0.00	0.00		
BM. H. LR	0						
0							
C-CLEN	0	870				870	
870				370			0
UCOL. W	0						0

0			0			
0						
DCOL. W	-50				80	
80			80			
-30						
DCOL. H	-70				0	
0			0			
-50						
F. NO=XX-13 3F			"3FB16" (50* 70)			
"3FB17" (50* 70)			"3FB18" (50* 70)			
TOP. req		42.71	10.83	48.37		45.17
10.83	49.62	49.22	10.83	55.57		
TOP1	#8	7	3	7	#8	7
3	7 #8	7	3	7		
TOP2	#8	2	0	3	#8	3
0	3 #8	3	0	4		
BOT2	#8	0	0	0	#8	0
0	0 #8	0	0	0		
BOT1	#8	5	4	5	#8	5
4	5 #8	5	5	6		
BOT. req		13.57	15.47	12.76		14.39
15.48	13.55	16.55	21.27	15.67		
STIR		#4@15	#4@20	#4@12	#4@12	
#4@20	#4@12	#4@12	#4@20	#4@10		
STIR. req		0.1661	0.0636	0.1929		0.1793
0.0663	0.1988	0.2155	0.0716	0.2333		
WEB		0#3				0#3
0#3						
WEB. req		0.00				0.00
0.00						
LEVEL		0.00				0.00
0.00	0.00					
BM. H. LR	0					
0						
C-CLEN	0	870				870
870		0				
UCOL. W	0					80
80			80			
DCOL. W	-50					80
80			80			
DCOL. H	-70					0
0			0			
F. NO=XX-13 2F			"2FB16" (50* 70)			
"2FB17" (50* 70)			"2FB18" (50* 70)			
TOP. req		42.72	10.83	49.02		45.93
10.83	50.26	51.13	10.83	46.67		
TOP1	#8	7	3	7	#8	7
3	7 #8	7	3	7		
TOP2	#8	2	0	3	#8	3
0	4 #8	4	0	3		
BOT2	#8	0	0	0	#8	0
0	0 #8	0	0	0		
BOT1	#8	5	4	5	#8	5
4	6 #8	6	5	5		
BOT. req		13.85	15.49	12.60		14.32
15.67	13.70	16.82	22.27	16.33		
STIR		#4@15	#4@20	#4@12	#4@12	
#4@20	#4@12	#4@10	#4@20	#4@10		
STIR. req		0.1650	0.0648	0.1935		0.1902
0.0686	0.1998	0.2247	0.0680	0.2237		
WEB		0#3				0#3

0#3						
WEB. req		0.00				0.00
0.00						
LEVEL		0.00				0.00
0.00	0.00					
BM. H. LR	0					
0						
C-CLEN	0	870				870
870		0				
UCOL. W	0					80
80				80		
DCOL. W	-50					80
80				80		
DCOL. H	-70					0
0			0			
F. NO=1-3 3F			"3FB19" (50* 70)			
TOP. req		58.72	31.13	10.83		
TOP1	#8	7	7	7		
TOP2	#8	5	5	5		
BOT2	#8	0	0	0		
BOT1	#8	6	6	6		
BOT. req		10.83	10.83	10.83		
STIR		2#5@12	2#5@12	2#5@12		
STIR. req		0.6430	0.6227	0.6087		
WEB		0#3				
WEB. req		0.00				
LEVEL		0.00	0.00			
BM. H. LR	0					0
C-CLEN	0	304				0
UCOL. W	80					0
DCOL. W	80					-50
DCOL. H	0					-70
F. NO=-15-5 3F			"3FB20" (50* 70)			
TOP. req		57.22	10.83	59.62		
TOP1	#8	7	3	7		
TOP2	#8	5	0	5		
BOT2	#8	0	0	0		
BOT1	#8	6	6	6		
BOT. req		20.56	28.69	20.56		
STIR		2#4@15	#4@20	2#4@15		
STIR. req		0.2813	0.1078	0.2889		
WEB		0#3				
WEB. req		0.00				
LEVEL		0.00	0.00			
BM. H. LR	0					0
C-CLEN	0	870				0
UCOL. W	0					0
DCOL. W	80					80
DCOL. H	0					0
F. NO=1-3 2F			"2FB19" (50* 70)			
TOP. req		56.28	14.83	64.88		
TOP1	#8	7	7	7		
TOP2	#8	6	6	6		
BOT2	#8	5	5	5		
BOT1	#8	7	7	7		
BOT. req		57.90	10.83	42.59		
STIR		2#5@10	2#5@10	2#5@10		

STIR. req		0. 7775	0. 7918	0. 8129
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	304		0
UCOL. W	80			0
DCOL. W	80			83
DCOL. H	0			0

F. NO=-15-4 2F		"2FB20"(50* 70)		
TOP. req		35. 29	10. 83	36. 11
TOP1	#8	6	3	6
TOP2	#8	2	0	2
BOT2	#8	0	0	0
BOT1	#8	4	3	4
BOT. req		11. 02	13. 85	14. 39

STIR		#4@15	#4@20	#4@15
STIR. req		0. 1428	0. 0417	0. 1353
WEB		0#3		
WEB. req		0. 00		
LEVEL		0. 00	0. 00	
BM. H. LR	0			0
C-CLEN	0	870		0
UCOL. W	0			0
DCOL. W	80			80
DCOL. H	0			0

F. NO=XX-19 R1F		"R1FB21"(50* 70)			
"R1FB22"(50* 70)					
TOP. req		32. 37	10. 83	30. 16	28. 74
10. 83	30. 05				
TOP1	#8	7	3	6	#8 6
3	6				
TOP2	#8	0	0	0	#8 0
0	0				
BOT2	#8	0	0	0	#8 0
0	0				
BOT1	#8	4	3	3	#8 3
3	3				
BOT. req		10. 99	12. 67	10. 83	10. 83
11. 33	10. 83				

STIR		#4@15	#4@20	#4@15	#4@15
#4@20	#4@15				
STIR. req		0. 1012	0. 0417	0. 0976	0. 0832
0. 0417	0. 0805				
WEB		0#3			0#3
WEB. req		0. 00			0. 00
LEVEL		0. 00			0. 00
0. 00					
BM. H. LR	0				
0					
C-CLEN	0	870			870
0					
UCOL. W	0				0
0					
DCOL. W	80				80
-50					
DCOL. H	0				0
-70					

F. NO=XX-19 3F		"3FB21"(50* 70)			
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"3FB22"(50* 70)					
TOP. req		42. 72	10. 83	39. 05	36. 83
10. 83	38. 80				
TOP1	#8	7	3	6	#8 6
3	6				
TOP2	#8	2	0	2	#8 2
0	2				
BOT2	#8	0	0	0	#8 0
0	0				
BOT1	#8	5	3	4	#8 4
3	4				
BOT. req		16. 51	12. 24	17. 70	15. 84
11. 35	13. 40				

STIR		#4@15	#4@20	#4@15	#4@15
#4@20	#4@15				
STIR. req		0. 1320	0. 0417	0. 1239	0. 1096
0. 0417	0. 1093				
WEB		0#3			0#3
WEB. req		0. 00			0. 00
LEVEL		0. 00			0. 00
0. 00					
BM. H. LR	0				
0					
C-CLEN	0	870			870
0					
UCOL. W	80				80
0					
DCOL. W	80				80
-50					
DCOL. H	0				0
-70					

F. NO=XX-19 2F		"2FB21"(50* 70)			
"2FB22"(50* 70)					
TOP. req		43. 80	10. 83	39. 44	38. 52
10. 83	37. 99				
TOP1	#8	7	3	6	#8 6
3	6				
TOP2	#8	2	0	2	#8 2
0	2				
BOT2	#8	0	0	0	#8 0
0	0				
BOT1	#8	5	3	4	#8 4
3	4				
BOT. req		17. 29	12. 34	18. 15	15. 29
11. 29	14. 17				

STIR		#4@15	#4@20	#4@15	#4@15
#4@20	#4@15				
STIR. req		0. 1323	0. 0417	0. 1241	0. 1132
0. 0417	0. 1067				
WEB		0#3			0#3
WEB. req		0. 00			0. 00
LEVEL		0. 00			0. 00
0. 00					
BM. H. LR	0				
0					
C-CLEN	0	870			870
0					
UCOL. W	80				80
0					
DCOL. W	80				80
-50					
DCOL. H	0				0
-70					

0	0						
BOT1	#8	4	3	4	#8	4	
4	4						
BOT. req		13.02	12.41	12.36		0.00	
0.22	0.98						
STIR		#4@15	#4@20	#4@15		#4@15	
#4@15	#4@15						
STIR. req		0.1162	0.0417	0.1499		0.0333	
0.0000	0.0000						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	820				210	
0							
UCOL. W	0				0		
0							
DCOL. W	80				80		
-30							
DCOL. H	0				0		
-50							
F. NO=92-1 R1F		"R1FG2A"(40* 70)					
TOP. req		8.67	8.67	18.44			
TOP1	#8	3	3	4			
TOP2	#8	0	0	0			
BOT2	#8	0	0	0			
BOT1	#8	3	3	3			
BOT. req		8.67	8.67	8.67			
STIR		#4@15	#4@20	#4@15			
STIR. req		0.0391	0.0441	0.0828			
WEB		0#3					
WEB. req		0.00					
LEVEL		0.00	0.00				
BM. H. LR	0				0		
C-CLEN	0	510			0		
UCOL. W	0				0		
DCOL. W	-50				80		
DCOL. H	-70				0		
F. NO=-15-8 2F		"2FB26"(50* 70)					
TOP. req		35.54	10.83	36.39			
TOP1	#8	6	3	6			
TOP2	#8	2	0	2			
BOT2	#8	0	0	0			
BOT1	#8	4	4	4			
BOT. req		13.91	16.32	13.67			
STIR		#4@15	#4@20	#4@15			
STIR. req		0.1179	0.0417	0.1193			
WEB		0#3					
WEB. req		0.00					
LEVEL		0.00	0.00				
BM. H. LR	0				0		
C-CLEN	0	870			0		
UCOL. W	0				0		
DCOL. W	80				80		
DCOL. H	0				0		
F. NO=100-1 2F		"2FG1"(50* 70)					

"2FCG1"(40* 60)							
TOP. req		38.44	10.83	43.54		8.83	
4.68	2.27						
TOP1	#8	6	3	7	#8	7	
7	7						
TOP2	#8	2	0	2	#8	2	
2	2						
BOT2	#8	0	0	0	#8	0	
0	0						
BOT1	#8	4	3	5	#8	5	
5	5						
BOT. req		17.09	12.24	15.72		0.00	
0.83	1.88						
STIR		#4@15	#4@20	#4@15		#4@15	
#4@15	#4@15						
STIR. req		0.1348	0.0417	0.1624		0.0333	
0.0333	0.0000						
WEB		0#3				0#3	
WEB. req		0.00				0.00	
LEVEL		0.00				0.00	
0.00							
BM. H. LR	0						
0							
C-CLEN	0	820				210	
0							
UCOL. W	80				80		
0							
DCOL. W	80				80		
-30							
DCOL. H	0				0		
-50							
F. NO=YY-4 R1F		"R1FG2"(50* 70)					
TOP. req		32.45	10.83	33.25			
TOP1	#8	7	3	7			
TOP2	#8	0	0	0			
BOT2	#8	0	0	0			
BOT1	#8	4	3	4			
BOT. req		11.69	14.90	12.42			
STIR		#4@15	#4@20	#4@15			
STIR. req		0.1063	0.0417	0.1074			
WEB		0#3					
WEB. req		0.00					
LEVEL		0.00	0.00				
BM. H. LR	0				0		
C-CLEN	0	965			0		
UCOL. W	0				0		
DCOL. W	80				80		
DCOL. H	0				0		
F. NO=100-4 R1F		"R1FG3"(50* 70)					
"R1FG1A"(40* 60)		30.30	10.83	33.19		22.59	
TOP. req		10.97	32.03				
TOP1	#8	6	3	7	#8	5	
3	5						
TOP2	#8	0	0	0	#8	0	
0	2						
BOT2	#8	0	0	0	#8	0	
0	0						
BOT1	#8	3	3	4	#8	3	
3	4						

BOT. req	11.26	10.83	10.83	9.78
7.33 11.21				
STIR	#4@15	#4@20	#4@15	#4@10
#4@10 #4@10				
STIR. req	0.1281	0.0417	0.1217	0.1852
0.2253 0.2500				
WEB	0#3			0#3
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
70				
C-CLEN	0	820		480
965				
UCOL. W	80			0
0				
DCOL. W	80			0
0				
DCOL. H	0			0
0				
F. NO=YY-13 3F	"3FG1A"(40* 60)			
"3FG2"(50* 70)				
TOP. req	23.70	8.97	27.59	37.25
10.83 38.82				
TOP1	#8	5	3	4 #8
3				6
TOP2	#8	0	0	2 #8
0				2
BOT2	#8	0	0	0 #8
0				0
BOT1	#8	3	3	3 #8
3				4
BOT. req	11.26	7.33	12.92	12.19
14.29 12.43				
STIR	#4@12	#4@12	#4@12	#4@15
#4@20 #4@15				
STIR. req	0.1758	0.1869	0.2116	0.1132
0.0417 0.1172				
WEB	0#3			0#3
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	480		965
0				
UCOL. W	0			80
80				
DCOL. W	-50			80
80				
DCOL. H	-70			0
0				
F. NO=100-4 3F	"3FG3"(50* 70)			
TOP. req	37.58	10.83	40.07	
TOP1	#8	6	3	6
TOP2	#8	2	0	2
BOT2	#8	0	0	0
BOT1	#8	4	3	4
BOT. req	13.19	13.07	11.72	
STIR	#4@15	#4@20	#4@15	

STIR. req	0.1696	0.0472	0.1599	
WEB	0#3			
WEB. req	0.00			
LEVEL	0.00	0.00		
BM. H. LR	0			60
C-CLEN	0	820		464
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0
F. NO=YY-13 2F	"2FG1A"(40* 60)			
"2FG2"(50* 70)				
TOP. req	27.36	11.47	33.07	41.89
10.83 39.75				
TOP1	#8	4	3	5 #8
3				7
TOP2	#8	2	0	2 #8
0				2
BOT2	#8	0	0	0 #8
0				0
BOT1	#8	3	3	4 #8
3				5
BOT. req	12.10	7.33	13.30	14.07
14.60 13.34				
STIR	#4@12	#4@12	#4@10	#4@15
#4@20 #4@15				
STIR. req	0.2023	0.2197	0.2444	0.1580
0.0417 0.1243				
WEB	0#3			0#3
WEB. req	0.00			0.00
LEVEL	0.00			0.00
0.00				
BM. H. LR	0			
0				
C-CLEN	0	480		965
0				
UCOL. W	0			80
80				
DCOL. W	-50			80
80				
DCOL. H	-70			0
0				
F. NO=100-4 2F	"2FG3"(50* 70)			
TOP. req	37.78	10.83	43.73	
TOP1	#8	6	3	7
TOP2	#8	2	0	2
BOT2	#8	0	0	0
BOT1	#8	4	3	5
BOT. req	15.82	13.75	13.01	
STIR	#4@12	#4@20	#4@15	
STIR. req	0.1771	0.0579	0.1741	
WEB	0#3			
WEB. req	0.00			
LEVEL	0.00	0.00		
BM. H. LR	0			60
C-CLEN	0	820		464
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0
F. NO=98-1 R1F	"R1FG4"(50* 70)			

TOP. req		34.39	10.83	38.04
TOP1	#8	7	3	6
TOP2	#8	0	0	2

BOT2	#8	0	0	0
BOT1	#8	4	4	4
BOT. req		13.75	16.30	12.08

STIR	#4@15	#4@20	#4@15	
STIR. req		0.1653	0.0417	0.1732
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			60
C-CLEN	0	865		386
UCOL. W	81			80
DCOL. W	81			80
DCOL. H	0			0

F. NO=YY-6 R1F		"R1FG5" (50* 70)		
TOP. req		46.19	10.83	44.63
TOP1	#8	7	3	7
TOP2	#8	3	0	2

BOT2	#8	0	0	0
BOT1	#8	5	7	5
BOT. req		20.27	30.46	20.88

STIR	#4@10	#4@20	#4@12	
STIR. req		0.2313	0.0607	0.2195
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	60			0
C-CLEN	380	965		0
UCOL. W	0			0
DCOL. W	80			80
DCOL. H	0			0

F. NO=98-1 3F		"3FG4" (50* 70)		
TOP. req		34.22	10.83	39.43
TOP1	#8	7	3	6
TOP2	#8	0	0	2

BOT2	#8	0	0	0
BOT1	#8	4	3	4
BOT. req		12.17	11.77	13.82

STIR	#4@15	#4@20	#4@15	
STIR. req		0.1411	0.0417	0.1691
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	
BM. H. LR	0			60
C-CLEN	0	865		386
UCOL. W	81			80
DCOL. W	81			80
DCOL. H	0			0

F. NO=YY-6 3F		"3FG5" (50* 70)		
TOP. req		51.85	10.83	51.22
TOP1	#8	7	3	7
TOP2	#8	4	0	4

BOT2	#8	0	0	0
BOT1	#8	6	6	6

BOT. req		19.24	29.10	19.48
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STIR	#4@10	#4@20	#4@10	
STIR. req		0.2480	0.0696	0.2477
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	60			0
C-CLEN	380	965		0
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=98-1 2F		"2FG4" (50* 70)		
TOP. req		32.44	10.83	42.32
TOP1	#8	7	3	7
TOP2	#8	0	0	2

BOT2	#8	0	0	0
BOT1	#8	4	3	5
BOT. req		13.96	13.05	14.67

STIR	#4@15	#4@20	#4@12	
STIR. req		0.1444	0.0493	0.1834
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	0			60
C-CLEN	0	865		386
UCOL. W	81			80
DCOL. W	81			80
DCOL. H	0			0

F. NO=YY-6 2F		"2FG5" (50* 70)		
TOP. req		53.56	10.83	50.99
TOP1	#8	7	3	7
TOP2	#8	4	0	4

BOT2	#8	0	0	0
BOT1	#8	6	6	6
BOT. req		20.27	30.27	20.91

STIR	#4@10	#4@20	#4@10	
STIR. req		0.2500	0.0750	0.2451
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	60			0
C-CLEN	380	965		0
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-8 R1F		"R1FG6" (50* 70)		
TOP. req		40.49	10.83	45.45
TOP1	#8	6	3	7
TOP2	#8	2	0	2

BOT2	#8	0	0	0
BOT1	#8	4	6	5
BOT. req		17.62	26.13	15.86

STIR	#4@12	#4@20	#4@10	
STIR. req		0.2159	0.0777	0.2271
WEB		0#3		
WEB. req		0.00		

LEVEL		0.00	0.00	
BM. H. LR	0			60
C-CLEN	0	870		370
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-9 R1F		"R1FG7"(50* 70)		
TOP. req		10.83	10.83	10.83
TOP1	#8	3	3	3
TOP2	#8	0	0	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		10.83	10.83	10.83

STIR		#4@15	#4@20	#4@15
STIR. req		0.0417	0.0417	0.0417
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	60			0
C-CLEN	370	1075		0
UCOL. W	0			0
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-8 3F		"3FG6"(50* 70)		
TOP. req		37.10	10.83	44.57
TOP1	#8	6	3	7
TOP2	#8	2	0	2

BOT2	#8	0	0	0
BOT1	#8	4	4	5
BOT. req		14.22	17.80	15.13

STIR		#4@12	#4@20	#4@12
STIR. req		0.1818	0.0814	0.2186
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	0			60
C-CLEN	0	870		370
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-9 3F		"3FG7"(50* 70)		
TOP. req		10.83	10.83	10.83
TOP1	#8	3	3	3
TOP2	#8	0	0	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		10.83	10.83	10.83

STIR		#4@15	#4@20	#4@15
STIR. req		0.0417	0.0417	0.0417
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	60			0
C-CLEN	370	1075		0
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-8 2F		"2FG6"(50* 70)		
TOP. req		36.88	10.83	48.26
TOP1	#8	6	3	7
TOP2	#8	2	0	3

BOT2	#8	0	0	0
BOT1	#8	4	4	5
BOT. req		15.85	18.78	16.62

STIR		#4@12	#4@20	#4@10
STIR. req		0.1775	0.0919	0.2310
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	0			60
C-CLEN	0	870		370
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-9 2F		"2FG7"(50* 70)		
TOP. req		10.83	10.83	10.83
TOP1	#8	3	3	3
TOP2	#8	0	0	0

BOT2	#8	0	0	0
BOT1	#8	3	3	3
BOT. req		10.83	10.83	10.83

STIR		#4@15	#4@20	#4@15
STIR. req		0.0417	0.0417	0.0417
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	60			0
C-CLEN	370	1075		0
UCOL. W	80			80
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-12 R1F		"R1FG8"(50* 70)		
TOP. req		33.15	10.83	37.48
TOP1	#8	7	3	6
TOP2	#8	0	0	2

BOT2	#8	0	0	0
BOT1	#8	4	5	4
BOT. req		16.66	25.31	15.31

STIR		#4@12	#4@20	#4@12
STIR. req		0.1827	0.0426	0.2027
WEB		0#3		
WEB. req		0.00		
LEVEL		0.00	0.00	

BM. H. LR	0			60
C-CLEN	0	870		480
UCOL. W	0			0
DCOL. W	80			80
DCOL. H	0			0

F. NO=YY-13 R1F		"R1FG9"(50* 70)		
TOP. req		39.85	10.83	38.29
TOP1	#8	6	3	6
TOP2	#8	2	0	2

BOT2	#8	0	0	0	STIR. req	0. 2011	0. 0602	0. 2162
BOT1	#8	4	6	4	WEB	0#3		
BOT. req		19. 79	29. 83	20. 19	WEB. req	0. 00		
					LEVEL	0. 00	0. 00	
STIR	#4@12	#4@20	#4@12		BM. H. LR	0		60
STIR. req	0. 2051	0. 0512	0. 2000		C-CLEN	0	870	480
WEB	0#3				UCOL. W	80		80
WEB. req	0. 00				DCOL. W	80		80
LEVEL	0. 00	0. 00			DCOL. H	0		0
BM. H. LR	60			0				
C-CLEN	480	965		0	F. NO=YY-13 2F		"2FG9"(50* 70)	
UCOL. W	0			0	TOP. req	44. 82	10. 83	43. 37
DCOL. W	80			80	TOP1	#8	7	3
DCOL. H	0			0	TOP2	#8	2	0
F. NO=YY-12 3F		"3FG8"(50* 70)			BOT2	#8	0	0
TOP. req		38. 34	10. 83	42. 36	BOT1	#8	5	6
TOP1	#8	6	3	7	BOT. req		19. 70	29. 53
TOP2	#8	2	0	2				19. 98
					STIR	#4@10	#4@20	#4@12
BOT2	#8	0	0	0	STIR. req	0. 2226	0. 0547	0. 2182
BOT1	#8	4	5	5	WEB	0#3		
BOT. req		15. 74	24. 29	14. 44	WEB. req	0. 00		
					LEVEL	0. 00	0. 00	
STIR	#4@12	#4@20	#4@12		BM. H. LR	60		0
STIR. req	0. 2047	0. 0520	0. 2134		C-CLEN	480	965	0
WEB	0#3				UCOL. W	80		80
WEB. req	0. 00				DCOL. W	80		80
LEVEL	0. 00	0. 00			DCOL. H	0		0
BM. H. LR	0			60				
C-CLEN	0	870		480	F. NO=YY-16 R1F		"R1FG10"(50* 70)	
UCOL. W	80			80	TOP. req		16. 65	10. 83
DCOL. W	80			80	TOP1	#8	4	3
DCOL. H	0			0	TOP2	#8	0	0
F. NO=YY-13 3F		"3FG9"(50* 70)			BOT2	#8	0	0
TOP. req		42. 99	10. 83	43. 73	BOT1	#8	3	3
TOP1	#8	7	3	7	BOT. req		10. 83	11. 94
TOP2	#8	2	0	2				10. 83
					STIR	#4@15	#4@20	#4@15
BOT2	#8	0	0	0	STIR. req	0. 0567	0. 0417	0. 0955
BOT1	#8	5	6	5	WEB	0#3		
BOT. req		18. 78	28. 44	18. 66	WEB. req	0. 00		
					LEVEL	0. 00	0. 00	
STIR	#4@10	#4@20	#4@10		BM. H. LR	0		60
STIR. req	0. 2207	0. 0517	0. 2212		C-CLEN	0	870	480
WEB	0#3				UCOL. W	0		0
WEB. req	0. 00				DCOL. W	80		80
LEVEL	0. 00	0. 00			DCOL. H	0		0
BM. H. LR	60			0				
C-CLEN	480	965		0	F. NO=87-1 R1F		"R1FG11"(50* 70)	
UCOL. W	80			80	TOP. req		13. 47	10. 83
DCOL. W	80			80	TOP1	#8	4	3
DCOL. H	0			0	TOP2	#8	0	0
F. NO=YY-12 2F		"2FG8"(50* 70)			BOT2	#8	0	0
TOP. req		37. 96	10. 83	44. 82	BOT1	#8	3	3
TOP1	#8	6	3	7	BOT. req		10. 83	10. 83
TOP2	#8	2	0	2				
					STIR	#4@15	#4@20	#4@15
BOT2	#8	0	0	0	STIR. req	0. 0486	0. 0417	0. 0763
BOT1	#8	4	6	5	WEB	0#3		
BOT. req		17. 35	25. 40	15. 61	WEB. req	0. 00		
					LEVEL	0. 00	0. 00	
STIR	#4@12	#4@20	#4@12		BM. H. LR	0		0
					C-CLEN	0	666	0

UCOL. W	0	0
DCOL. W	80	80
DCOL. H	0	0

F. NO=YY-17 R1F		"R1FG12"(50* 70)	
TOP. req		37.75	10.83 35.87
TOP1	#8	6	3 6
TOP2	#8	2	0 2
BOT2	#8	0	0 0
BOT1	#8	4	6 4
BOT. req		19.21	29.07 19.74

STIR	#4@12	#4@20	#4@12
STIR. req		0.2020	0.0465 0.1981
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		0
C-CLEN	0	965	0
UCOL. W	0		0
DCOL. W	80		80
DCOL. H	0		0

F. NO=YY-16 3F		"3FG10"(50* 70)	
TOP. req		18.72	10.83 24.12
TOP1	#8	4	3 5
TOP2	#8	0	0 0
BOT2	#8	0	0 0
BOT1	#8	3	3 3
BOT. req		10.83	11.05 10.83

STIR	#4@15	#4@20	#4@15
STIR. req		0.0544	0.0417 0.1126
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		60
C-CLEN	0	870	480
UCOL. W	80		80
DCOL. W	80		80
DCOL. H	0		0

F. NO=87-1 3F		"3FG11"(50* 70)	
TOP. req		20.20	10.83 22.03
TOP1	#8	5	3 5
TOP2	#8	0	0 0
BOT2	#8	0	0 0
BOT1	#8	3	3 3
BOT. req		10.83	10.83 10.83

STIR	#4@15	#4@20	#4@15
STIR. req		0.1021	0.0417 0.1090
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		0
C-CLEN	0	666	0
UCOL. W	80		80
DCOL. W	80		80
DCOL. H	0		0

F. NO=YY-17 3F	"3FG12"(50* 70)
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TOP. req		39.87	10.83 40.54
TOP1	#8	7	3 7
TOP2	#8	2	0 2

BOT2	#8	0	0 0
BOT1	#8	5	6 5
BOT. req		18.11	27.67 18.16

STIR	#4@12	#4@20	#4@12
STIR. req		0.2171	0.0470 0.2189
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		0
C-CLEN	0	965	0
UCOL. W	80		80
DCOL. W	80		80
DCOL. H	0		0

F. NO=YY-16 2F		"2FG10"(50* 70)	
TOP. req		19.45	10.83 29.33
TOP1	#8	4	3 6
TOP2	#8	0	0 0

BOT2	#8	0	0 0
BOT1	#8	3	3 3
BOT. req		10.83	12.76 10.83

STIR	#4@15	#4@20	#4@15
STIR. req		0.0564	0.0417 0.1433
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		60
C-CLEN	0	870	480
UCOL. W	80		80
DCOL. W	80		80
DCOL. H	0		0

F. NO=87-1 2F		"2FG11"(50* 70)	
TOP. req		20.41	10.83 27.52
TOP1	#8	6	3 6
TOP2	#8	0	0 0

BOT2	#8	0	0 0
BOT1	#8	3	3 3
BOT. req		10.83	10.83 10.83

STIR	#4@15	#4@20	#4@15
STIR. req		0.1047	0.0417 0.1325
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00	0.00
BM. H. LR	0		0
C-CLEN	0	666	0
UCOL. W	80		80
DCOL. W	80		80
DCOL. H	0		0

F. NO=YY-17 2F		"2FG12"(50* 70)	
TOP. req		41.67	10.83 40.52
TOP1	#8	7	3 7
TOP2	#8	2	0 2

BOT2	#8	0	0 0
BOT1	#8	5	6 5

BOT. req 18.89 28.61 19.37

STIR #4@12 #4@20 #4@12
 STIR. req 0.2195 0.0492 0.2166
 WEB 0#3
 WEB. req 0.00
 LEVEL 0.00 0.00
 BM. H. LR 0 0
 C-CLEN 0 965 0
 UCOL. W 80 80
 DCOL. W 80 80
 DCOL. H 0 0

F. NO=YY-19 R1F "R1FCG14"(50* 70)
 TOP. req 6.95 11.53 17.17 10.83
 10.83 10.83
 TOP1 #8 4 4 4 #8 3
 3 3
 TOP2 #8 0 0 0 #8 0
 0 0

BOT2 #8 0 0 0 #8 0
 0 0
 BOT1 #8 3 3 3 #8 3
 3 3
 BOT. req 0.51 0.00 0.00 10.83
 10.83 10.83

STIR #4@15 #4@15 #4@15 #4@15
 #4@20 #4@15
 STIR. req 0.0417 0.0417 0.0417 0.0417
 0.0417 0.0417
 WEB 0#3 0#3
 WEB. req 0.00 0.00
 LEVEL 0.00 0.00
 0.00
 BM. H. LR 0
 0
 C-CLEN 0 265 965
 0
 UCOL. W 0 0
 0
 DCOL. W -30 80
 80
 DCOL. H -50 0
 0

F. NO=100-5 3F "3FG13"(50* 70)
 TOP. req 16.90 10.83 23.95
 TOP1 #8 5 3 5
 TOP2 #8 0 0 0

BOT2 #8 0 0 0
 BOT1 #8 3 3 3
 BOT. req 10.83 10.83 10.83

STIR #4@15 #4@20 #4@15
 STIR. req 0.0741 0.0417 0.1047
 WEB 0#3
 WEB. req 0.00
 LEVEL 0.00 0.00
 BM. H. LR 0 0
 C-CLEN 0 690 0
 UCOL. W 100 81
 DCOL. W 100 81
 DCOL. H 0 0

F. NO=YY-19 3F "3FG14"(50* 70)
 TOP. req 10.83 10.83 10.83
 TOP1 #8 3 3 3
 TOP2 #8 0 0 0

BOT2 #8 0 0 0
 BOT1 #8 3 3 3
 BOT. req 10.83 10.83 10.83

STIR #4@15 #4@20 #4@15
 STIR. req 0.0417 0.0417 0.0417
 WEB 0#3
 WEB. req 0.00
 LEVEL 0.00 0.00
 BM. H. LR 0 0
 C-CLEN 0 965 0
 UCOL. W 80 80
 DCOL. W 80 80
 DCOL. H 0 0

F. NO=100-5 2F "2FG13"(50* 70)
 TOP. req 20.24 10.83 28.47
 TOP1 #8 6 3 6
 TOP2 #8 0 0 0

BOT2 #8 0 0 0
 BOT1 #8 3 3 3
 BOT. req 10.83 10.83 10.83

STIR #4@15 #4@20 #4@15
 STIR. req 0.0855 0.0417 0.1195
 WEB 0#3
 WEB. req 0.00
 LEVEL 0.00 0.00
 BM. H. LR 0 0
 C-CLEN 0 690 0
 UCOL. W 100 81
 DCOL. W 100 81
 DCOL. H 0 0

F. NO=YY-19 2F "2FG14"(50* 70)
 TOP. req 10.83 10.83 10.83
 TOP1 #8 3 3 3
 TOP2 #8 0 0 0

BOT2 #8 0 0 0
 BOT1 #8 3 3 3
 BOT. req 10.83 10.83 10.83

STIR #4@15 #4@20 #4@15
 STIR. req 0.0417 0.0417 0.0417
 WEB 0#3
 WEB. req 0.00
 LEVEL 0.00 0.00

BM. H. LR 0 0
 C-CLEN 0 965 0
 UCOL. W 80 80
 DCOL. W 80 80
 DCOL. H 0 0

F. NO=75-1 3F "3FG15"(50* 70)
 TOP. req 22.50 10.83 20.24 24.53
 13.02 11.40

TOP1	#8	5	3	4	#8	5
5	5					
TOP2	#8	0	0	0	#8	0
0	0					
BOT2	#8	0	0	0	#8	0
0	0					
BOT1	#8	3	3	3	#8	3
3	3					
BOT. req		10.83	12.65	14.80		0.00
0.00	3.18					
STIR		#4@15	#4@20	#4@15		#4@15
#4@15	#4@15					
STIR. req		0.0807	0.0417	0.1004		0.0508
0.0417	0.0417					
WEB		0#3				0#3
WEB. req		0.00				0.00
LEVEL		0.00				0.00
0.00						
BM. H. LR	0					
0						
C-CLEN	0	965				266
0						
UCOL. W	100				0	
0						
DCOL. W	100				80	
-30						
DCOL. H	0				0	
-60						
F. NO=75-1 2F		"2FG15" (50* 70)				
"2FG16" (80* 80)						
TOP. req		12.96	10.83	32.30		72.29
20.00	51.14					
TOP1	#8	3	3	7	#8	11
4	11					
TOP2	#8	0	0	0	#8	4
0	0					
BOT2	#8	0	0	0	#8	2
0	0					
BOT1	#8	3	3	4	#8	11
6	6					
BOT. req		10.83	10.83	10.83		64.92
29.27	20.00					
STIR		#4@15	#4@20	#4@15		2#5@12
#5@20	#5@12					
STIR. req		0.0442	0.0417	0.1474		0.6039
0.0667	0.2999					
WEB		0#3				0#3
WEB. req		0.00				0.00
LEVEL		0.00				0.00
0.00						
BM. H. LR	0					
0						
C-CLEN	0	710				965
0						
UCOL. W	100				0	
0						
DCOL. W	100				80	
80						
DCOL. H	0				0	
0						
F. NO=75-4 3F		"3FCG17" (50* 70)				

"3FG17" (50* 70)		"3FCG17A" (50* 70)				
TOP. req		0.76	4.25	10.67		49.57
10.83	35.96		31.46	13.78	8.03	
TOP1	#8	7	7	7	#8	7
3	6	#8	6	6	6	
TOP2	#8	3	3	3	#8	3
0	2	#8	2	2	2	
BOT2	#8	0	0	0	#8	0
2	0	#8	0	0	0	
BOT1	#8	5	5	5	#8	5
6	5	#8	5	5	5	
BOT. req		9.14	0.00	0.00		16.22
35.60	24.65		0.00	0.00	1.50	
STIR		2#4@15	2#4@15	2#4@15		2#4@15
#4@20	#4@12	#4@12	#4@12	#4@12		
STIR. req		0.0417	0.0417	0.0417		0.2783
0.0839	0.2136		0.0463	0.0417	0.0000	
WEB		0#3				0#3
0#3						
WEB. req		0.00				0.00
0.00						
LEVEL		0.00				0.00
0.00	0.00					
BM. H. LR	0					
0						
C-CLEN	0	241				965
406		0				
UCOL. W	0					100
0			0			
DCOL. W	-30					100
80			-30			
DCOL. H	-60					0
0			-60			
F. NO=75-4 2F		"2FG17" (50* 70)				
"2FG18" (80* 80)						
TOP. req		10.83	10.83	42.74		90.37
20.00	56.62					
TOP1	#8	3	3	7	#8	11
5	10					
TOP2	#8	0	0	2	#8	7
0	2					
BOT2	#8	0	0	0	#8	6
0	0					
BOT1	#8	3	3	5	#8	11
8	6					
BOT. req		10.99	10.83	10.83		82.22
39.91	20.00					
STIR		#4@15	#4@20	#4@12		2#5@10
#5@20	#5@10					
STIR. req		0.0605	0.0573	0.2140		0.7348
0.0667	0.3465					
WEB		0#3				0#3
WEB. req		0.00				0.00
LEVEL		0.00				0.00
0.00						
BM. H. LR	0					
0						
C-CLEN	0	710				965
0						
UCOL. W	100					0
0						
DCOL. W	100					80
80						

DCOL. H	0		0
0			

F. NO=XX-14 R1F		"R1FJB1" (40* 60)	
TOP. req		30.78 0.00 31.40	
TOP1	#6	6 3 6	
TOP2	#6	5 0 5	

BOT2	#6	0 0 0	
BOT1	#6	4 5 4	
BOT. req		11.15 13.03 9.53	

STIR	#4@15	#4@20	#4@15
STIR. req		0.0705 0.0333 0.0712	
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00 0.00	
BM. H. LR	0		60
C-CLEN	0	870	870
UCOL. W	0		0
DCOL. W	-50		-50
DCOL. H	-70		-70

F. NO=XX-8 R1F		"R1FJB2" (40* 60)	
TOP. req		9.69 1.34 15.30	
TOP1	#6	4 3 6	
TOP2	#6	0 0 0	

BOT2	#6	0 0 0	
BOT1	#6	3 4 3	
BOT. req		8.02 9.16 6.84	

STIR	#4@15	#4@15	#4@15
STIR. req		0.0333 0.0333 0.0522	
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00 0.00	
BM. H. LR	0		0
C-CLEN	0	330	0
UCOL. W	0		0
DCOL. W	80		-50
DCOL. H	0		-70

F. NO=10-2 3F		"3FJB1" (40* 60)	
TOP. req		35.61 0.00 36.34	
TOP1	#7	5 3 5	
TOP2	#7	5 0 5	

BOT2	#7	0 0 0	
BOT1	#7	3 4 3	
BOT. req		11.18 13.41 9.65	

STIR	#4@15	#4@20	#4@15
STIR. req		0.0748 0.0333 0.0767	
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00 0.00	
BM. H. LR	0		0
C-CLEN	0	805	0
UCOL. W	0		0
DCOL. W	-50		-50
DCOL. H	-70		-70

F. NO=XX-8 3F		"3FJB2" (40* 60)	
TOP. req		31.26 3.77 12.89	

TOP1	#6	6 6 6
TOP2	#6	5 5 5

BOT2	#6	0 0 0
BOT1	#6	4 4 4
BOT. req		7.73 8.06 8.80

STIR	#4@15	#4@20	#4@15
STIR. req		0.0928 0.0817 0.0333	
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00 0.00	
BM. H. LR	0		0
C-CLEN	0	330	0
UCOL. W	80		0
DCOL. W	80		-50
DCOL. H	0		-70

F. NO=10-4 3F		"3FJB3" (30* 50)	
TOP. req		11.79 5.65 0.00	
TOP1	#7	3 3 3	
TOP2	#7	2 0 2	

BOT2	#7	0 0 0
BOT1	#7	3 3 3
BOT. req		5.82 6.86 9.57

STIR	#4@15	#4@20	#4@15
STIR. req		0.0442 0.0250 0.0250	
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00 0.00	
BM. H. LR	0		0
C-CLEN	0	526	0
UCOL. W	0		0
DCOL. W	-40		-40
DCOL. H	-60		-60

F. NO=10-2 2F		"2FJB1" (40* 60)	
TOP. req		34.92 0.00 35.25	
TOP1	#7	5 3 5	
TOP2	#7	5 0 5	

BOT2	#7	0 0 0
BOT1	#7	3 4 3
BOT. req		11.23 13.10 9.68

STIR	#4@15	#4@20	#4@15
STIR. req		0.0720 0.0333 0.0729	
WEB		0#3	
WEB. req		0.00	
LEVEL		0.00 0.00	
BM. H. LR	0		0
C-CLEN	0	805	0
UCOL. W	0		0
DCOL. W	-50		-50
DCOL. H	-70		-70

F. NO=XX-8 2F		"2FJB2" (40* 60)	
TOP. req		32.22 4.33 13.00	
TOP1	#6	6 6 6	
TOP2	#6	6 6 6	

BOT2	#6	0 0 0
BOT1	#6	4 4 4
BOT. req		7.79 8.09 9.63

STIR	#4@15	#4@20	#4@15		BM. H. LR	60		0
STIR. req	0. 1040	0. 0929	0. 0333		C-CLEN	870	370	0
WEB	0#3				UCOL. W	0		0
WEB. req	0. 00				DCOL. W	-50		-30
LEVEL	0. 00	0. 00			DCOL. H	-70		-50
BM. H. LR	0			0				
C-CLEN	0	330		0	F. NO=XX-10 R1F		"R1FJB5"(30* 50)	
UCOL. W	80			0	TOP. req		7. 24	2. 24 8. 70
DCOL. W	80		-50		TOP1	#6	3	3 4
DCOL. H	0		-70		TOP2	#6	0	0 0
F. NO=10-4 2F		"2FJB3"(30* 50)			BOT2	#6	0	0 0
TOP. req		5. 25	0. 00	4. 65	BOT1	#6	3	3 3
TOP1	#6	3	3	3	BOT. req		3. 54	3. 99 4. 07
TOP2	#6	0	0	0				
					STIR		#4@15	#4@15 #4@15
BOT2	#6	0	0	0	STIR. req		0. 0250	0. 0250 0. 0250
BOT1	#6	3	3	3	WEB		0#3	
BOT. req		4. 74	4. 86	4. 39	WEB. req		0. 00	
					LEVEL		0. 00	0. 00
STIR	#4@15	#4@20	#4@15		BM. H. LR	50		50
STIR. req	0. 0250	0. 0000	0. 0250		C-CLEN	447	435	370
WEB	0#3				UCOL. W	0		0
WEB. req	0. 00				DCOL. W	-40		-50
LEVEL	0. 00	0. 00			DCOL. H	-60		-70
BM. H. LR	0			0				
C-CLEN	0	526		0	F. NO=-15-3 3F		"3FCJB1"(40* 60)	
UCOL. W	0			0	TOP. req		27. 20	7. 86 6. 06
DCOL. W	-40		-40		TOP1	#6	6	3 3
DCOL. H	-60		-60		TOP2	#6	4	0 0
F. NO=-15-5 2F		"2FJB4"(50* 70)			BOT2	#6	0	0 0
TOP. req		41. 32	0. 00	36. 34	BOT1	#6	3	3 3
TOP1	#7	7	3	7	BOT. req		0. 00	0. 00 0. 00
TOP2	#7	4	0	4				
					STIR		#4@15	#4@20 #4@15
BOT2	#7	0	0	0	STIR. req		0. 0521	0. 0333 0. 0000
BOT1	#7	6	7	6	WEB		0#3	
BOT. req		19. 72	26. 65	19. 01	WEB. req		0. 00	
					LEVEL		0. 00	0. 00
STIR	#4@15	#4@20	#4@15		BM. H. LR	60		0
STIR. req	0. 0803	0. 0417	0. 0666		C-CLEN	870	402	0
WEB	0#3				UCOL. W	0		0
WEB. req	0. 00				DCOL. W	-50		-30
LEVEL	0. 00	0. 00			DCOL. H	-70		-60
BM. H. LR	0			0				
C-CLEN	0	870		0	F. NO=YY-18 R1F		"R1FCJG1"(40* 60)	
UCOL. W	80			80	TOP. req		2. 47	4. 17 9. 25
DCOL. W	-80		-80		TOP1	#6	4	4 4
DCOL. H	-80		-80		TOP2	#6	0	0 0
F. NO=XX-16 R1F		"R1FCJB1"(40* 60)			BOT2	#6	0	0 0
TOP. req		24. 05	8. 25	4. 66	BOT1	#6	3	3 3
TOP1	#6	6	3	3	BOT. req		0. 02	0. 00 0. 00
TOP2	#6	3	0	0				
					STIR		#4@15	#4@15 #4@15
BOT2	#6	0	0	0	STIR. req		0. 0000	0. 0333 0. 0333
BOT1	#6	3	3	3	WEB		0#3	
BOT. req		0. 00	1. 16	8. 08	WEB. req		0. 00	
					LEVEL		0. 00	0. 00
STIR	#4@15	#4@20	#4@15		BM. H. LR	0		60
STIR. req	0. 0406	0. 0333	0. 0333		C-CLEN	0	265	965
WEB	0#3				UCOL. W	0		0
WEB. req	0. 00				DCOL. W	-30		-50
LEVEL	0. 00	0. 00			DCOL. H	-50		-70

F.NO=YY-5 R1F		"R1FJG1"(40* 60)			BOT2	#6	0	0	0
TOP. req		11.68	0.00	11.11	BOT1	#6	3	3	3
TOP1	#6	5	3	5	BOT. req		7.24	6.35	7.32
TOP2	#6	0	0	0					
					STIR		#4@15	#4@20	#4@15
BOT2	#6	0	0	0	STIR. req		0.0250	0.0250	0.0250
BOT1	#6	4	4	4	WEB		0#3		
BOT. req		10.63	11.31	11.14	WEB. req		0.00		
					LEVEL		0.00	0.00	
STIR		#4@15	#4@20	#4@15	BM. H. LR	0			0
STIR. req		0.0333	0.0000	0.0333	C-CLEN	0	581		0
WEB		0#3			UCOL. W	0			0
WEB. req		0.00			DCOL. W	-40			-30
LEVEL		0.00	0.00		DCOL. H	-60			-60
BM. H. LR	0			0					
C-CLEN	0	965		0	F.NO=YY-5 2F		"2FJG1"(40* 60)		
UCOL. W	0			0	TOP. req		14.81	0.48	15.54
DCOL. W	-50			-50	TOP1	#6	6	3	6
DCOL. H	-70			-70	TOP2	#6	0	0	0
F.NO=75-3 3F		"3FCJG1"(40* 60)			BOT2	#6	0	0	0
TOP. req		14.82	0.00	1.08	BOT1	#6	4	4	4
TOP1	#7	4	3	3	BOT. req		10.58	11.32	11.16
TOP2	#7	0	0	0					
					STIR		#4@15	#4@20	#4@15
BOT2	#7	0	0	0	STIR. req		0.0333	0.0333	0.0333
BOT1	#7	3	3	3	WEB		0#3		
BOT. req		7.06	7.83	9.60	WEB. req		0.00		
					LEVEL		0.00	0.00	
STIR		#4@15	#4@20	#4@15	BM. H. LR	0			0
STIR. req		0.0562	0.0333	0.0333	C-CLEN	0	965		0
WEB		0#3			UCOL. W	0			0
WEB. req		0.00			DCOL. W	-50			-50
LEVEL		0.00	0.00		DCOL. H	-70			-70
BM. H. LR	60			0					
C-CLEN	965	507		0	F.NO=75-3 2F		"2FJG2"(40* 60)		
UCOL. W	0			40	TOP. req		3.95	1.48	10.10
DCOL. W	-50			40	TOP1	#7	3	3	3
DCOL. H	-70			0	TOP2	#7	0	0	0
F.NO=YY-5 3F		"3FJG1"(40* 60)			BOT2	#7	0	0	0
TOP. req		14.70	1.04	15.14	BOT1	#7	4	4	4
TOP1	#6	6	3	6	BOT. req		12.65	12.94	13.12
TOP2	#6	0	0	0					
					STIR		#4@15	#4@15	#4@15
BOT2	#6	0	0	0	STIR. req		0.0333	0.0524	0.0559
BOT1	#6	4	4	4	WEB		0#3		
BOT. req		10.23	10.79	10.65	WEB. req		0.00		
					LEVEL		0.00	0.00	
STIR		#4@15	#4@20	#4@15	BM. H. LR	0			60
STIR. req		0.0333	0.0333	0.0333	C-CLEN	0	507		203
WEB		0#3			UCOL. W	0			40
WEB. req		0.00			DCOL. W	-50			-50
LEVEL		0.00	0.00		DCOL. H	-70			-70
BM. H. LR	0			0					
C-CLEN	0	965		0	F.NO=YY-20 2F		"2FJG3"(30* 60)		
UCOL. W	0			0	TOP. req		6.17	0.00	1.79
DCOL. W	-50			-50	TOP1	#6	3	3	3
DCOL. H	-70			-70	TOP2	#6	0	0	0
F.NO=YY-20 3F		"3FJG3"(30* 60)			BOT2	#6	0	0	0
TOP. req		6.00	0.00	2.17	BOT1	#6	3	3	3
TOP1	#6	3	3	3	BOT. req		4.39	5.09	4.68
TOP2	#6	0	0	0					
					STIR		#4@15	#4@20	#4@15
					STIR. req		0.0250	0.0000	0.0250

WEB		0#3			DCOL. W	80		80
WEB. req		0.00			DCOL. H	0		0
LEVEL		0.00	0.00					
BM. H. LR	0			0				
C-CLEN	0	487		0	F. NO=98-1 RF		"RFPG2" (50* 70)	
UCOL. W	0			0	TOP. req	28.93	10.83	31.55
DCOL. W	-40			-30	TOP1	#8	7	3
DCOL. H	-60			-60	TOP2	#8	0	0
					BOT2	#8	0	0
					BOT1	#8	4	3
					BOT. req		11.72	12.76
					STIR		#4@15	#4@20
					STIR. req		0.1421	0.0417
					WEB		0#3	
					WEB. req		0.00	
					LEVEL		0.00	0.00
					BM. H. LR	0		0
					C-CLEN	0	865	0
					UCOL. W	0		0
					DCOL. W	81		80
					DCOL. H	0		0
					F. NO=YY-8 RF		"RFPG3" (50* 70)	
					TOP. req	23.95	10.83	26.65
					TOP1	#8	6	3
					TOP2	#8	0	0
					BOT2	#8	0	0
					BOT1	#8	3	3
					BOT. req		10.83	10.83
					STIR		#4@15	#4@20
					STIR. req		0.0760	0.0417
					WEB		0#3	
					WEB. req		0.00	
					LEVEL		0.00	0.00
					BM. H. LR	0		0
					C-CLEN	0	870	0
					UCOL. W	0		0
					DCOL. W	80		80
					DCOL. H	0		0
					F. NO=7-1 RF		"RFJB2" (40* 60)	
					TOP. req	4.48	0.00	1.24
					TOP1	#6	3	3
					TOP2	#6	0	0
					BOT2	#6	0	0
					BOT1	#6	3	3
					BOT. req		3.39	4.85
					STIR		#4@15	#4@20
					STIR. req		0.0333	0.0000
					WEB		0#3	
					WEB. req		0.00	
					LEVEL		0.00	0.00
					BM. H. LR	0		0
					C-CLEN	0	413	0
					UCOL. W	0		0
					DCOL. W	-50		-50
					DCOL. H	-70		-70
					F. NO=YY-2 2F		"2FJG4" (25* 40)	
					TOP. req	0.31	0.87	8.17

TOP1	#6	3	3	3
TOP2	#6	0	0	0

BOT2	#6	0	0	0
BOT1	#6	3	3	3
BOT. req		2.66	0.65	0.32

STIR	#4@15	#4@18	#4@15	
STIR. req	0.0000	0.0208	0.0208	
WEB	0#3			
WEB. req	0.00			
LEVEL	0.00	0.00		
BM. H. LR	0			0
C-CLEN	0	396		0
UCOL. W	0			0
DCOL. W	-30			-30
DCOL. H	-50			-60

F.NO=YY-23 R1F		"R1FJG5" (30* 50)		
TOP. req		5.62	0.00	4.45
TOP1	#6	3	3	3
TOP2	#6	0	0	0

BOT2	#6	0	0	0
BOT1	#6	3	3	3
BOT. req		3.33	4.19	4.21

STIR	#4@15	#4@20	#4@15	
STIR. req	0.0250	0.0250	0.0250	
WEB	0#3			
WEB. req	0.00			
LEVEL	0.00	0.00		
BM. H. LR	50			50
C-CLEN	265	483		482
UCOL. W	0			0
DCOL. W	-50			-40
DCOL. H	-70			-60

F.NO=100-3 R1F		"R1FJG6" (40* 70)		
TOP. req		5.80	0.00	7.23
TOP1	#6	3	3	3
TOP2	#6	0	0	0

BOT2	#6	0	0	0
BOT1	#6	4	4	4
BOT. req		8.70	9.01	7.84

STIR	#4@15	#4@20	#4@15	
STIR. req	0.0333	0.0000	0.0333	
WEB	0#3			
WEB. req	0.00			
LEVEL	0.00	0.00		
BM. H. LR	0			0
C-CLEN	0	820		0
UCOL. W	0			0
DCOL. W	-50			-50
DCOL. H	-70			-70

4.2 柱設計

\$RCAD_ASCO POSTPROCESSOR FILES

設計規範:TBC-401-100

TYPE= ETABS9

FILE VERSION= 2012.11.15.0

PROG VERSION= 2024.10.30.1

COMMENT-0=

COMMENT-1=

COMMENT-2=

FLOOR_NUM= 0

MODEL FILE= A.mdb

FORCE FILE= A.mdb

REBAR FILE= A.mdb

\$RCAD_ASCO DRAWING_FLOORS_COLUMNS

// 柱之圖紙控制

FORMAT= 0

5 // ...每列圖紙之張數

1.0 2401.2 1513.7 // ...比例尺 圖紙寬 圖紙高

3 // ...圖紙張數(依據柱線不分圖紙=-1)

\$RCAD_ASCO COLUMN-PAGE

p-1 //... 圖紙名稱

1 // ...柱表數目

\$RCAD_ASCO COLUMN-TABLE

0.00 210.83 // 柱表偏移量

4 // 樓群數目

R1F

3F

2F

1F

12 // 柱線數目

\$RCAD_ASCO COLUMN-LINE

"C1" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x

// 尾字無 x 時, 為群組編號, ex: C10

2 // 有柱數

// 樓群 形狀 name

// DX DY As Av/s[22] Av/s[33]

// BC 箍 圓束箍, 長

度 中段箍

2F RECT C73

80.0 80.0 64.00 0.2380 0.2670

//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數

5 2 0#8 1#8 0#8 1#8 0#8

5 2 0#8 1#8 0#8 1#8 0#8

#4@10 #4@10,80

#4@10

1F RECT C73

80.0 80.0 74.79 0.1640 0.2440

7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8

7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8

#4@10 #4@10,80

#4@10

\$RCAD_ASCO COLUMN-LINE

"C1A" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x

// 尾字無 x 時, 為群組編號, ex: C10

2 // 有柱數

// 樓群 形狀 name

2F CIRC C114

40.0 12.57 0.0510 0.0330

8

//// 根數 (號數 xc yc)...

1 #8 13.46 0.00

1 #8 9.52 9.52

1 #8 0.00 13.46

1 #8 -9.52 9.52

			3F	RECT		C85			
80.0	80.0		64.00	0.2490	0.1340				
5	2	0#8	1#8	0#8	1#8	0#8			
4	2	0#8	1#8	1#8	0#8				
							#4@10	#4@10, 80	
#4@10									
			2F	RECT		C85			
80.0	80.0		74.91	0.3610	0.1710				
5	2	0#8	1#8	0#8	1#8	0#8			
5	2	0#8	1#8	0#8	1#8	0#8			
							#4@10	#4@10, 80	
#4@10									
			1F	RECT		C85			
80.0	80.0		96.07	0.3110	0.1830				
6	2	0#8	0#8	1#8	1#8	0#8	0#8		
6	2	0#8	0#8	1#8	1#8	0#8	0#8		
							#4@10	#4@10, 80	
#4@10									
\$RCAD_ASCO	COLUMN-LINE								
"C4"	//	柱線名稱,	尾字為 x 時,	為分析編號,	ex: C10x				
	//		尾字無 x 時,	為群組編號,	ex: C10				
4	//	有柱數							
//		樓群	形狀	name					
//	DX	DY	As	Av/s[22]	Av/s[33]				
//							BC 箍	圓束箍, 長	
度	中段箍								
			R1F	RECT		C84			
80.0	80.0		64.00	0.1510	0.2230				
//主筋點數	需繫筋數	各束主筋...	實配繫筋數	可能大於需繫筋數					
5	2	0#8	1#8	0#8	1#8	0#8			
4	2	0#8	1#8	1#8	0#8				
							#4@10	#4@10, 80	
#4@10									
			3F	RECT		C84			
80.0	80.0		64.00	0.2430	0.1430				
5	2	0#8	1#8	0#8	1#8	0#8			
4	2	0#8	1#8	1#8	0#8				
							#4@10	#4@10, 80	
#4@10									
			2F	RECT		C84			
80.0	80.0		64.00	0.2830	0.1460				
5	2	0#8	1#8	0#8	1#8	0#8			
4	2	0#8	1#8	1#8	0#8				
							#4@10	#4@10, 80	
#4@10									
			1F	RECT		C84			
80.0	80.0		96.94	0.2870	0.1580				
7	3	0#8	1#8	0#8	1#8	0#8	1#8	0#8	
6	2	0#8	0#8	1#8	1#8	0#8	0#8		
							#4@10	#4@10, 80	
#4@10									
\$RCAD_ASCO	COLUMN-LINE								
"C5"	//	柱線名稱,	尾字為 x 時,	為分析編號,	ex: C10x				
	//		尾字無 x 時,	為群組編號,	ex: C10				
3	//	有柱數							
//		樓群	形狀	name					
//	DX	DY	As	Av/s[22]	Av/s[33]				
//							BC 箍	圓束箍, 長	
度	中段箍								
			3F	RECT		C86			
80.0	80.0		64.00	0.3540	0.2140				
//主筋點數	需繫筋數	各束主筋...	實配繫筋數	可能大於需繫筋數					
5	2	0#8	1#8	0#8	1#8	0#8			
4	2	0#8	1#8	1#8	0#8				
							#4@10	#4@10, 80	
#4@10									
			2F	RECT		C86			
80.0	80.0		64.0						

```

4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      1F  RECT      C86
80.0  80.0      64.00 0.0670 0.0670
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
$RCAD_ASC0 COLUMN-LINE
"C6"   // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀      name
// DX    DY      As  Av/s[22]  Av/s[33]
//      BC 箍      圓束箍, 長
度      中段箍
      3F  RECT      C87
80.0  80.0      64.00 0.2100 0.1180
//主筋點數 需繫筋數 各束主筋...實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      2F  RECT      C87
80.0  80.0      64.00 0.2240 0.0670
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      1F  RECT      C87
80.0  80.0      65.58 0.1810 0.1060
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
$RCAD_ASC0 COLUMN-LINE
"C7"   // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
2      // 有柱數
//      樓群 形狀      name
// DX    DY      As  Av/s[22]  Av/s[33]
//      BC 箍      圓束箍, 長
度      中段箍
      2F  RECT      C81
80.0  80.0      64.00 0.2640 0.3080
//主筋點數 需繫筋數 各束主筋...實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
5      2  0#8  1#8  0#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      1F  RECT      C81
80.0  80.0      79.23 0.1680 0.2940
7      3  0#8  1#8  0#8  1#8  0#8  1#8  0#8
7      3  0#8  1#8  0#8  1#8  0#8  1#8  0#8
#4@10  #4@10, 80
#4@10
$RCAD_ASC0 COLUMN-LINE
"C8"   // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
4      // 有柱數
//      樓群 形狀      name
// DX    DY      As  Av/s[22]  Av/s[33]
//      BC 箍      圓束箍, 長
度      中段箍
      R1F RECT      C79
80.0  80.0      64.00 0.1050 0.2280
//主筋點數 需繫筋數 各束主筋...實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8

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4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      3F  RECT      C79
80.0  80.0      64.00 0.2450 0.1890
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      2F  RECT      C79
80.0  80.0      79.57 0.3720 0.1790
6      2  0#8  0#8  1#8  1#8  0#8  0#8
5      2  0#8  1#8  0#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      1F  RECT      C79
80.0  80.0      95.02 0.2980 0.1930
6      2  0#8  0#8  1#8  1#8  0#8  0#8
6      2  0#8  0#8  1#8  1#8  0#8  0#8
#4@10  #4@10, 80
#4@10
$RCAD_ASC0 COLUMN-LINE
"C9"   // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
4      // 有柱數
//      樓群 形狀      name
// DX    DY      As  Av/s[22]  Av/s[33]
//      BC 箍      圓束箍, 長
度      中段箍
      R1F RECT      C82
80.0  80.0      64.00 0.2470 0.2920
//主筋點數 需繫筋數 各束主筋...實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      3F  RECT      C82
80.0  80.0      64.00 0.2360 0.1890
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      2F  RECT      C82
80.0  80.0      64.00 0.3250 0.1910
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10
      1F  RECT      C82
80.0  80.0      86.35 0.2540 0.2030
6      2  0#8  0#8  1#8  1#8  0#8  0#8
5      2  0#8  1#8  0#8  1#8  0#8
#4@10  #4@10, 80
#4@10
$RCAD_ASC0 COLUMN-LINE
"C10"  // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
4      // 有柱數
//      樓群 形狀      name
// DX    DY      As  Av/s[22]  Av/s[33]
//      BC 箍      圓束箍, 長
度      中段箍
      R1F RECT      C88
80.0  80.0      64.00 0.1510 0.2420
//主筋點數 需繫筋數 各束主筋...實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80
#4@10

```

```

      3F  RECT      C88
80.0  80.0      64.00 0.2090 0.1940
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      2F  RECT      C88
80.0  80.0      64.00 0.2200 0.1810
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      1F  RECT      C88
80.0  80.0      66.44 0.0810 0.0870
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C11" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F  RECT      C89
80.0  80.0      64.00 0.3460 0.2850
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      2F  RECT      C89
80.0  80.0      64.00 0.2130 0.1550
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      1F  RECT      C89
80.0  80.0      64.00 0.0670 0.0670
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
$RCAD_ASCO COLUMN-PAGE
p-2 //... 圖紙名稱
1      // ... 柱表數目

$RCAD_ASCO COLUMN-TABLE
0.00 210.83 // 柱表偏移量
4      // 樓群數目
?~?
3F
2F
1F

12 // 柱線數目
$RCAD_ASCO COLUMN-LINE
"C12" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F  RECT      C90
80.0  80.0      64.00 0.2320 0.1930

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```

//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      2F  RECT      C90
80.0  80.0      64.00 0.2310 0.1010
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      1F  RECT      C90
80.0  80.0      78.65 0.2380 0.1180
5      2  0#8  1#8  0#8  1#8  0#8
5      2  0#8  1#8  0#8  1#8  0#8

#4@10      #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C13" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F  RECT      C91
80.0  80.0      64.00 0.1430 0.0830
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      2F  RECT      C91
80.0  80.0      64.00 0.2930 0.0850
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      1F  RECT      C91
80.0  80.0      87.23 0.2700 0.1220
6      2  0#8  0#8  1#8  1#8  0#8  0#8
5      2  0#8  1#8  0#8  1#8  0#8

#4@10      #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C14" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F  RECT      C101
80.0  80.0      64.00 0.2390 0.3050
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      2F  RECT      C101
80.0  80.0      64.00 0.2270 0.1940
5      2  0#8  1#8  0#8  1#8  0#8
5      2  0#8  1#8  0#8  1#8  0#8

#4@10      #4@10, 80

#4@10
      1F  RECT      C101
80.0  80.0      82.25 0.2330 0.1910
7      3  0#8  1#8  0#8  1#8  0#8  1#8  0#8
7      3  0#8  1#8  0#8  1#8  0#8  1#8  0#8

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```

#4@10      #4@10,80
$RCAD_ASCO COLUMN-LINE
"C15" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX    DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F RECT C100
80.0 80.0 64.00 0.3410 0.3490
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
      2F RECT C100
80.0 80.0 64.00 0.2070 0.2060
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
      1F RECT C100
80.0 80.0 64.00 0.0670 0.1130
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
$RCAD_ASCO COLUMN-LINE
"C16" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX    DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F RECT C98
80.0 80.0 64.00 0.2270 0.1900
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
      2F RECT C98
80.0 80.0 64.00 0.2280 0.1490
5 2 0#8 1#8 0#8 1#8 0#8
5 2 0#8 1#8 0#8 1#8 0#8
#4@10      #4@10,80
      1F RECT C98
80.0 80.0 113.76 0.1390 0.1550
7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8
7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8
#4@10      #4@10,80
$RCAD_ASCO COLUMN-LINE
"C17" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX    DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F RECT C94
80.0 80.0 64.00 0.3550 0.2940
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8

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```

#4@10      #4@10,80
      2F RECT C94
80.0 80.0 64.00 0.2160 0.1540
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
      1F RECT C94
80.0 80.0 64.00 0.0670 0.0670
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
$RCAD_ASCO COLUMN-LINE
"C18" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX    DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F RECT C92
80.0 80.0 64.00 0.3650 0.3150
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
      2F RECT C92
80.0 80.0 64.00 0.2290 0.1660
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
      1F RECT C92
80.0 80.0 64.00 0.0670 0.0670
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
$RCAD_ASCO COLUMN-LINE
"C19" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀 name
// DX    DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度 中段箍
      3F RECT C108
80.0 80.0 64.00 0.3520 0.1400
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5 2 0#8 1#8 0#8 1#8 0#8
4 2 0#8 1#8 1#8 0#8
#4@10      #4@10,80
      2F RECT C108
80.0 80.0 67.48 0.3180 0.1240
5 2 0#8 1#8 0#8 1#8 0#8
5 2 0#8 1#8 0#8 1#8 0#8
#4@10      #4@10,80
      1F RECT C108
80.0 80.0 110.32 0.3860 0.1540
7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8
7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8
#4@10      #4@10,80
$RCAD_ASCO COLUMN-LINE

```

```

"C20" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
1 // 有柱數
// 樓群 形狀 name
// DX DY As Av/s[22] Av/s[33]
// BC 箍 圓束箍, 長
度 中段箍
      1F RECT C106
      80.0 80.0 150.45 0.5590 0.4920
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
      8 4 0#8 1#8 0#8 1#8#8 1#8 0#8 1#8 0#8
      8 4 0#8 1#8 0#8 1#8 1#8 0#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C21" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
1 // 有柱數
// 樓群 形狀 name
// DX DY As Av/s[22] Av/s[33]
// BC 箍 圓束箍, 長
度 中段箍
      1F RECT C104
      80.0 80.0 80.69 0.5920 0.2370
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
      8 4 0#8 1#8 0#8 1#8 1#8 0#8 1#8 0#8
      8 4 0#8 1#8 0#8 1#8 1#8 0#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C22" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3 // 有柱數
// 樓群 形狀 name
// DX DY As Av/s[22] Av/s[33]
// BC 箍 圓束箍, 長
度 中段箍
      3F RECT C102
      80.0 80.0 64.00 0.2080 0.2390
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
      2F RECT C102
      80.0 80.0 64.00 0.1840 0.1670
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
      1F RECT C102
      80.0 80.0 68.97 0.2410 0.2760
      6 2 0#8 0#8 1#8 1#8 0#8 0#8
      6 2 0#8 0#8 1#8 1#8 0#8 0#8
      #4@10 #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C23" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3 // 有柱數
// 樓群 形狀 name
// DX DY As Av/s[22] Av/s[33]
// BC 箍 圓束箍, 長
度 中段箍
      3F RECT C99
      80.0 80.0 64.00 0.2900 0.2870
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

```

```

#4@10 #4@10, 80
      2F RECT C99
      80.0 80.0 64.00 0.2160 0.1620
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
      1F RECT C99
      80.0 80.0 64.00 0.1850 0.1620
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
$RCAD_ASCO COLUMN-PAGE
p-3 //... 圖紙名稱
1 // ... 柱表數目

$RCAD_ASCO COLUMN-TABLE
      0.00 210.83 // 柱表偏移量
4 // 樓群數目
?~?
3F
2F
1F

8 // 柱線數目
$RCAD_ASCO COLUMN-LINE
"C24" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3 // 有柱數
// 樓群 形狀 name
// DX DY As Av/s[22] Av/s[33]
// BC 箍 圓束箍, 長
度 中段箍
      3F RECT C96
      80.0 80.0 64.00 0.1840 0.0780
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
      2F RECT C96
      80.0 80.0 64.00 0.2120 0.1910
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
      1F RECT C96
      80.0 80.0 102.30 0.2320 0.0670
      7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8
      7 3 0#8 1#8 0#8 1#8 0#8 1#8 0#8
      #4@10 #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C25" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3 // 有柱數
// 樓群 形狀 name
// DX DY As Av/s[22] Av/s[33]
// BC 箍 圓束箍, 長
度 中段箍
      3F RECT C95
      80.0 80.0 64.00 0.3000 0.2410
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
      5 2 0#8 1#8 0#8 1#8 0#8
      4 2 0#8 1#8 1#8 0#8
      #4@10 #4@10, 80

```

```

#4@10
      2F  RECT      C95
80.0  80.0      64.00 0.1900 0.1350
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80

#4@10
      1F  RECT      C95
80.0  80.0      64.00 0.1920 0.1340
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C26" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀      name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度      中段箍
      3F  RECT      C93
80.0  80.0      64.00 0.3020 0.2300
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80

#4@10
      2F  RECT      C93
80.0  80.0      64.00 0.2270 0.1280
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80

#4@10
      1F  RECT      C93
80.0  80.0      68.81 0.1940 0.1280
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C27" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀      name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度      中段箍
      3F  RECT      C107
80.0  80.0      64.00 0.2850 0.0680
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80

#4@10
      2F  RECT      C107
80.0  80.0      64.00 0.2070 0.1700
5      2  0#8  1#8  0#8  1#8  0#8
4      2  0#8  1#8  1#8  0#8
#4@10  #4@10, 80

#4@10
      1F  RECT      C107
80.0  80.0      80.39 0.2210 0.0810
7      3  0#8  1#8  0#8  1#8  0#8  1#8  0#8
7      3  0#8  1#8  0#8  1#8  0#8  1#8  0#8
#4@10  #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C28" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x

```

```

      // 尾字無 x 時, 為群組編號, ex: C10
1      // 有柱數
//      樓群 形狀      name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度      中段箍
      1F  RECT      C103
80.0  80.0      99.92 0.4330 0.3820
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
8      4  0#8  1#8  0#8  1#8  1#8  0#8  1#8  0#8
8      4  0#8  1#8  0#8  1#8  1#8  0#8  1#8  0#8
#4@10  #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C29" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
1      // 有柱數
//      樓群 形狀      name
// DX      DY      As  Av/s[22] Av/s[33]
//      BC 箍 圓束箍, 長
度      中段箍
      1F  RECT      C105
80.0  80.0      119.68 0.5950 0.3650
//主筋點數 需繫筋數 各束主筋... 實配繫筋數可能大於需繫筋數
8      4  0#8  1#8  0#8  1#8  1#8  0#8  1#8  0#8
8      4  0#8  1#8  0#8  1#8  1#8  0#8  1#8  0#8
#4@10  #4@10, 80

#4@10
$RCAD_ASCO COLUMN-LINE
"C30" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
      // 尾字無 x 時, 為群組編號, ex: C10
3      // 有柱數
//      樓群 形狀      name
      3F  CIRC      C109
100.0  78.54 0.0840 0.0840
16
//// 根數 (號數 xc yc)...
1 #8  43.46  0.00
1 #8  40.15  16.63
1 #8  30.73  30.73
1 #8  16.63  40.15
1 #8  0.00  43.46
1 #8  -16.63 40.15
1 #8  -30.73 30.73
1 #8  -40.15 16.63
1 #8  -43.46  0.00
1 #8  -40.15 -16.63
1 #8  -30.73 -30.73
1 #8  -16.63 -40.15
1 #8  -0.00 -43.46
1 #8  16.63  -40.15
1 #8  30.73  -30.73
1 #8  40.15  -16.63
#4@10  #4@10, 100

#4@10
      2F  CIRC      C109
100.0  78.54 0.2450 0.2290
16
1 #8  43.46  0.00
1 #8  40.15  16.63
1 #8  30.73  30.73
1 #8  16.63  40.15
1 #8  0.00  43.46
1 #8  -16.63 40.15
1 #8  -30.73 30.73
1 #8  -40.15 16.63
1 #8  -43.46  0.00
1 #8  -40.15 -16.63
1 #8  -30.73 -30.73

```

```

1 #8 -16.63 -40.15
1 #8 -0.00 -43.46
1 #8 16.63 -40.15
1 #8 30.73 -30.73
1 #8 40.15 -16.63
#4@10 #4@10,100
#4@10
1F CIRC C109
100.0 81.48 0.2400 0.2930
20
1 #8 43.46 0.00
1 #8 41.33 13.43
1 #8 35.16 25.55
1 #8 25.55 35.16
1 #8 13.43 41.33
1 #8 0.00 43.46
1 #8 -13.43 41.33
1 #8 -25.55 35.16
1 #8 -35.16 25.55
1 #8 -41.33 13.43
1 #8 -43.46 0.00
1 #8 -41.33 -13.43
1 #8 -35.16 -25.55
1 #8 -25.55 -35.16
1 #8 -13.43 -41.33
1 #8 -0.00 -43.46
1 #8 13.43 -41.33
1 #8 25.55 -35.16
1 #8 35.16 -25.55
1 #8 41.33 -13.43
#4@10 #4@10,100
#4@10
$RCAD_ASCO COLUMN-LINE
"PC1" // 柱線名稱, 尾字為 x 時, 為分析編號, ex: C10x
// 尾字無 x 時, 為群組編號, ex: C10
1 // 有柱數
// 樓群 形狀 name
// DX DY As Av/s[22] Av/s[33]
// BC 箍 圓束箍, 長
度 中段箍
2F RECT C115
80.0 80.0 137.63 0.5060 0.4040
//主筋點數 需繫筋數 各束主筋...實配繫筋數可能大於需繫筋數
8 4 0#8 1#8 0#8 1#8 1#8 0#8 1#8 0#8
8 4 0#8 1#8 0#8 1#8 1#8 0#8 1#8 0#8
#4@10 #4@10,80
#4@10

```

4.3 樓版設計

4.3.1 混凝土樓版設計

*****1S1*****							
SHORT SPAN LENGTH = 4.05m				LONG SPAN LENGTH = 4.525m			
D.L. = 730kg/m ²				L.L. = 500kg/m ² Wu =1.4D.L.+1.7L.L.= 1872kg/m ²			
BOUNDARY CASE = 3 EDGE CONTINUOUS				Fc' = 280 kg/cm ²			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm ²			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.048	0.024	0.036	0.041	0.02	0.031
Max MOMENT(tf-m)		1.779	0.89	1.335	1.52	0.76	1.149
As_req(ρBd)_cm ²		3.15	1.575	3.15	3.15	1.575	3.15
As_req/STRIP		4@25	4@25	4@25	4@25	4@25	4@25
As_use/STRIP		4@20	4@20	4@20	4@20	4@20	4@20
*****1S2*****							
SHORT SPAN LENGTH = 4.87m				LONG SPAN LENGTH = 5.97m			
D.L. = 730kg/m ²				L.L. = 500kg/m ² Wu =1.4D.L.+1.7L.L.= 1872kg/m ²			
BOUNDARY CASE = 3 EDGE CONTINUOUS				Fc' = 280 kg/cm ²			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm ²			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.054	0.027	0.04	0.041	0.02	0.031
Max MOMENT(tf-m)		2.808	1.404	2.08	2.132	1.066	1.612
As_req(ρBd)_cm ²		4.34	2.17	3.2	3.28	1.64	3.15
As_req/STRIP		4@25	4@25	4@25	4@25	4@25	4@25
As_use/STRIP		4@20	4@20	4@20	4@20	4@20	4@20
*****1S3*****							
SHORT SPAN LENGTH = 3.05m				LONG SPAN LENGTH = 8.2m			
D.L. = 1630kg/m ²				L.L. = 500kg/m ² Wu =1.4D.L.+1.7L.L.= 3132kg/m ²			
BOUNDARY CASE = 2 EDGE CONTINUOUS				Fc' = 280 kg/cm ²			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm ²			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.111	0.056	0.071	0.049	0.024	0.037
Max MOMENT(tf-m)		4.138	2.069	2.647	1.827	0.913	1.379
As_req(ρBd)_cm ²		6.47	3.235	4.09	3.15	1.575	3.15
As_req/STRIP		4@17.5	4@17.5	4@17.5	4@25	4@25	4@25
As_use/STRIP		4@15	4@15	4@15	4@15	4@15	4@15

*****1SW*****							
SHORT SPAN LENGTH = 1.6m				LONG SPAN LENGTH = 3m			
D.L. = 1772kg/m ²				L.L. = 300kg/m ² Wu =1.4D.L.+1.7L.L.= 2990kg/m ²			
BOUNDARY CASE = 2 EDGE CONTINUOUS				Fc' = 280 kg/cm ²			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm ²			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.088	0.044	0.066	0.049	0.024	0.037
Max MOMENT(tf-m)		1.053	0.526	0.789	0.586	0.293	0.443
As_req(ρBd)_cm ²		3.15	1.575	3.15	3.15	1.575	3.15
As_req/STRIP		4@25	4@25	4@25	4@25	4@25	4@25
As_use/STRIP		4@15	4@15	4@15	4@15	4@15	4@15
*****S1*****							
SHORT SPAN LENGTH = 5.45m				LONG SPAN LENGTH = 5.82m			
D.L. = 730kg/m ²				L.L. = 300kg/m ² Wu =1.4D.L.+1.7L.L.= 1532kg/m ²			
BOUNDARY CASE = 2 EDGE CONTINUOUS				Fc' = 280 kg/cm ²			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm ²			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.054	0.027	0.041	0.049	0.024	0.037
Max MOMENT(tf-m)		2.831	1.416	2.15	2.569	1.285	1.94
As_req(ρBd)_cm ²		4.38	2.19	3.3	3.96	1.98	3.15
As_req/STRIP		4@25	4@25	4@25	4@25	4@25	4@25
As_use/STRIP		4@20	4@20	4@20	4@20	4@20	4@20
*****S2*****							
SHORT SPAN LENGTH = 5.45m				LONG SPAN LENGTH = 5.82m			
D.L. = 1750kg/m ²				L.L. = 300kg/m ² Wu =1.4D.L.+1.7L.L.= 2960kg/m ²			
BOUNDARY CASE = 2 EDGE CONTINUOUS				Fc' = 280 kg/cm ²			
SLAB THICKNESS = 25 cm				Fy = 4200 kg/cm ²			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.054	0.027	0.041	0.049	0.024	0.037
Max MOMENT(tf-m)		5.659	2.829	4.296	5.135	2.567	3.877
As_req(ρBd)_cm ²		6.84	3.42	5.16	6.19	3.095	4.64
As_req/STRIP		5@25	5@25	5@25	5@25	5@25	5@25
As_use/STRIP		5@20	5@20	5@20	5@20	5@20	5@20
*****SW*****							
SHORT SPAN LENGTH = 5.45m				LONG SPAN LENGTH = 6.3m			
D.L. = 1395kg/m ²				L.L. = 300kg/m ² Wu =1.4D.L.+1.7L.L.= 2464kg/m ²			
BOUNDARY CASE = 2 EDGE CONTINUOUS				Fc' = 280 kg/cm ²			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm ²			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.06	0.03	0.045	0.049	0.024	0.037
Max MOMENT(tf-m)		5.059	2.529	3.794	4.131	2.066	3.12
As_req(ρBd)_cm ²		7.97	3.985	5.91	6.46	3.23	4.83
As_req/STRIP		5@22.5	5@22.5	5@22.5	5@25	5@25	5@25
As_use/STRIP		5@20	5@20	5@20	5@20	5@20	5@20

*****RS1*****							
SHORT SPAN LENGTH = 4.2m				LONG SPAN LENGTH = 5.82m			
D.L. = 730kg/m2				L.L. = 300kg/m2 Wu =1.4D.L.+1.7L.L.= 1532kg/m2			
BOUNDARY CASE = 2 EDGE CONTINUOUS				Fc'= 280 kg/cm2			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm2			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.07	0.035	0.053	0.049	0.024	0.037
Max MOMENT(tf-m)		2.269	1.135	1.718	1.588	0.794	1.199
As_req(ρ Bd)_cm2		3.49	1.745	3.15	3.15	1.575	3.15
As_req/STRIP		4@25	4@25	4@25	4@25	4@25	4@25
As_use/STRIP		4@15	4@15	4@15	4@20	4@20	4@20
*****PS1*****							
SHORT SPAN LENGTH = 3.8m				LONG SPAN LENGTH = 4m			
D.L. = 730kg/m2				L.L. = 300kg/m2 Wu =1.4D.L.+1.7L.L.= 1532kg/m2			
BOUNDARY CASE = 2 EDGE CONTINUOUS				Fc'= 280 kg/cm2			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm2			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.054	0.027	0.041	0.049	0.024	0.037
Max MOMENT(tf-m)		1.459	0.73	1.108	1.324	0.662	1
As_req(ρ Bd)_cm2		3.15	1.575	3.15	3.15	1.575	3.15
As_req/STRIP		4@25	4@25	4@25	4@25	4@25	4@25
As_use/STRIP		4@20	4@20	4@20	4@20	4@20	4@20
*****PS2*****							
SHORT SPAN LENGTH = 6.3m				LONG SPAN LENGTH = 8.5m			
D.L. = 850kg/m2				L.L. = 300kg/m2 Wu =1.4D.L.+1.7L.L.= 1700kg/m2			
BOUNDARY CASE = 1 EDGE CONTINUOUS				Fc'= 280 kg/cm2			
SLAB THICKNESS = 25 cm				Fy = 4200 kg/cm2			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.079	0.04	0.06	0.058	0.029	0.044
Max MOMENT(tf-m)		6.21	3.105	4.716	4.559	2.28	3.459
As_req(ρ Bd)_cm2		7.52	3.76	5.67	5.48	2.74	4.13
As_req/STRIP		4@15	4@15	4@15	4@22.5	4@22.5	4@22.5
As_use/STRIP		4@15	4@15	4@15	4@15	4@15	4@15
*****1S4*****							
SHORT SPAN LENGTH = 5.25m				LONG SPAN LENGTH = 6.6m			
D.L. = 730kg/m2				L.L. = 300kg/m2 Wu =1.4D.L.+1.7L.L.= 1532kg/m2			
BOUNDARY CASE = 3 EDGE CONTINUOUS				Fc'= 280 kg/cm2			
SLAB THICKNESS = 20 cm				Fy = 4200 kg/cm2			
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.055	0.028	0.041	0.041	0.02	0.031
Max MOMENT(tf-m)		2.69	1.345	2.005	2.005	1.003	1.516
As_req(ρ Bd)_cm2		4.15	2.075	3.15	3.15	1.575	3.15
As_req/STRIP		4@25	4@25	4@25	4@25	4@25	4@25
As_use/STRIP		4@15	4@15	4@15	4@20	4@20	4@20

4.3.2 懸臂樓版設計

CS1									
一、材料									
	$f'_c =$	280	kgf/cm ²						
	$f_y =$	4200	kgf/cm ²						
	$E_c =$	200798	kgf/cm ²						
	$E_s =$	2040000	kgf/cm ²						
二、尺寸									
	懸臂淨跨： $S_n =$	230	cm						
	單位寬度： $b =$	420	cm						
	深度： $h =$	20	cm						
	保護層： $i =$	2.0	cm						
	$d' =$	2.0	cm						
	$d =$	18.0	cm						
	間距 $s =$	15	cm						
	鋼筋號數 =	# 5							
	$A_s =$	55.44	cm ²	$\rho =$	0.0073333				
	$A_{s'} =$	55.44	cm ²	$\rho' =$	0.0073333				
三、設計載重									
	$W_D =$	730	kgf/m ²						
	$W_L =$	200	kgf/m ²						
	$M_{a,D} =$	8.11	tf-m						
	$M_{a,D+L} =$	10.33	tf-m						
	$M_u = 1.2M_D + 1.6M_L =$	13.29	tf-m						
四、斷面校核及配筋									
	$m = f_y / 0.85f'_c =$	17.65							
	$R_n = M_u / (\phi \times b \times d^2) =$	10.85	($\phi=0.9$)						
	$\rho = (1 - (1 - 2 \times m \times R_n / f_y)^{0.5}) / m =$	0.0026							
	$A_{s, req} = \rho \times b \times d =$	19.994	cm ²						
	$A_{s, act} =$	55.440	cm ²						
	$A_{s, act} >$	$A_{s, req}$		O.K.					
五、開裂彎矩									
	$n =$	10							
	未開裂斷面中性軸深度 $y_g =$	10	cm						
	$I_g =$	343867	cm ⁴						
	$f_r =$	33.47	kgf/cm ²						
	$M_{cr} =$	11.51	tf-m						
六、開裂斷面之慣性矩									
	$\therefore M_{a,D} <$	M_{cr}		$\therefore$	斷面未開裂				
中性軸計算									
	$1/2(b)x^2 =$	210.00	x ²						
	$[(n-1)A_s' + nA_s]x =$	1053.36	x						
	$[(n-1)A_s' d' + nA_s d] =$	-10977.12							
	解一元二次方程式								
	$x_1 =$	5.14	cm						
	$x_2 =$	-10.16	cm						
	開裂慣性矩								
	$I_{cr} =$	115617	cm ⁴						

七、計算即時撓度									
(1)僅靜載重作用時									
等效慣性矩									
$I_{e,D} =$		343867	cm^4						
即時撓度									
$\Delta_{i,D} =$		0.16	cm						
(2)靜載重加活載重作用時									
等效慣性矩									
$I_{e,D+L} =$		343867	cm^4						
即時撓度									
$\Delta_{i,D+L} =$		0.20	cm						
活載重作用時所產生之即時撓度									
$\Delta_L = \Delta_{D+L} - \Delta_D =$		0.04	cm	<	撓度限制值 $L/360 =$	0.64	cm	O.K.	
八、計算長期撓度									
壓力鋼筋比 $\rho' = A_s' / bd$		=	0.0073						
五年以上長期撓度修正因素 $\lambda = \xi / (1+50\rho')$		=	1.4634146						
總位移 $= \Delta_{i,D+L} + \lambda * \Delta_{i,D+L}$		=	0.4875	cm					

CS2									
一、材料									
$f_c' =$		280	kgf/cm^2						
$f_y =$		4200	kgf/cm^2						
$E_c =$		200798	kgf/cm^2						
$E_s =$		2040000	kgf/cm^2						
二、尺寸									
懸臂淨跨： $S_n =$		220	cm						
單位寬度： $b =$		2100	cm						
深度： $h =$		25	cm						
保護層： $i =$		2.0	cm						
$d' =$		2.0	cm						
$d =$		23.0	cm						
間距 $s =$		10	cm						
鋼筋號數 $=$		# 4							
$A_s =$		266.7	cm^2	$\rho =$	0.0055217				
$A_s' =$		266.7	cm^2	$\rho' =$	0.0055217				
三、設計載重									
$W_D =$		1600	kgf/m^2						
$W_L =$		200	kgf/m^2						
$M_{a,D} =$		81.31	tf-m						
$M_{a,D+L} =$		91.48	tf-m						
$M_u = 1.2M_D + 1.6M_L =$		113.84	tf-m						
四、斷面校核及配筋									
$m = f_y / 0.85f_c' =$		17.65							
$R_n = M_u / (\phi \times b \times d^2) =$		11.39	($\phi = 0.9$)						
$\rho = (1 - (1 - 2 \times m \times R_n / f_y)^{0.5}) / m =$		0.0028							
$A_{s, req} = \rho \times b \times d =$		134.229	cm^2						
$A_{s, act} =$		266.700	cm^2						
$A_{s, act}$		>	$A_{s, req}$	O.K.					

五、開裂彎矩										
	$n =$	10								
	未開裂斷面中性軸深度 $y_g =$	13	cm							
	$I_g =$	3263641	cm ⁴							
	$f_r =$	33.47	kgf/cm ²							
	$M_{cr} =$	87.38	tf-m							
六、開裂斷面之慣性矩										
	$\therefore M_{a,D} < M_{cr}$			$\therefore$	斷面未開裂					
	中性軸計算									
	$1/2(b)x^2 =$	1050.00	x ²							
	$[(n-1)A_s' + nA_s]x =$	5067.30	x							
	$[(n-1)A_s' d' + nA_s d] =$	-66141.60								
	解一元二次方程式									
	$x_1 =$	5.88	cm							
	$x_2 =$	-10.71	cm							
	開裂慣性矩									
	$I_{cr} =$	960126	cm ⁴							
七、計算即時撓度										
	(1) 僅靜載重作用時									
	等效慣性矩									
	$I_{e,D} =$	3263641	cm ⁴							
	即時撓度									
	$\Delta_{i,D} =$	0.15	cm							
	(2) 靜載重加活載重作用時									
	等效慣性矩									
	$I_{e,D+L} =$	2967710	cm ⁴							
	即時撓度									
	$\Delta_{i,D+L} =$	0.19	cm							
	活載重作用時所產生之即時撓度									
	$\Delta_L = \Delta_{D+L} - \Delta_D =$	0.04	cm	<	撓度限制值 $L/360 =$	0.61	cm	0. K.		
八、計算長期撓度										
	壓力鋼筋比 $\rho' = A_s' / bd$		=	0.0055						
	五年以上長期撓度修正因素 $\lambda = \xi / (1 + 50 \rho') =$			1.5672913						
	總位移= $\Delta_{i,D+L} + \lambda * \Delta_{i,D+L} =$			0.4769	cm					

4.4 剪力牆設計

剪力牆設計									
一、設計參數									
混凝土抗壓強度 $f_c' =$		280	kgf/cm2	鋼筋降伏強度 $f_y =$		4200	kgf/cm2		
牆編號	牆高 h_w (cm)	牆寬 l_w (cm)	牆厚 t_w (cm)	邊柱 $B \times H$ (cm)		A_{cv}			
PW26	330cm	1155cm	30cm	80cm	80cm	34650			
PW27	330cm	1155cm	30cm	80cm	80cm	34650			
牆編號	剪力 V_u (tf)		軸力 P_u (tf)		彎矩 M_u , top(tf-m)		彎矩 M_u , bot(tf-m)		
PW26	666.34		532.32		666.91tf		3231.95tf		
PW27	594.48		434.87		421.09tf		2603.26tf		
取長度最大且剪力 V_u 最大的牆進行分析									
二、設計成果									
水平剪力筋採用		D16	@20cm						
垂直剪力筋採用		D16	@20cm						
三、結構設計									
1. 檢核最小牆寬需求									
最小牆寬應滿足：		$t = \min\{\frac{l_w}{25}, \frac{h_w}{25}\}$							
$t = \min\{1155/25, 330/25\} = 13.2\text{cm}$			≤	牆厚 $t_w = 30\text{cm}$			(O.K.)		
2. 鋼筋配置方式檢討									
$A_{cv} = l_w \times t_w = 1155 \times 30 =$		34650	cm2						
$V_u = 666.34\text{tf}$		>	$0.53\sqrt{f_c'} A_{cv} = 0.53\sqrt{280} \times 34650 =$		$307297\text{kgf} =$		307.3	tf	
依混凝土結構設計規範第15.8.2.2節，須配雙層鋼筋。									
3. 斷面剪力強度校核									
(a) 分擔同一側力之各牆墩，其總剪力計算強度不得超過 $\phi 2.12\sqrt{f_c'} A_{cv}$									
PW26， $V_u =$	666.34tf	$\phi =$	0.75						
PW27， $V_u =$	594.48tf								
$\Sigma V_u =$	1260.82tf	<	$\phi 2.12\sqrt{f_c'} \Sigma A_{cv} =$		$0.75 \times 2.12 \times \sqrt{280} \times (34650 + 34650)$				
					=	1843781.17	kgf		
					=	1843.78	tf	(O.K.)	
(b) 任一個別牆墩之計算剪力不得超過 $\phi 2.65\sqrt{f_c'} A_{cv}$									
PW26， $V_u =$	666.34tf	$\phi =$	0.75						
$V_u =$	666.34tf	<	$\phi 2.12\sqrt{f_c'} \Sigma A_{cv} =$		$0.75 \times 2.12 \times \sqrt{280} \times 34650$				
					=	921890.58	kgf		
					=	921.89	tf	(O.K.)	
PW27， $V_u =$	594.48tf	$\phi =$	0.75						
$V_u =$	594.48tf	<	$\phi 2.12\sqrt{f_c'} \Sigma A_{cv} =$		$0.75 \times 2.12 \times \sqrt{280} \times 34650$				
					=	921890.58	kgf		
					=	921.89	tf	(O.K.)	

4. 水平剪力筋設計									
$\alpha_c=0.53 \times (3.0 - \frac{h_w}{l_w}) =$		$0.53 \times (3 - [330/1155]) =$		1.44	, 且 $0.53 \leq \alpha_c \leq 0.8$, 取 $\alpha_c =$			0.8	
由 $V_u \leq \phi (\alpha_c \sqrt{280} + \rho_t f_y) A_{cv}$			$\phi =$		0.6				
即 $666.34 \times 10^3 \leq 0.6 (0.8 \sqrt{280} + \rho_t \times 4200) \times 34650$									
故 $\rho_t =$		0.0044	$\geq$	0.0025	(O.K.)				
設計用 D16 鋼筋及雙層鋼筋， $A_s = 1.986 \text{ cm}^2$									
S 計算 =		$(1.986 \times 2) / (30 \times 0.0044) =$		30.09	cm				
最大間距 $S \leq \max\{45 \text{ cm}, 3t_w\} = 45$ ，採用 D16 雙排					@20cm	(O.K.)			
5. 垂直剪力筋設計									
$\frac{h_w}{l_w} =$		$330/1155 =$	0.29	$\leq$	2	, 因此 $\rho_l \geq \rho_t = 0.0044$			
取 $\rho_l = 0.0044$ 設計									
設計用 D16 鋼筋及雙層鋼筋， $A_s = 1.986 \text{ cm}^2$									
S 計算 =		$(1.986 \times 2) / (30 \times 0.0044) =$		30.09	cm				
最大間距 $S \leq \max\{45 \text{ cm}, 3t_w\} = 45$ ，採用 D16 雙排					@20cm	(O.K.)			

第五章 基礎結構分析及設計

5.1 基本說明

1. 本基地地層主要由表層回填層 GL. 0m ~ GL. -3.5m、卵礫石層 GL. -3.5m ~ GL. -20m 堆積所組成，基礎開挖深度為 GL. -2.4、-3.4m，地下水位於-14.0m。

2. 垂直地盤反力係數

$K_v=7000\text{tf/m}^2$

3. 土壤容許承载力

淺基礎分析條件示意圖 [筏式基礎]

▼分析地層



淺基礎承载力分析 [筏式基礎]

▼承载力分析表

載重 型態	c_f (tf/m^2)	ϕ_f (deg)	γ_1 (tf/m^3)	γ_2 (tf/m^3)	N_c	N_q	N_γ	N_γ^*	L_x (m)	L_y (m)	e_x (m)	e_y (m)	B' (m)	L' (m)	β_x (deg)	β_y (deg)
垂直	0.00	32.00	1.653	1.900	20.90	14.10	10.60	22.00	58.350	23.650	0.000	0.000	23.650	58.350	0.000	0.000

載重 型態	F_{cs}	F_{cd}	F_{ci}	F_{qs}	F_{qd}	F_{qi}	$F_{\gamma s}$	$F_{\gamma d}$	$F_{\gamma i}$	q_{uf} (tf/m^2)	q_{a1} (tf/m^2)	q_{a2} (tf/m^2)	q_{a3} (tf/m^2)	P_{a1} (tf)	P_{a2} (tf)	P_{a3} (tf)
垂直	1.264	1.037	1.000	1.132	1.018	1.000	1.132	1.018	1.000	312.91	107.34	158.73	284.88	148130	219049	393122

表 4-1 回填層基礎極限承载力(Q_u)及容許承载力(Q_a)承载力彙整表

B(m)	L(m)	D _r (m)	Q_u (tf/m ²) (長期)	Q_u (tf/m ²) (短期)	Q_a (tf/m ²) (極限限界)	基礎型式
28.87	62.88	1.48	106.14	157.81	284.62	筏式基礎

筏基板							
版厚(20+40)	60	cm		回填	0	cm	
版重	1.44	tf/m ²		回填重量	0	tf/m ²	
PC	10	cm					
PC重	0.23	tf/m ²					
總重	1.67	tf/m ²		總重	1.67	tf/m ²	
K_v =	7000	tf/m ³	地盤反力 $Q=\delta \times K_v$				
建築總重=	6290.14	tf, 基礎面積=	1166.56	m ²			
主建物採用反力值	8.40	-	1.67		=	6.73	tf/m ²
長期容許承载力=	106.14	tf/m ²	>	6.73	tf/m ²	OK	

5.2 基礎版設計

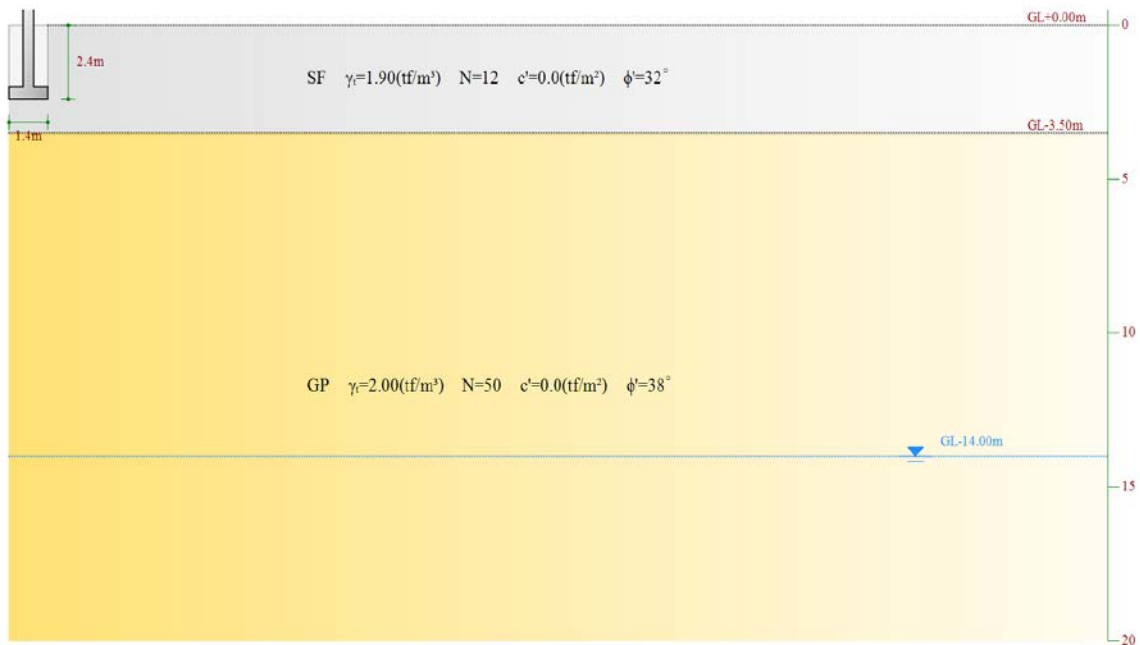
*****FS1*****							
SHORT SPAN LENGTH =		4.05m		LONG SPAN LENGTH =		4.525m	
Wu = 14042kg/m2							
BOUNDARY CASE		= 3 EDGE CONTINUOUS			Fc' = 280 kg/cm2		
SLAB THICKNESS		= 40 cm			Fy = 4200 kg/cm2		
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.048	0.024	0.036	0.041	0.02	0.031
Max MOMENT(tf-m)		13.954	6.977	10.465	11.919	5.959	9.012
As_req(ρBd) cm2		10.08	5.04	7.52	8.58	4.29	6.75
As_req/STRIP		4@12.5	4@12.5	4@12.5	4@12.5	4@12.5	4@12.5
As_use/STRIP		4@15	4@15	4@15	4@15	4@15	4@15
*****FS2*****							
SHORT SPAN LENGTH =		4.87m		LONG SPAN LENGTH =		5.97m	
Wu = 9422kg/m2							
BOUNDARY CASE		= 3 EDGE CONTINUOUS			Fc' = 280 kg/cm2		
SLAB THICKNESS		= 40 cm			Fy = 4200 kg/cm2		
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.054	0.027	0.04	0.041	0.02	0.031
Max MOMENT(tf-m)		14.672	7.336	10.868	11.14	5.57	8.423
As_req(ρBd) cm2		10.62	5.31	7.81	8.01	4.005	6.75
As_req/STRIP		5@17.5	5@17.5	5@17.5	5@22.5	5@22.5	5@22.5
As_use/STRIP		5@15	5@15	5@15	5@20	5@20	5@20
*****FS3*****							
SHORT SPAN LENGTH =		3.05m		LONG SPAN LENGTH =		8.2m	
Wu = 10822kg/m2							
BOUNDARY CASE		= 2 EDGE CONTINUOUS			Fc' = 280 kg/cm2		
SLAB THICKNESS		= 40 cm			Fy = 4200 kg/cm2		
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.111	0.056	0.071	0.049	0.024	0.037
Max MOMENT(tf-m)		15.139	7.569	9.683	6.683	3.341	5.046
As_req(ρBd) cm2		10.96	5.48	6.94	6.75	3.375	6.75
As_req/STRIP		5@17.5	5@17.5	5@17.5	5@25	5@25	5@25
As_use/STRIP		5@15	5@15	5@15	5@15	5@15	5@15
*****FS4*****							
SHORT SPAN LENGTH =		5.25m		LONG SPAN LENGTH =		6.6m	
Wu = 10822kg/m2							
BOUNDARY CASE		= 3 EDGE CONTINUOUS			Fc' = 280 kg/cm2		
SLAB THICKNESS		= 50 cm			Fy = 4200 kg/cm2		
-----SHORT SPAN-----				-----LONG SPAN-----			
		-M	-M	+M	-M	-M	+M
Coff.		0.055	0.028	0.041	0.041	0.02	0.031
Max MOMENT(tf-m)		19.679	9.84	14.67	14.67	7.335	11.092
As_req(ρBd) cm2		11.19	5.595	8.55	8.55	4.275	8.55
As_req/STRIP		5@17.5	5@17.5	5@17.5	5@22.5	5@22.5	5@22.5
As_use/STRIP		5@15	5@15	5@15	5@15	5@15	5@15

*****FS5*****								
SHORT SPAN LENGTH =		1.4m		LONG SPAN LENGTH =		14m		
Wu = 3364.4kg/m2								
BOUNDARY CASE		= 0 EDGE CONTINUOUS				Fc' = 280 kg/cm2		
SLAB THICKNESS		= 40 cm				Fy = 4200 kg/cm2		
-----SHORT SPAN-----								-----LONG SPAN-----
		-M	-M	+M	-M	-M	+M	
Coff.		0.063	0.032	0.125	0.033	0.016	0.05	
Max MOMENT(tf-m)		0.415	0.208	0.824	0.218	0.109	0.33	
As_req(ρ Bd)_cm2		6.75	3.375	6.75	6.75	3.375	6.75	
As_req/STRIP		5@25	5@25	5@25	5@25	5@25	5@25	
As_use/STRIP		5@20	5@20	5@20	5@20	5@20	5@20	

5.3 獨立基礎設計

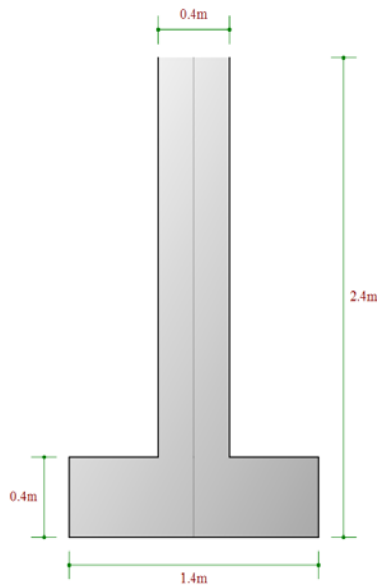
淺基礎分析條件示意圖 [獨立基腳]

▼分析地層

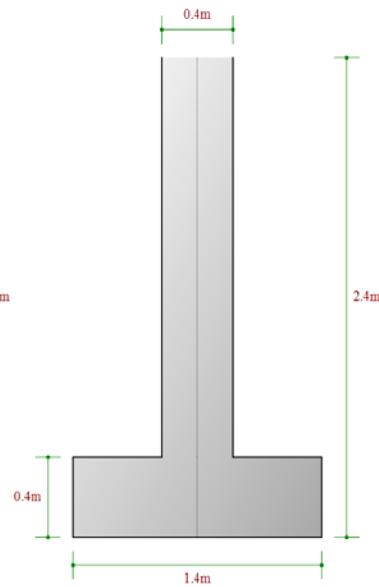


▼設計斷面示意圖

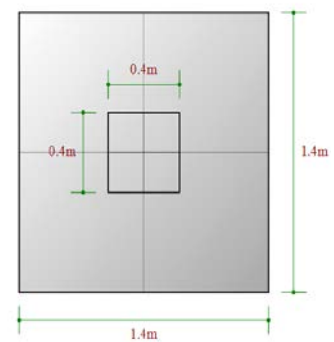
▼平行x向剖面



▼平行y向剖面



▼俯視



載重組合計算

▼輸入載重

載重 型式	V _x (tf)	V _y (tf)	P _z (tf)	M _x (tf-m)	M _y (tf-m)
D	0.49	-0.10	16.39	0.80	-4.26
L	0.06	-0.01	1.82	0.12	-0.29
W	0.00	0.00	0.00	0.00	0.00
E	-2.06	-1.76	5.88	5.93	-1.53

▼服務載重(Service Load Combinations)

載重 編號	V _{sx} (tf)	V _{sy} (tf)	P _{sz} (tf)	M _{sx} (tf-m)	M _{sy} (tf-m)	說 明
①	0.55	-0.11	18.21	0.91	-4.55	1.0D + 1.0L
②	0.55	-0.11	18.21	0.91	-4.55	1.0D + 1.0L + 1.0W
③	0.55	-0.11	18.21	0.91	-4.55	1.0D + 1.0L - 1.0W
④	-1.51	-1.87	24.09	6.85	-6.08	1.0D + 1.0L + 1.0E
⑤	2.61	1.65	12.33	-5.02	-3.02	1.0D + 1.0L - 1.0E

▼係數化載重(Factored Load Combinations) [TWN-USD112]

載重 編號	V _{ux} (tf)	V _{uy} (tf)	P _{uz} (tf)	M _{ux} (tf-m)	M _{uy} (tf-m)	說 明
①	0.69	-0.14	22.95	1.11	-5.96	1.4D
②	0.68	-0.14	22.58	1.14	-5.57	1.2D + 1.6L
③	0.59	-0.12	19.67	0.96	-5.11	1.2D + 0.8W
④	0.59	-0.12	19.67	0.96	-5.11	1.2D - 0.8W
⑤	0.65	-0.13	21.49	1.07	-5.40	1.2D + 1.0L + 1.6W
⑥	0.65	-0.13	21.49	1.07	-5.40	1.2D + 1.0L - 1.6W
⑦	-1.41	-1.89	27.37	7.01	-6.93	1.2D + 1.0L + 1.0E
⑧	2.71	1.63	15.61	-4.86	-3.87	1.2D + 1.0L - 1.0E
⑨	0.44	-0.09	14.75	0.72	-3.83	0.9D + 1.6W
⑩	0.44	-0.09	14.75	0.72	-3.83	0.9D - 1.6W
⑫	-1.62	-1.85	20.63	6.65	-5.36	0.9D + 1.0E
	2.50	1.67	8.87	-5.22	-2.30	0.9D - 1.0E

淺基礎承載力分析 [獨立基腳]

▼承載力分析表

載重 編號	c_f (tf/m^2)	ϕ_f (deg.)	γ_1 (tf/m^3)	γ_2 (tf/m^3)	N_c	N_q	N_γ	N_γ^*	L_x (m)	L_y (m)	e_x (m)	e_y (m)	B' (m)	L' (m)	β_x (deg.)	β_y (deg.)
①	0.00	32.00	1.900	1.900	20.90	14.10	10.60	22.00	1.400	1.400	-0.250	-0.050	0.901	1.300	1.730	0.346
②	0.00	32.00	1.900	1.900	20.90	14.10	10.60	22.00	1.400	1.400	-0.250	-0.050	0.901	1.300	1.730	0.346
③	0.00	32.00	1.900	1.900	20.90	14.10	10.60	22.00	1.400	1.400	-0.250	-0.050	0.901	1.300	1.730	0.346
④	0.00	32.00	1.900	1.900	20.90	14.10	10.60	22.00	1.400	1.400	-0.252	-0.284	0.832	0.896	3.587	4.439
⑤	0.00	32.00	1.900	1.900	20.90	14.10	10.60	22.00	1.400	1.400	-0.245	0.407	0.585	0.910	11.952	7.622

載重 編號	F_{cs}	F_{cd}	F_{ci}	F_{qs}	F_{qd}	F_{qi}	$F_{\gamma s}$	$F_{\gamma d}$	$F_{\gamma i}$	q_{uf} (tf/m^2)	q_{a1} (tf/m^2)	q_{a2} (tf/m^2)	q_{a3} (tf/m^2)	P_{a1} (tf)	P_{a2} (tf)	P_{a3} (tf)
①	1.451	1.619	0.962	1.225	1.309	0.962	1.225	1.309	0.895	126.26	45.13	65.41	115.20	53	77	135
②	1.451	1.619	0.962	1.225	1.309	0.962	1.225	1.309	0.895	126.26	45.13	65.41	115.20	53	77	135
③	1.451	1.619	0.962	1.225	1.309	0.962	1.225	1.309	0.895	126.26	45.13	65.41	115.20	53	77	135
④	1.604	1.619	0.904	1.302	1.309	0.904	1.302	1.309	0.742	121.06	43.39	62.81	110.47	32	47	82
⑤	1.419	1.619	0.752	1.209	1.309	0.752	1.209	1.309	0.393	84.16	31.09	44.36	76.92	17	24	41

▼分析計算說明

▼建築物基礎構造設計規範

TWN-112(2023)

▼分析條件

承載力分析係採用基礎面所在地層之參數 c_f 、 ϕ_f

$L_x = 1.4(\text{m})$ ， $L_y = 1.4(\text{m})$ ， $D_f = 2.4(\text{m})$ ， $e_{cx} = 0(\text{m})$ ， $e_{cy} = 0(\text{m})$

$L = \text{Max}(L_x, L_y) = 1.4(\text{m})$ ， $B = \text{Min}(L_x, L_y) = 1.4(\text{m})$

$e_x = e_{cx} + M_{sy}/P_{sz}$ ， $e_y = e_{cy} - M_{sx}/P_{sz}$

$L' = \text{Max}(L_x - 2|e_x|, L_y - 2|e_y|)$ ， $B' = \text{Min}(L_x - 2|e_x|, L_y - 2|e_y|)$

$\beta_x = |\tan^{-1}(V_{sy}/P_{sz})|$ ， $\beta_y = |\tan^{-1}(V_{sx}/P_{sz})|$ ， $\beta = \text{Max}(\beta_x, \beta_y)$

承載力因子 N_c N_q N_γ 之計算法採用「基礎構造設計規範」

$\phi_f \geq 10$ ：

$F_{cs} = 1 + 0.2 \times B'/L' \times \tan^2(45^\circ + \phi_f/2)$ $F_{cd} = 1 + 0.2 \times D_f/B \times \tan(45^\circ + \phi_f/2)$ $F_{ci} = (1 - \beta/90^\circ)^2$

$F_{qs} = 1 + 0.1 \times B'/L' \times \tan^2(45^\circ + \phi_f/2)$ $F_{qd} = 1 + 0.1 \times D_f/B \times \tan(45^\circ + \phi_f/2)$ $F_{qi} = (1 - \beta/90^\circ)^2$

$F_{\gamma s} = 1 + 0.1 \times B'/L' \times \tan^2(45^\circ + \phi_f/2)$ $F_{\gamma d} = 1 + 0.1 \times D_f/B \times \tan(45^\circ + \phi_f/2)$ $F_{\gamma i} = (1 - \beta/\phi_f)^2 (\geq 0)$

$q_{uf} = c_f N_c F_{cs} F_{cd} F_{ci} + \gamma_2 D_f N_q F_{qs} F_{qd} F_{qi} + 0.5 \gamma_1 B' N_\gamma F_{\gamma s} F_{\gamma d} F_{\gamma i}$

$q_{a1} = (q_{uf} - \gamma_2 D_f)/FS_{b1} + \gamma_2 D_f$ ， $FS_{b1} = 3$

$q_{a2} = (q_{uf} - \gamma_2 D_f)/FS_{b2} + \gamma_2 D_f$ ， $FS_{b2} = 2$

$q_{a3} = (q_{uf} - \gamma_2 D_f)/FS_{b3} + \gamma_2 D_f$ ， $FS_{b3} = 1.1$

$A' = B' \times L'$

$P_{a1} = q_{a1} \times A'$ ， $P_{a2} = q_{a2} \times A'$ ， $P_{a3} = q_{a3} \times A'$

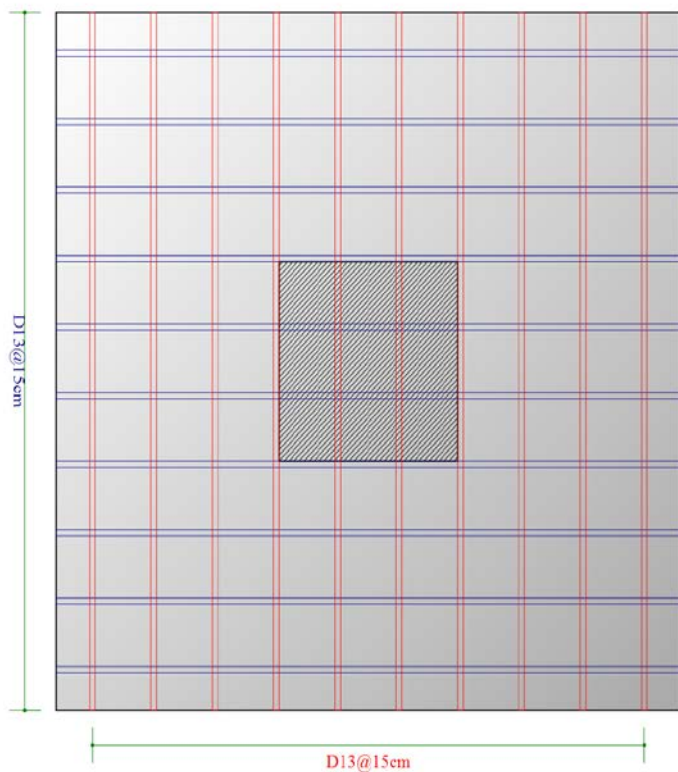
▼計算結果

在不同荷重及基礎偏心之條件下，可分析得不同之基礎容許承載力，

各條件下之極限承載力 q_{uf} 、容許承載力 q_{a1} 、 q_{a2} 、 q_{a3} 及 P_{a1} 、 P_{a2} 、 P_{a3} 列於上表

淺基礎RC設計 [獨立基腳]

▼配筋示意圖

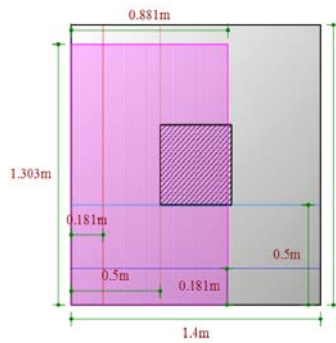


▼RC設計用基礎接觸壓力分析表

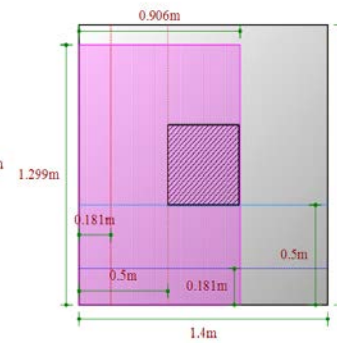
載重 編號	P_{uz} (tf)	M_{ux} (tf-m)	M_{uy} (tf-m)	e_x (m)	e_y (m)	$e_{cx'}$ (m)	$e_{cy'}$ (m)	$L_{x'}$ (m)	$L_{y'}$ (m)	$L_{xv'}$ (m)	$L_{yv'}$ (m)	$L_{xm'}$ (m)	$L_{ym'}$ (m)	q_u (tf/m ²)	V_{ubx} (tf)	V_{uby} (tf)	M_{ubx} (tf-m)	M_{uby} (tf-m)
①	22.95	1.11	-5.96	-0.260	-0.049	0.260	0.049	0.881	1.303	0.181	0.181	0.500	0.500	20.00	4.73	3.19	3.26	2.20
②	22.58	1.14	-5.57	-0.247	-0.051	0.247	0.051	0.906	1.299	0.181	0.181	0.500	0.500	19.18	4.52	3.15	3.11	2.17
③	19.67	0.96	-5.11	-0.260	-0.049	0.260	0.049	0.881	1.303	0.181	0.181	0.500	0.500	17.14	4.05	2.74	2.79	1.89
④	19.67	0.96	-5.11	-0.260	-0.049	0.260	0.049	0.881	1.303	0.181	0.181	0.500	0.500	17.14	4.05	2.74	2.79	1.89
⑤	21.49	1.07	-5.40	-0.251	-0.050	0.251	0.050	0.898	1.300	0.181	0.181	0.500	0.500	18.41	4.34	3.00	2.99	2.07
⑥	21.49	1.07	-5.40	-0.251	-0.050	0.251	0.050	0.898	1.300	0.181	0.181	0.500	0.500	18.41	4.34	3.00	2.99	2.07
⑦	27.37	7.01	-6.93	-0.253	-0.256	0.253	0.256	0.894	0.888	0.181	0.181	0.500	0.500	34.48	5.55	5.59	3.83	3.85
⑧	15.61	-4.86	-3.87	-0.248	0.312	0.248	-0.312	0.904	0.777	0.181	0.181	0.500	0.500	22.22	3.13	3.64	2.16	2.51
⑨	14.75	0.72	-3.83	-0.260	-0.049	0.260	0.049	0.881	1.303	0.181	0.181	0.500	0.500	12.86	3.04	2.05	2.09	1.42
⑩	14.75	0.72	-3.83	-0.260	-0.049	0.260	0.049	0.881	1.303	0.181	0.181	0.500	0.500	12.86	3.04	2.05	2.09	1.42
⑫	20.63	6.65	-5.36	-0.260	-0.322	0.260	0.322	0.880	0.755	0.181	0.181	0.500	0.500	31.02	4.25	4.95	2.93	3.41
	8.87	-5.22	-2.30	-0.260	0.588	0.260	-0.588	0.881	0.224	0.181	0.181	0.500	0.500	45.03	1.83	7.19	1.26	2.22

▼RC設計用基礎接觸壓力分布圖、剪力臨界斷面、彎矩臨界斷面

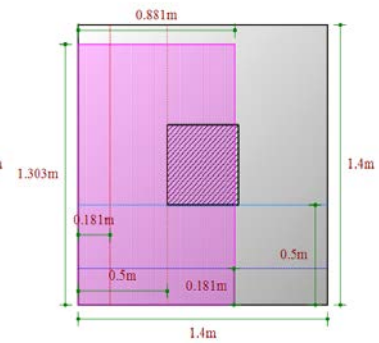
▼載重組合①



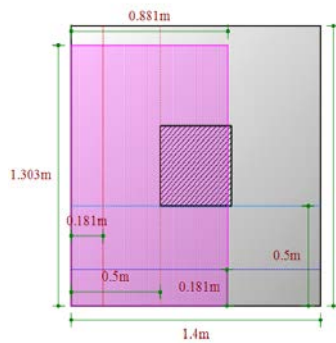
▼載重組合②



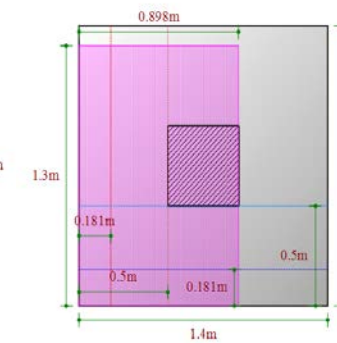
▼載重組合③



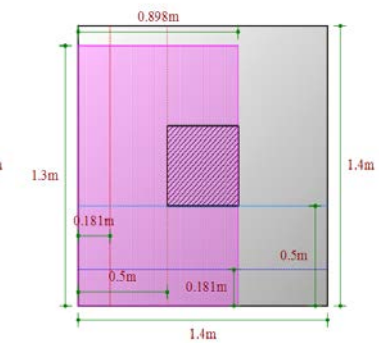
▼載重組合④



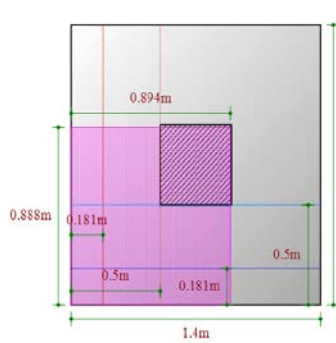
▼載重組合⑤



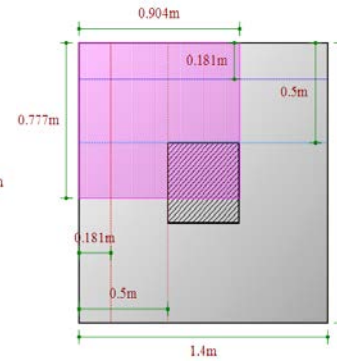
▼載重組合⑥



▼載重組合⑦

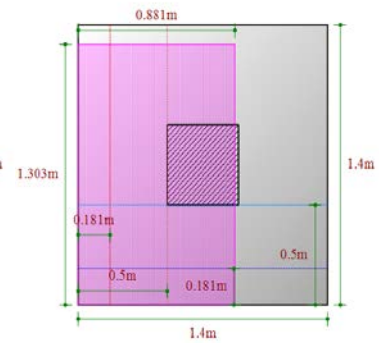


▼載重組合⑧



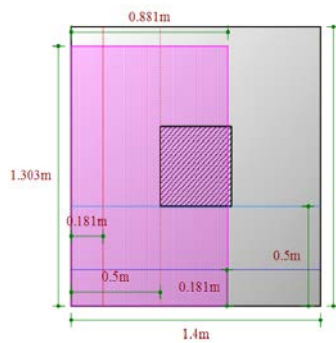
(11)

▼載重組合⑨

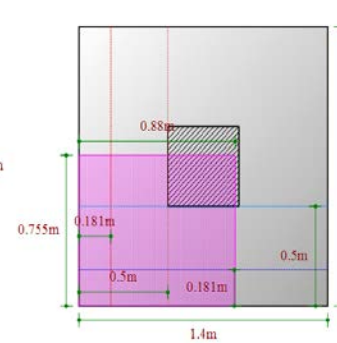


(12)

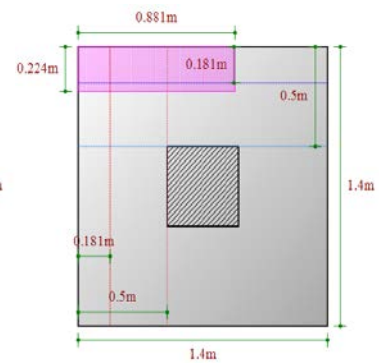
▼載重組合⑩



▼載重組合

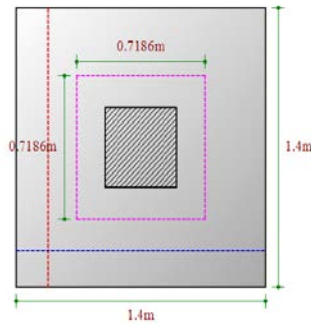


▼載重組合



▼剪力檢核

剪 力 作用斷面	b_o (cm)	d (cm)	α_s	ϕ	V_c (tf)	ϕV_c (tf)	V_u (tf)	檢核 結果
x向樑作用	140.00	31.87	-	0.75	39.56	29.67	5.55	OK
y向樑作用	140.00	31.87	-	0.75	39.56	29.67	7.19	OK
雙向作用	287.46	31.87	40	0.75	152.35	114.26	20.16	OK



▼彎矩檢核

基本條件				鋼筋間距		鋼筋量				彎矩需求鋼筋量			
斷面	h	d	配筋	s_{max}	檢核 結果	ρ	ρ_{min}	ρ_{max}	檢核 結果	M_u	A_s	$A_{s,min}$	檢核 結果
	(cm)	(cm)		(cm)						(tf-m)	(cm ²)	(cm ²)	
x向鋼筋	40.00	31.87	D13@15cm	45.00	OK	0.0027	0.0023	0.0179	OK	5.63	11.83	6.63	OK
y向鋼筋	40.00	30.60	D13@15cm	45.00	OK	0.0028	0.0024	0.0179	OK	4.31	11.83	5.27	OK

▼計算及檢核說明

▼基礎接觸壓力

$$e_{cx} = 0(m), e_{cy} = 0(m), e_x = e_{cx} + M_{uy} / P_{uz}, e_y = e_{cy} - M_{ux} / P_{uz}, e_{cx}' = e_{cx} - e_x, e_{cy}' = e_{cy} - e_y$$

$$L_x' = L_x - 2|e_x|, L_y' = L_y - 2|e_y|, q_u = P_{uz} / (L_x' \times L_y')$$

$$V_{ubx} = q_u \times (L_{xv}' \times L_y'), V_{uby} = q_u \times (L_x' \times L_{yv}')$$

$$M_{ubx} = q_u \times (L_{xm}' \times L_y') \times L_{xm}' / 2, M_{uby} = q_u \times (L_x' \times L_{ym}') \times L_{ym}' / 2$$

▼RC設計規範

TWN-USD112

▼材料強度

$$f_c' = 280(\text{kgf/cm}^2)$$

$$f_y = 4200(\text{kgf/cm}^2) [\geq D16], f_y = 4200(\text{kgf/cm}^2) [\leq D13]$$

▼剪力檢核

x向梁作用、y向梁作用：

$$V_c = 0.53f_c'^{0.5}b_o d, \text{長向：} V_u = V_{ubx,max}, \text{短向：} V_u = V_{uby,max}$$

雙向作用：

$$\beta_c = C_x / C_y = 1, A_{bo} = 0.52(m^2)$$

$$V_{c1} = 1.06\lambda_s\lambda f_c'^{0.5}b_o d, V_{c2} = 0.53(1 + 2/\beta_c)\lambda_s\lambda f_c'^{0.5}b_o d, V_{c3} = 0.265(2 + \alpha_s d/b_o)\lambda_s\lambda f_c'^{0.5}b_o d$$

$$\lambda_s = [2/(1 + d/25)]^{0.5} \leq 1, \lambda = 1$$

$$V_c = \text{Min}(V_{c1}, V_{c2}, V_{c3}), V_u = P_{uz,max} - P_{uz,max} \times A_{bo} / (L_x L_y)$$

▼彎矩檢核

$$s_{\max} = \text{Min}(3h, 45\text{cm})$$

$\rho_{\min}$ 考量規範乾縮與溫度鋼筋之規定 (相對於總深度 h)，並將規範值乘以 h/d (相對於有效深度 d)

$\rho_{\min}$ 同時考量受撓構材最少鋼筋量，亦需大於 $\text{Min}\{\text{Max}(14/f_y, 0.8f_c^{0.5}/f_y), 4/3 \times \rho_r\}$

$\rho_{\max}$ 考量於計算強度下受拉鋼筋應變不得小於 $\epsilon_{ty} + 0.003$

$$\rho_r = 1/m \times [1 - (1 - 2mR_n/f_y)^{0.5}], m = f_y/0.85f_c', R_n = M_u/\phi b d^2, b = 1(\text{m}) = 100(\text{cm})$$

$\epsilon_t \leq \epsilon_{ty}$ 時 (壓力控制斷面) $\phi = 0.65$ ， $\epsilon_t \geq \epsilon_{ty} + 0.003$ 時 (拉力控制斷面) $\phi = 0.9$

$\epsilon_t = \epsilon_{ty} \sim \epsilon_{ty} + 0.003$ 時 (壓力－拉力控制過渡斷面) $\phi = 0.65 \sim 0.9$

$$A_{s,\min} = \rho_r \times b d, b = 1(\text{m}) = 100(\text{cm})$$

長向： $M_u = M_{ubx,\max}/L_y \times 1$ ，短向： $M_u = M_{uby,\max}/L_x \times 1$

$$\beta_f = L_x/L_y = 1$$

短向中間帶鋼筋量： $A_{s,\min} = \text{短向需求鋼筋總數量} \times 2/(1 + \beta_f)$

短向外側帶鋼筋量： $A_{s,\min} = \text{短向需求鋼筋總數量} \times [1 - 2/(1 + \beta_f)]$

5.4 開挖擋土分析

開挖使用斜坡明挖工法，無擋土支撐，且斜坡率為 1:1，無須計算。

第六章 鋼結構部分分析

6.1 基本說明

鋼構部分有兩處，一處為景觀造型屋頂，一處為雨遮。景觀造型屋頂與主結構接合，雨遮為單獨建物。

6.2 分析設計程式

CSI-ETABS V22.0.0

三向度立體剛構架結構分析程式，具靜力、動力分析及韌性設計之功能

6.3 設計載重組合

6.3.1 結構分析基本載重

- (1) 靜載重(DL)：結構之自重及附屬設施重量。
- (2) 活載重(LL)：建築物活載重。
- (3) 風力(WX&WY)：詳後風力作用之風壓力。
- (4) 地震力(EX&EY)：地震作用力。

6.3.2 載重組合

鋼結構應力分析載重組合如下(容許設計法)：

- A. $DL + LL$
- B. $DL + 0.75(LL \pm 1.25WX)$
- C. $DL + 0.75(LL \pm 1.25WY)$
- D. $0.7DL \pm 1.25WX$
- E. $0.7DL \pm 1.25WY$
- F. $DL + 0.75(LL \pm 0.8EX)$
- G. $DL + 0.75(LL \pm 0.8EY)$
- H. $0.7DL \pm 0.8EX$
- I. $0.7DL \pm 0.8EY$

考慮垂直地震力

- J. $DL + 0.75(LL \pm 0.8EX \pm 0.24EQV)$
- K. $DL + 0.75(LL \pm 0.8EY \pm 0.24EQV)$
- L. $DL + 0.75(LL \pm 0.24EX \pm 0.8EQV)$
- M. $DL + 0.75(LL \pm 0.24EY \pm 0.8EQV)$
- N. $0.7DL \pm 0.8EX \pm 0.24EQV$
- O. $0.7DL \pm 0.8EY \pm 0.24EQV$
- P. $0.7DL \pm 0.24EX \pm 0.8EQV$
- Q. $0.7DL \pm 0.24EY \pm 0.8EQV$

其中 DL：建築物靜載重，LL：建築物活載重。

EX：X 向水平地震力，EY：Y 向水平地震力。

WX：X 向水平風力，WY：Y 向水平風力。

EQV：垂直向地震力。

6.4 外力分析

6.4.1 樓版荷重假設

雨遮：

(1)屋頂層：

玻璃 0.100 t/m²

其他附屬重量 0.100 t/m²

LIVE LOAD = 0.060 t/m²

景觀造型：

(1)屋頂層：

桿件自重 7.833 t/m³

其他附屬重量 0.200 t/m

LIVE LOAD = 0.100 t/m

6.4.2 風力

基地位於臺中市南屯區

基本設計風速 $V(10) = 32.5$ m/sec

地況係數取 B 地況

雨遮：

樓層	高度 (m)	P1(Z) (kgf/m ²)	P2(Z) (kgf/m ²)	順風向設計風壓 (kgf/m ²)	順風向設計風力 (kgf/m ²)
RF	3.55	7.694	-35.99	43.69	0.1939

用 30kgf/m² 加至玻璃版上

景觀造型：

樓層	高度 (m)	P1(Z) (kgf/m ²)	P2(Z) (kgf/m ²)	順風向設計風壓 (kgf/m ²)	順風向設計風力 (t)
RF	14	11.35	-81.81	93.16	3.328

用 100kgf/m 加至桿件上

6.4.3 地震力

雨遮：

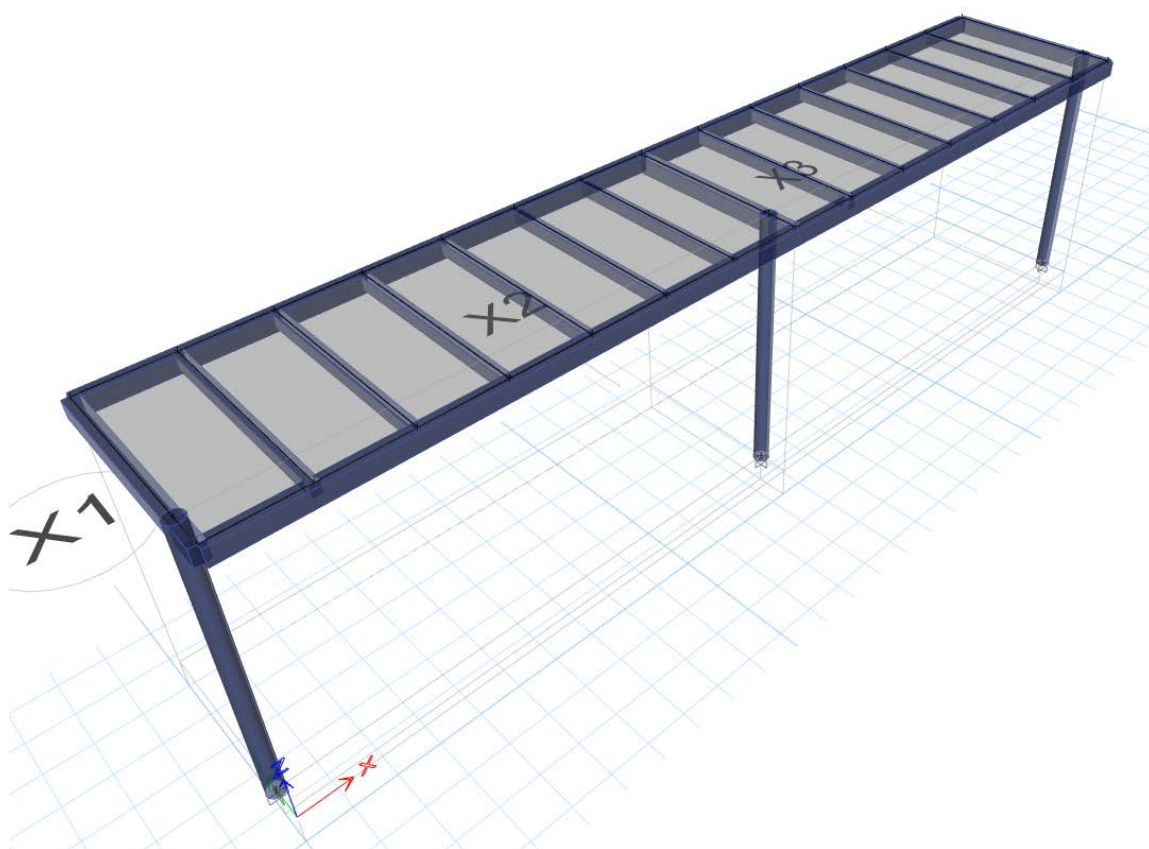
經計算水平地震力係數為 $V_x=0.215g$ 、 $V_y=0.215g$ ，垂直地震力係數為 $V_z= 0.167g$ 。

景觀造型：

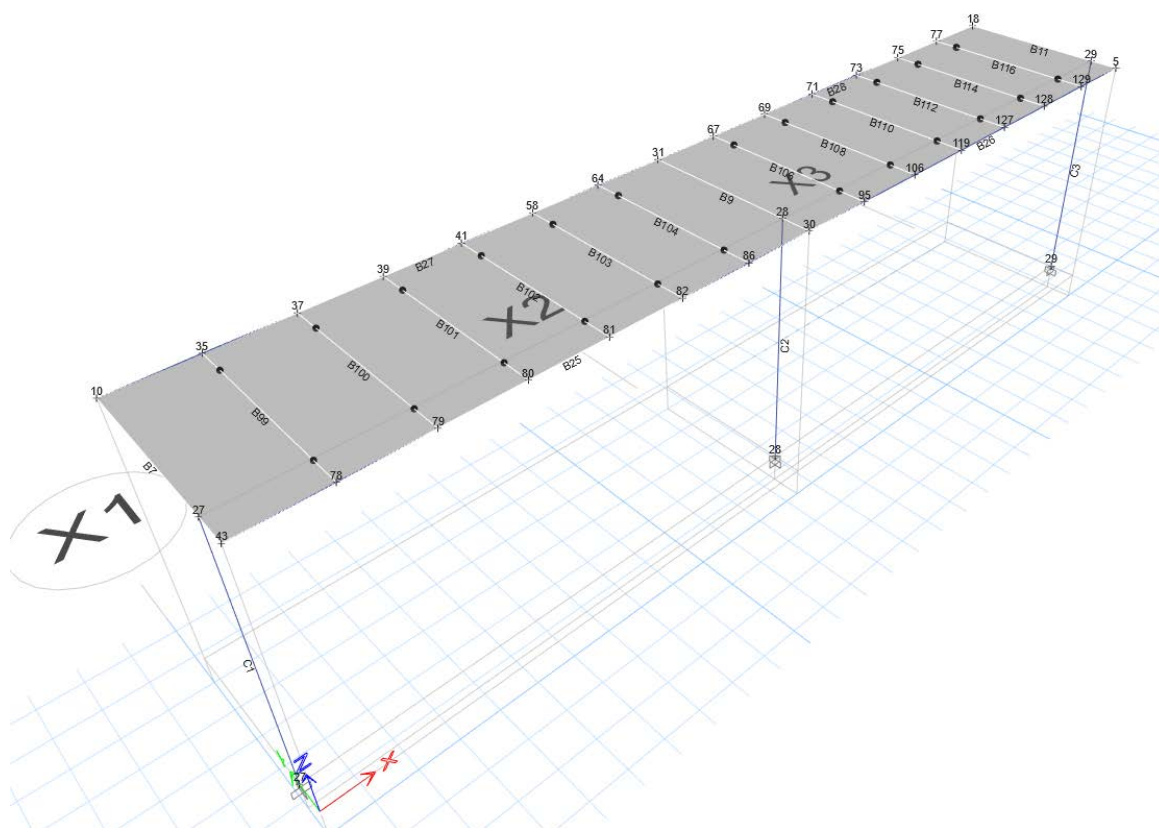
經計算水平地震力係數為 $V_x=0.285g$ 、 $V_y=0.317g$ ，垂直地震力係數為 $V_z= 0.359g$ 。

6.5 結構分析

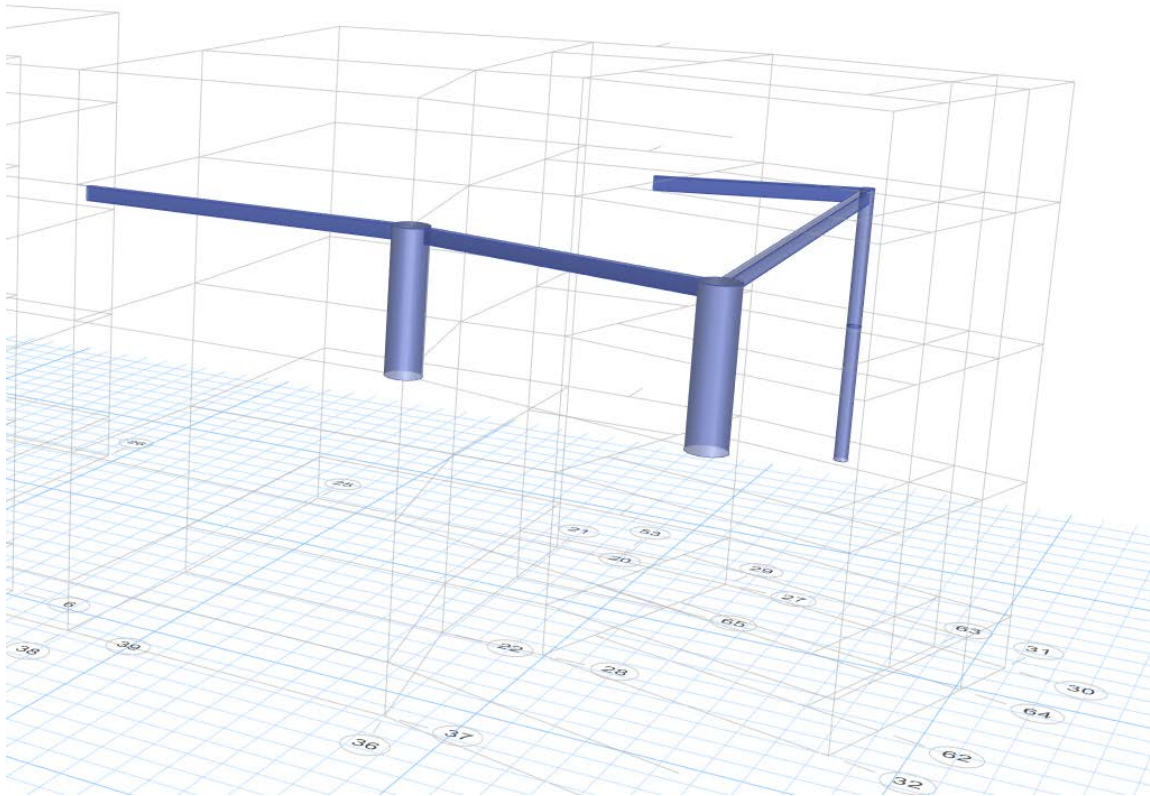
6.5.1 分析模型



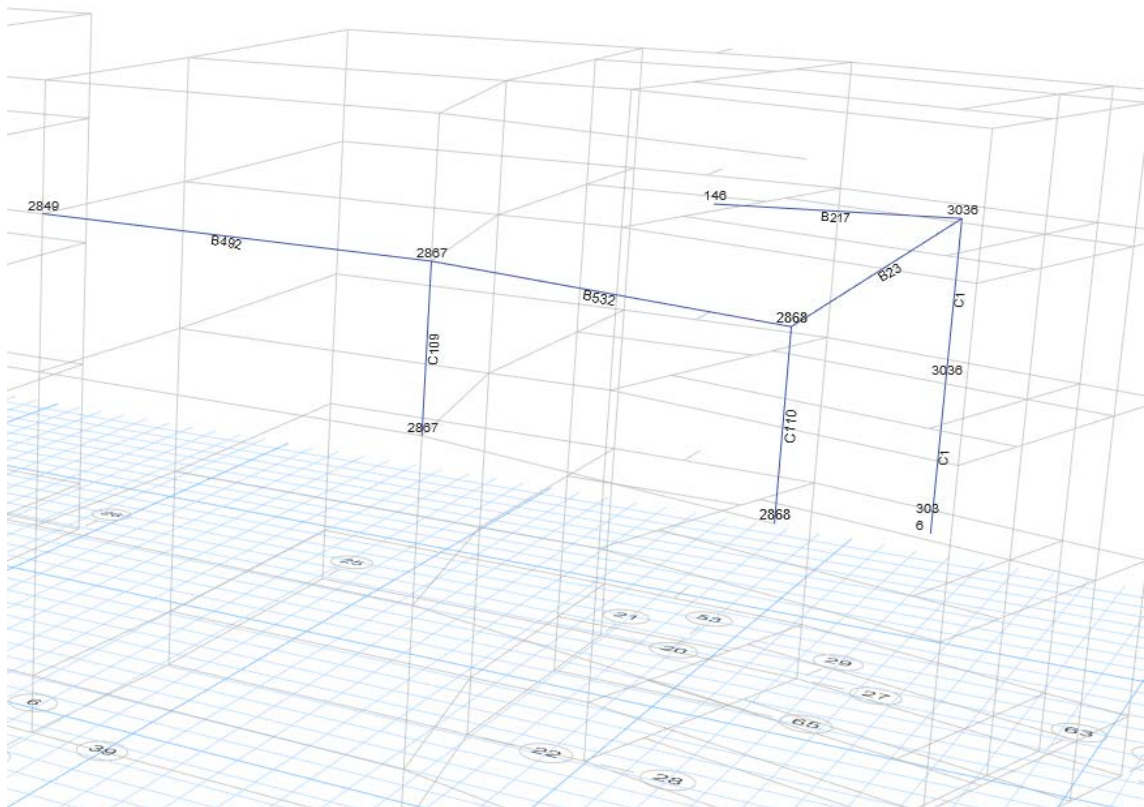
3D模型(雨遮)



桿件及節點編號(雨遮)



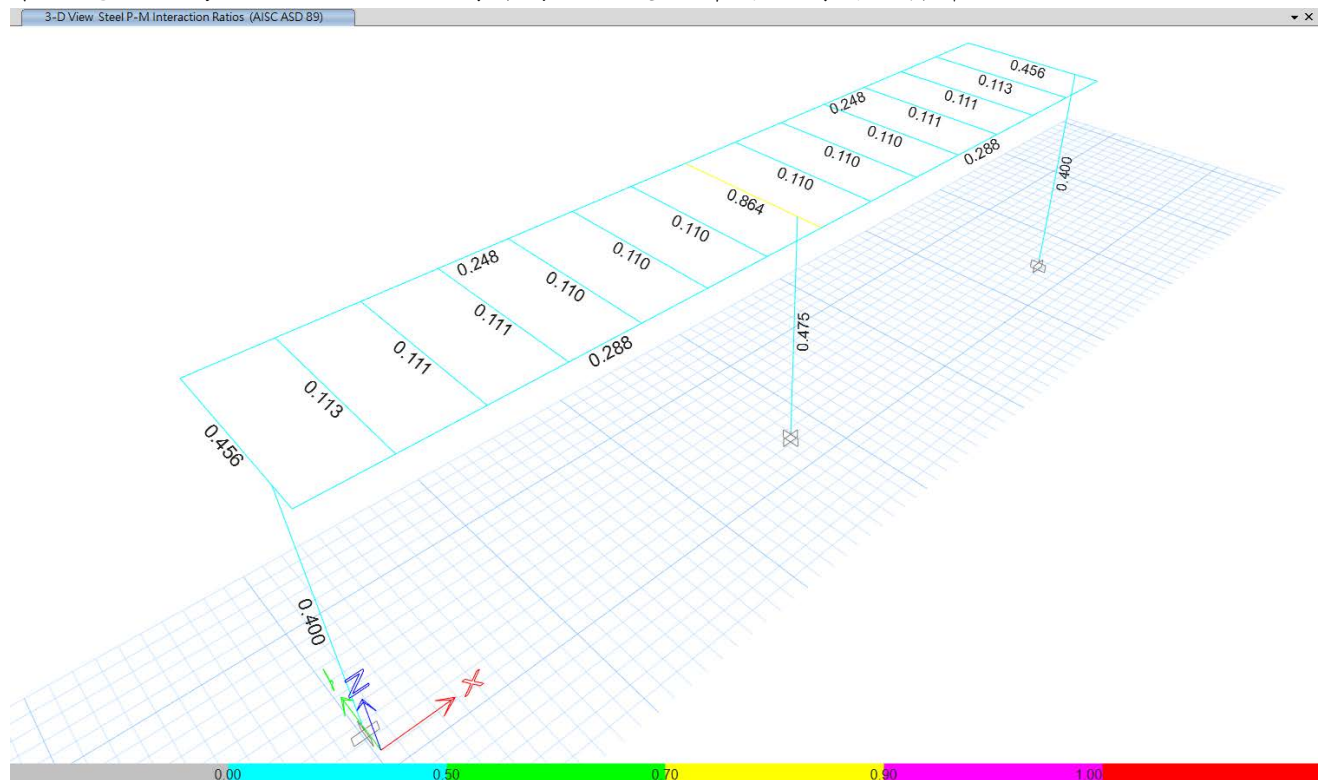
3D模型(景觀造型)



桿件及節點編號(景觀造型)

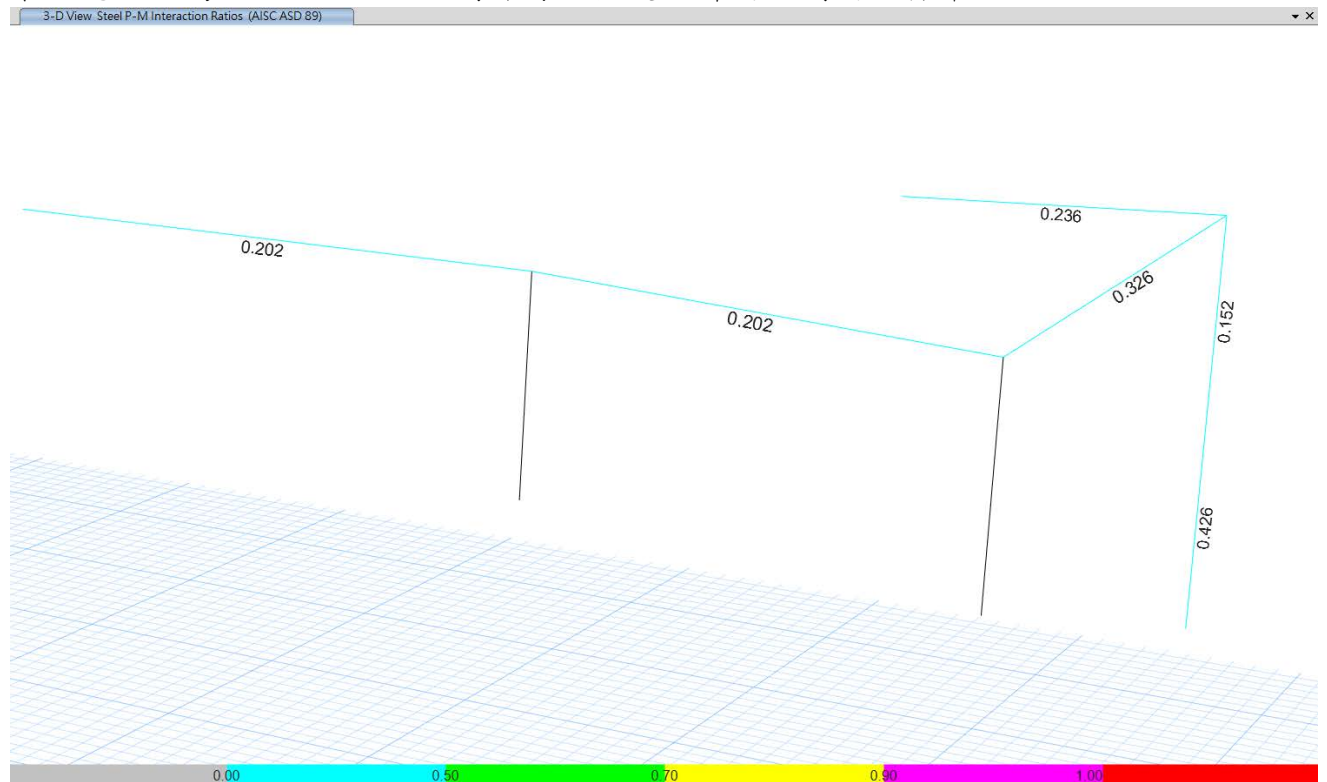
6.5.2 分析結果

最大應力比為 $0.864 < 1.0$ ，故構件符合強度設計的結構安全標準。



應力分佈圖(雨遮)

最大應力比為 $0.426 < 1.0$ ，故構件符合強度設計的結構安全標準。



應力分佈圖(景觀造型)

6.6 鋼梁、鋼柱分析結果

雨遮：

Story	Label	Design Type	Design Section	PMM Combo	PMM Ratio	P Ratio	M Major Ratio	M Minor Ratio	V Major Combo	V Major Ratio	V Minor Combo	V Minor Ratio
RFL	C1	Column	D20	ASD024(C)	0.4	0.02	0.054	0.376	ASD023	0.01	ASD056	0.009
RFL	C2	Column	D20	ASD001(C)	0.475	0.06	0	0.415	ASD054	0.005	ASD025	0.011
RFL	C3	Column	D20	ASD024(C)	0.4	0.02	0.054	0.376	ASD022	0.01	ASD056	0.009
RFL	B7	Beam	BOX200X150X4.5	ASD001(C)	0.456	0.001	0.453	0.002	ASD001	0.034	ASD023	0.0001412
RFL	B7	Beam	BOX200X150X4.5	ASD024(T)	0.322	0.001	0.32	0.002	ASD001	0.034	ASD023	0.0001412
RFL	B9	Beam	BOX200X150X4.5	ASD001(C)	0.864	0.001	0.863	0	ASD001	0.078	ASD055	0
RFL	B9	Beam	BOX200X150X4.5	ASD024(T)	0.608	0.0002667	0.607	0	ASD001	0.078	ASD055	0
RFL	B11	Beam	BOX200X150X4.5	ASD001(C)	0.456	0.001	0.453	0.002	ASD001	0.034	ASD022	0.0001412
RFL	B11	Beam	BOX200X150X4.5	ASD024(T)	0.322	0.001	0.32	0.002	ASD001	0.034	ASD022	0.0001412
RFL	B25	Beam	BOX200X150X4.5	ASD001(C)	0.288	0.009	0.278	0.001	ASD001	0.032	ASD023	0.001
RFL	B25	Beam	BOX200X150X4.5	ASD065(T)	0.093	0.0001544	0.092	0.0003665	ASD001	0.032	ASD023	0.001
RFL	B26	Beam	BOX200X150X4.5	ASD001(C)	0.288	0.009	0.278	0.001	ASD001	0.032	ASD022	0.001
RFL	B26	Beam	BOX200X150X4.5	ASD065(T)	0.093	0.0001544	0.092	0.0003665	ASD001	0.032	ASD022	0.001
RFL	B27	Beam	BOX200X150X4.5	ASD025(C)	0.125	0.0001552	0.124	0.001	ASD001	0.031	ASD001	0.0002433
RFL	B27	Beam	BOX200X150X4.5	ASD001(T)	0.248	0.004	0.244	0.0002487	ASD001	0.031	ASD001	0.0002433
RFL	B28	Beam	BOX200X150X4.5	ASD025(C)	0.125	0.0001552	0.124	0.001	ASD001	0.031	ASD001	0.0002433
RFL	B28	Beam	BOX200X150X4.5	ASD001(T)	0.248	0.004	0.244	0.0002487	ASD001	0.031	ASD001	0.0002433
RFL	B99	Beam	BOX150X100X3.2	ASD054(C)	0.039	0.0004827	0.038	0	ASD001	0.022	ASD095	0
RFL	B99	Beam	BOX150X100X3.2	ASD001(T)	0.113	0.003	0.11	0	ASD001	0.022	ASD095	0
RFL	B100	Beam	BOX150X100X3.2	ASD001(C)	0.111	0.002	0.11	0	ASD001	0.022	ASD095	0
RFL	B100	Beam	BOX150X100X3.2	ASD054(T)	0.039	0.0003613	0.038	0	ASD001	0.022	ASD095	0
RFL	B101	Beam	BOX150X100X3.2	ASD054(C)	0.039	0.0002556	0.038	0	ASD001	0.022	ASD095	0
RFL	B101	Beam	BOX150X100X3.2	ASD001(T)	0.111	0.002	0.11	0	ASD001	0.022	ASD095	0
RFL	B102	Beam	BOX150X100X3.2	ASD001(C)	0.11	0.0004843	0.11	0	ASD001	0.022	ASD095	0
RFL	B102	Beam	BOX150X100X3.2	ASD022(T)	0.076	0.0001968	0.076	0	ASD001	0.022	ASD095	0
RFL	B103	Beam	BOX150X100X3.2	ASD030(C)	0.073	0	0.073	0	ASD001	0.022	ASD095	0
RFL	B103	Beam	BOX150X100X3.2	ASD001(T)	0.11	0.001	0.11	0	ASD001	0.022	ASD095	0
RFL	B104	Beam	BOX150X100X3.2	ASD039(C)	0.08	0.00011	0.08	0	ASD001	0.022	ASD095	0
RFL	B104	Beam	BOX150X100X3.2	ASD001(T)	0.11	0.0001473	0.11	0	ASD001	0.022	ASD095	0
RFL	B106	Beam	BOX150X100X3.2	ASD038(C)	0.08	0.00011	0.08	0	ASD001	0.022	ASD095	0
RFL	B106	Beam	BOX150X100X3.2	ASD001(T)	0.11	0.0001473	0.11	0	ASD001	0.022	ASD095	0
RFL	B108	Beam	BOX150X100X3.2	ASD031(C)	0.073	0	0.073	0	ASD001	0.022	ASD095	0
RFL	B108	Beam	BOX150X100X3.2	ASD001(T)	0.11	0.001	0.11	0	ASD001	0.022	ASD095	0
RFL	B110	Beam	BOX150X100X3.2	ASD001(C)	0.11	0.0004843	0.11	0	ASD001	0.022	ASD095	0
RFL	B110	Beam	BOX150X100X3.2	ASD023(T)	0.076	0.0001968	0.076	0	ASD001	0.022	ASD095	0
RFL	B112	Beam	BOX150X100X3.2	ASD055(C)	0.039	0.0002556	0.038	0	ASD001	0.022	ASD095	0
RFL	B112	Beam	BOX150X100X3.2	ASD001(T)	0.111	0.002	0.11	0	ASD001	0.022	ASD095	0
RFL	B114	Beam	BOX150X100X3.2	ASD001(C)	0.111	0.002	0.11	0	ASD001	0.022	ASD095	0
RFL	B114	Beam	BOX150X100X3.2	ASD055(T)	0.039	0.0003613	0.038	0	ASD001	0.022	ASD095	0
RFL	B116	Beam	BOX150X100X3.2	ASD055(C)	0.039	0.0004827	0.038	0	ASD001	0.022	ASD095	0
RFL	B116	Beam	BOX150X100X3.2	ASD001(T)	0.113	0.003	0.11	0	ASD001	0.022	ASD095	0

景觀造型：

Story	Label	Design Type	Design Section	PMM Combo	PMM Ratio	P Ratio	M Major Ratio	M Minor Ratio	V Major Combo	V Major Ratio	V Minor Combo	V Minor Ratio
R1F	C1	Column	SN490-D400X25	1_ASD022(C)	0.152	0.018	0.083	0.105	1_ASD050	0.012	1_ASD001	0.018
3F	C1	Column	SN490-D400X25	1_ASD022(C)	0.426	0.052	0.284	0.245	1_ASD050	0.047	1_ASD001	0.035
R1F	B492	Beam	SN490B-RH-400x200x8x13+2PL10	1_ASD054(T)	0.202	0.01	0.188	0.004	1_ASD022	0.015	1_ASD022	0.0002641
R1F	B532	Beam	SN490B-RH-400x200x8x13+2PL10	1_ASD051(T)	0.202	0.002	0.194	0.006	1_ASD023	0.017	1_ASD001	0.001
R1F	B217	Beam	SN490B-RH-400x200x8x13+2PL10	1_ASD018(C)	0.236	0.006	0.209	0.021	1_ASD018	0.022	1_ASD024	0.002
R1F	B217	Beam	SN490B-RH-400x200x8x13+2PL10	1_ASD059(T)	0.14	0.003	0.132	0.005	1_ASD018	0.022	1_ASD024	0.002
R1F	B23	Beam	SN490B-RH-400x200x8x13+2PL10	1_ASD001(C)	0.326	0.085	0.241	0.0003624	1_ASD001	0.022	1_ASD056	0

6.7 螺栓錨定檢核結果

雨遮：

■ 構件名稱：C2A

1. 基座板承壓應力檢核

$\sigma_{\max}$	$\sigma_{\min}$	ϕ	F_n	$\frac{\sigma_{\max}}{\phi F_n}$
11.88MPa	0.000748MPa	0.650	46.68MPa	0.391

2. 錨栓之拉應力檢核

$T_{u,\max}$	$T_{u,\min}$	ϕ	F_{nt}	R_{nt}	$\frac{T_{u,\max}}{\phi R_{nt}}$
-44.65kN	-4.558kN	0.750	300MPa	94.25kN	0.632

3. 基座板檢核

(3) 設計彎矩 (採用平均值)

M_u	ϕ	Z_{bp}	M_n	$\frac{M_u}{\phi M_n}$
-19.54kN·m/m	0.900	81.00 $\frac{mm^3}{mm}$	26.21kN·m/m	0.828

4. 加勁肋板檢核

(2) 寬厚比檢核

BTR	BTR_{lim}	檢核	備註
15.00	18.65	OK ($BTR < BTR_{lim}$)	

(3) 彎矩強度檢核

M_u	ϕ	S_{rib}	M_n	$\frac{M_u}{\phi M_n}$
1.996kN·m	0.900	37,500mm ³	12.14kN·m	0.183

(4) 剪力強度計算

V_u	ϕ	V_n	$\frac{V_u}{\phi V_n}$
68.18kN	0.900	291kN	0.260

5. 設計作用力計算

$T_{u1,max}$	T_u	錨栓數量	V_{u1}
44.65kN	75.69kN	4	1.359kN

6. 尺寸資料計算

(1) 錨栓中心至混凝土表面之距離 (C_a)

C_{aT}	C_{aB}	C_{aL}	C_{aR}	$C_{a,max}$	$C_{a,min}$
300mm	300mm	300mm	300mm	300mm	300mm
h_a	h_{ef}	s_{max}	s_{min}		
1,050mm	200mm	200mm	200mm		

7. 避免發生劈裂破壞所需的邊距、間距與厚度

Calculation Summary (避免發生劈裂破壞所需的邊距、間距與厚度)

Category	採用值	容許值	比值	Note
錨栓最小間距 (mm)	200	120	0.600 $BTR_{lim} = 0.75 \frac{s_{req} \frac{1}{s_{min}^2}}{E_{s,min}^2}$	
錨栓最小邊距 (mm)	300	160	0.533 $\frac{C_{a,y}}{C_{a,min}}$	
埋置深度限制 (mm)	200	950	0.211	

錨栓最小間距	0.60																
錨栓最小邊距	0.53																
埋置深度限制	0.21																
	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50	

(1) 錨栓最小間距 (center-to-center)

200mm	120mm	0.600

(2) 混凝土邊緣至錨栓中心之距離檢核

		a_s
300mm	160mm	0.533

(3) on

		ef
200mm	950mm	0.211

8. 拉力強度計算

Category			N_{ua}	Note
鋼材強度	44.65kN	98.51kN	0.604	$\phi = 0.750$
混凝土拉破強度	75.69kN	162kN	0.667	$\phi = 0.700$
拔出強度	44.65kN	68.65kN	0.929	$\phi = 0.700$
混凝土側邊爆出強度	-	-	-	-
Bond Strength of Adhesive Anchor	-	-	-	-

9. 剪力強度計算

Category			V_{ua}	Note
鋼材強度	1.359kN	59.10kN	0.0328	$\phi = 0.700$
混凝土拉破強度 (Dir. X)	-	-	-	-
混凝土拉破強度 (Dir. Y)	-	-	-	-
混凝土攪破強度	-	-	-	-

10. 組合應力比計算

條件	方程式	容許值	比值
< .	$\frac{ua}{ua}$	1.000	0.929

景觀造型：

■ 構件名稱：PC2

1. 基座板承壓應力檢核

$\sigma_{\max}$	$\sigma_{\min}$	ϕ	F_n	$\frac{\sigma_{\max}}{\phi F_n}$
17.83MPa	0.0201MPa	0.650	46.68MPa	0.588

2. 錨栓之拉應力檢核

$T_{u.\max}$	$T_{u.\min}$	ϕ	F_{nt}	R_{nt}	$\frac{T_{u.\max}}{\phi R_{nt}}$
-156kN	-37.12kN	0.750	300MPa	212kN	0.983

3. 基座板檢核

(3) 設計彎矩 (採用平均值)

M_u	ϕ	Z_{bp}	M_n	$\frac{M_u}{\phi M_n}$
-31.24kN·m/m	0.900	$121 \frac{mm^3}{mm}$	39.16kN·m/m	0.886

4. 加勁肋板檢核

(2) 寬厚比檢核

BTR	BTR_{lim}	檢核	備註
15.00	18.65	OK ($BTR < BTR_{lim}$)	

(3) 彎矩強度檢核

M_u	ϕ	S_{rib}	M_n	$\frac{M_u}{\phi M_n}$
19.20kN·m	0.900	300,000mm ³	97.09kN·m	0.220

(4) 剪力強度計算

V_u	ϕ	V_n	$\frac{V_u}{\phi V_n}$
244kN	0.900	1,165kN	0.233

5. 預埋錨栓檢核

(1) 剪力強度檢核

V_{u1}	ϕ	A_b	F_{nv}	R_{nv}	$\frac{V_{u1}}{\phi R_{nv}}$
12.90kN	0.750	707mm ²	160MPa	113kN	0.152

(2) 拉力強度檢核

$T_{u.\max}$	ϕ	F_{nt}	f_v	F'_{nt}	R_{nt}	$\frac{T_{u.\max}}{\phi R_{nt}}$
-156kN	0.750	300MPa	18.26MPa	300MPa	212kN	0.983

6. Check Development Length of Anchor Bolt (Hooked Bar)

ϕ	L_{anc}	L_{h1}	L_{h2}	L_{req}	$\frac{L_{req}}{L_{anc}}$
0.750	510mm	139mm	360mm	499mm	0.978

■ 構件名稱 : T1

1. 設計力

d	$M_{u.web}$	$V_{u.web}$
75.00mm	34.95kN·m	466kN

2. 螺栓性質 (單剪)

F_{nt}	A_b	ϕR_n	$I_{p.web}$	$I_{p.flange}$
750MPa	380mm ²	113kN/EA	43,200mm ²	-

3. 腹板檢核 (摩阻型螺栓)

(1) 設計力 & 材料

M_u	V_u	I_p	C_x	C_y
34.95kN·m	466kN	43,200mm ²	90.00mm	30.00mm

(2) 高拉力螺栓檢核

N_{bolt}	P_u	R_v	R_{mx}	R_{my}	R_{max}	$\frac{R_{max}}{\phi R_n}$
8EA	113kN/EA	58.25kN/EA	72.81kN/EA	24.27kN/EA	110kN/EA	0.976

(3) 鋼板檢核

ϕP_n	$\frac{P_u}{\phi P_n}$	ϕM_n	$\frac{M_u}{\phi M_n}$	ϕV_n	$\frac{V_u}{\phi V_n}$
-	-	78.76kN·m	0.444	579kN	0.805

4. 螺栓承壓強度檢核 (腹板, 剪力)

(1) 螺栓承壓強度計算

一般資訊 (mm)			SECTION (kN)			鋼板 (kN)		
SN	x	y	L_c	R_n	$R_{n.MAX}$	L_c	R_n	$R_{n.MAX}$
01	90.00	40.00	36.00	212	259	36.00	424	518
02	30.00	40.00	36.00	212	259	36.00	424	518
03	-30.00	40.00	36.00	212	259	36.00	424	518
04	-90.00	40.00	28.00	165	259	28.00	330	518
05	90.00	100	36.00	212	259	36.00	424	518
06	30.00	100	36.00	212	259	36.00	424	518
07	-30.00	100	36.00	212	259	36.00	424	518
08	-90.00	100	28.00	165	259	28.00	330	518

(2) 承壓強度檢核

V_u	$\phi R_{n.SEC}$	$\phi R_{n.PL}$	ϕR_n	$\frac{V_u}{\phi R_n}$
466kN	1,200kN	2,401kN	1,200kN	0.388

5. 螺栓承壓強度檢核 (腹板, 拉力)

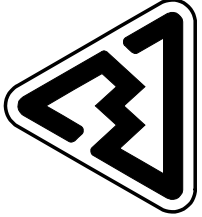
(1) 螺栓承壓強度計算

一般資訊 (mm)			SECTION (kN)			鋼板 (kN)		
SN	x	y	L_c	R_n	$R_{n.MAX}$	L_c	R_n	$R_{n.MAX}$
01	90.00	40.00	28.00	165	259	28.00	330	518
02	30.00	40.00	28.00	165	259	28.00	330	518
03	-30.00	40.00	28.00	165	259	28.00	330	518
04	-90.00	40.00	28.00	165	259	28.00	330	518
05	90.00	100	36.00	212	259	36.00	424	518
06	30.00	100	36.00	212	259	36.00	424	518
07	-30.00	100	36.00	212	259	36.00	424	518
08	-90.00	100	36.00	212	259	36.00	424	518

(2) 承壓強度檢核

P_u	$\phi R_{n.SEC}$	$\phi R_{n.PL}$	ϕR_n	$\frac{P_u}{\phi R_n}$
0.000kN	1,130kN	2,259kN	1,130kN	0.000

附件 A、結構平面圖



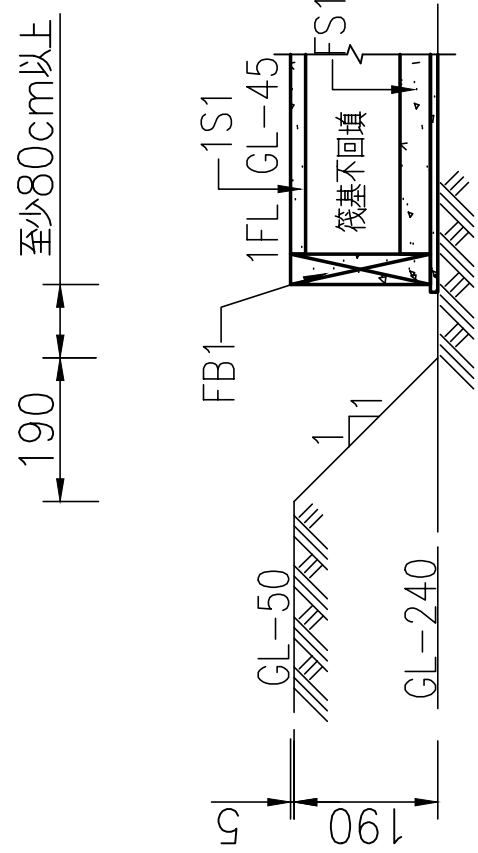
吳嘉翎建築師事務所
ARCHITECTURE & IMAGE
臺中市北區五權路190號10樓之1
TEL:04-23602098 FAX:04-23602298

備註說明

A-A斷面圖

N.T.S.
單位: cm

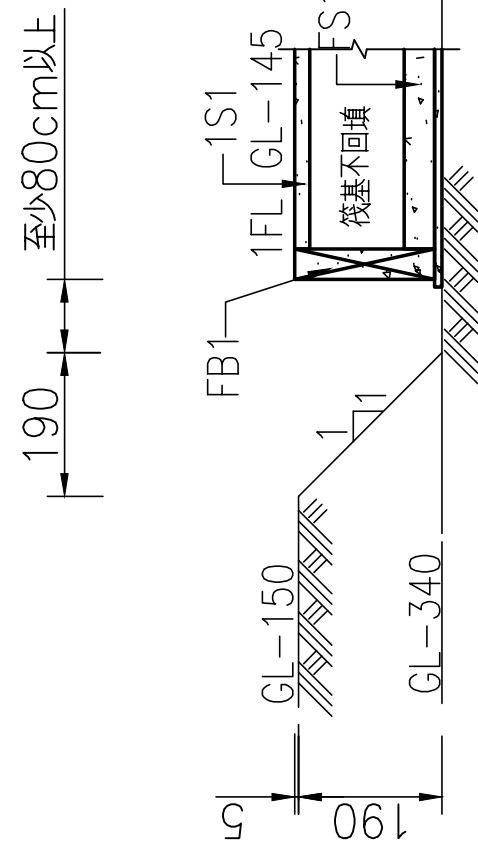
N.T.S.
單位: cm



圖面 B-3

N.T.S.
單位: cm

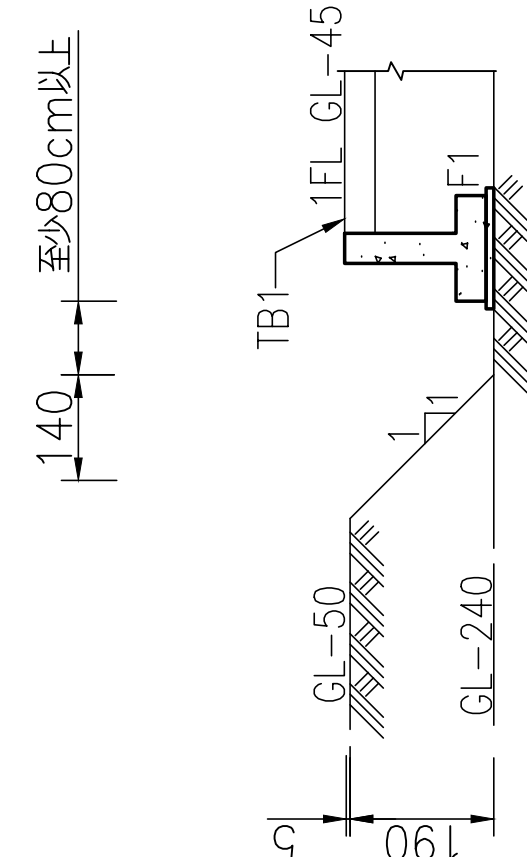
單位: cm
N.T.S.



C—C断面圖

N.T.S.
單位: cm

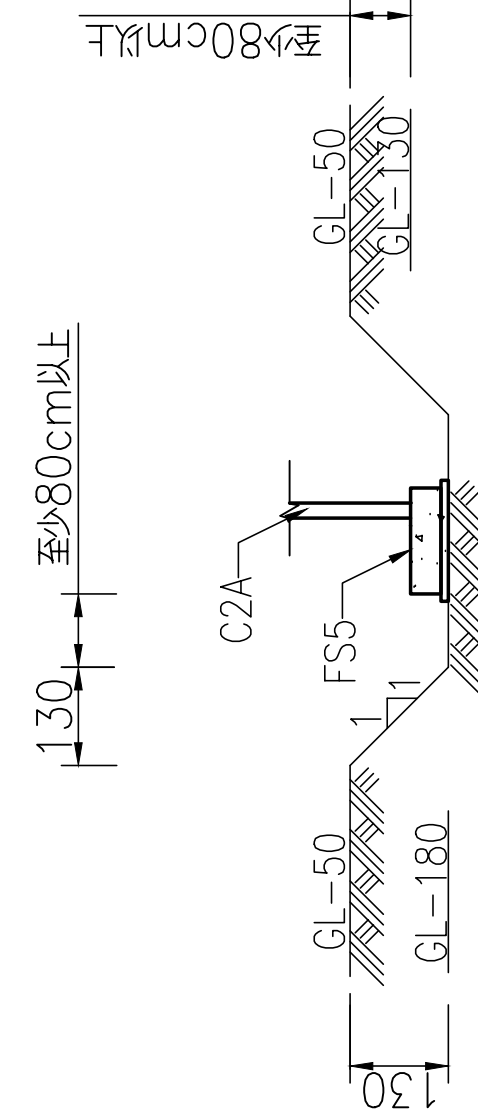
N.T.S.
單位: cm



D-D-斷面圖

單位: cm

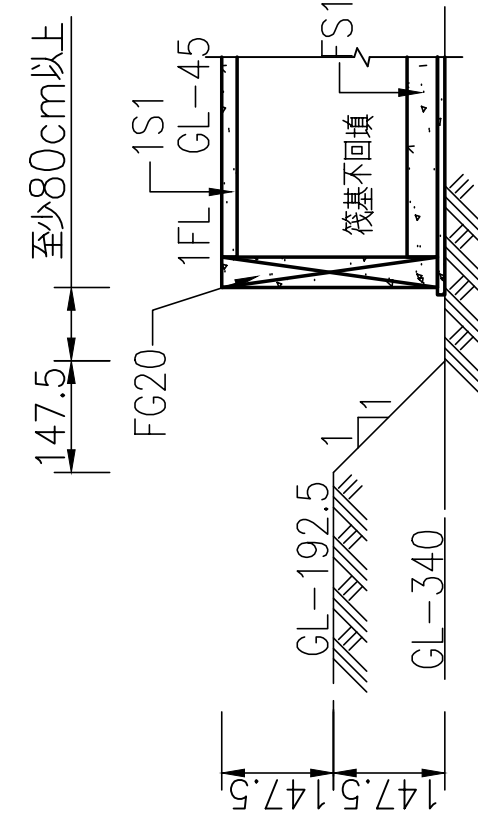
N.T.S. 位: cm



圖面新E-E

單位: cm
N.T.S.

單位: N.T.S. cm



★起造人・承造人注意事項

★起造人・承造人注意事項

- 一、承攬人應量及安排本工地的安全設施。
- 二、開工前，承攬人應會同起土人申請執照，按指定方法修築後園泥及鐵線，經主任技師核准後方能掘土，若有不符請告知建築師辦理變更設計，否則如有輪船由起土人及承攬人自行負責。
- 三、承攬人應向土庫主任督辦報明開挖工、機動、填土、掘堤及用炸藥開挖起土一切手續與費用。
- 四、掘堤如有需要時，應以受委託的機動機具為原則，應以受委託的機動機具為原則，應以受委託的機動機具為原則。
- 五、挖後再行施工上，不得擅自更改材料，不得擅自用材料。
- 六、挖土不得超過二個星期。
- 七、若挖土高度工程，及部份尺寸與設計有高度工程，及部份尺寸與設計有高度工程，及部份尺寸與設計有高度工程。

日期	簽名	修改內容
----	----	------

101000	班々班上
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臺中市南屯區春安國民小學
新校舍興建工程

図名 DRAWING NAME

基礎開挖範圍平面圖

簽章

$$AT = T/1500 \text{ CT} = T/3000$$

$$A1=1/150\text{cm} \quad A3=1/300\text{cm}$$

設計	賴正偉
----	-----

繪圖	賴正偉
----	-----

李振宇	校核
-----	----

比例	A1=1:150
----	----------

單位	CM
----	----

[illegible]

日期	年	月
張號	圖號	

S1-01

基礎大樑尺寸表		
編號	尺寸 (cm)	附註
FB1~FB4,FB6~FB9 FB11~FB17 FB20~FB24, FG1~FG5, FG7~FG9,FG11,FG19	50x185	材料強度 1.混凝土抗壓強度(標準圓柱試體28天齡期) fc=280Kg/cm2 (28Days)[全部] 2.鋼筋抗拉降伏強度 柱及大梁:SN490B fy=3300kg/cm2 小梁:SN400B fy=2400kg/cm2 3.竹節鋼筋抗拉降伏強度 [#3~#10] Fy=4200Kg/cm2 (CNS SD-420W) CNS SD-420 須符合下列規定 (1)出廠實測降伏強度不得超出規定降伏強度 1200kgf/cm2 以上。 (2)實測降伏強度與實測降伏強度之比值不得小於1.25。 4.鋼接器:SA級鋼接器 應經廠家未詳者，斷面及配筋由鋼梁廠延伸。 鋼筋估量及施工，依配筋標準圖規定。 5.本圖中標示為剪力牆或RC wall均屬抗結構牆，原則上不得拆除或修改。 6.本表結構由地震力控制，結構強度之損耗容許地系統予以150T/小時計。 若不妥善，則營造商須以增進改良或其他方式增加承载力。
FB5,FB10, FB18,FB19, FB25~FB27,FG10 FG12~FG18, FG20	50x285	
FG6	50x125	
FG1A	40x185	
FB1,FG1	40x60	

基礎小樑尺寸表		
編號	尺寸 (cm)	附註
FUB1,FJB2 FJG1,FJG2	40x185	
FJB3,FJB4,FJG3	40x285	
FJB2A	40x125	

基礎尺寸表		
編號	尺寸 (cm)	附註
FS1~FS3,FS5	40	
FS4	1400x140x40	

獨立基礎尺寸表		
編號	尺寸 (cm)	附註
F1	140x140x40	

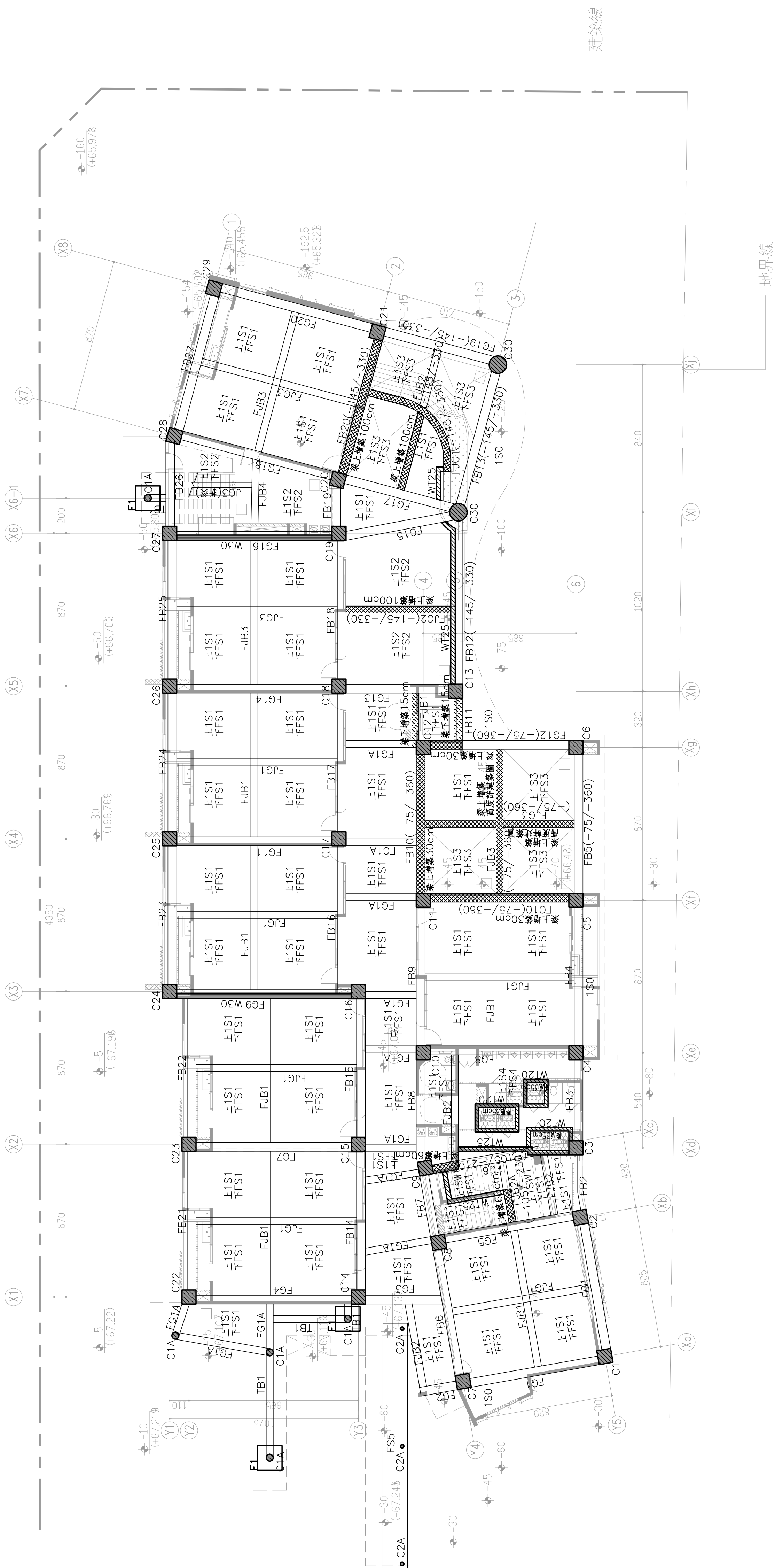
柱尺寸表		
編號	尺寸 (cm)	附註
C1~C29	80x80	
C30	D=100	
C1A	D=40	
C2A	D=200x100(mm)	SN490B
PC1	80x80	
PC2	D=400x250(mm)	SN490B

板尺寸表		
編號	尺寸 (cm)	附註
1S0~1S4,1SW, S1,SW,RS1,PS1 CS1	20	
S2,PS2,CS2	25	

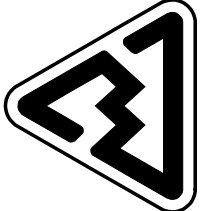
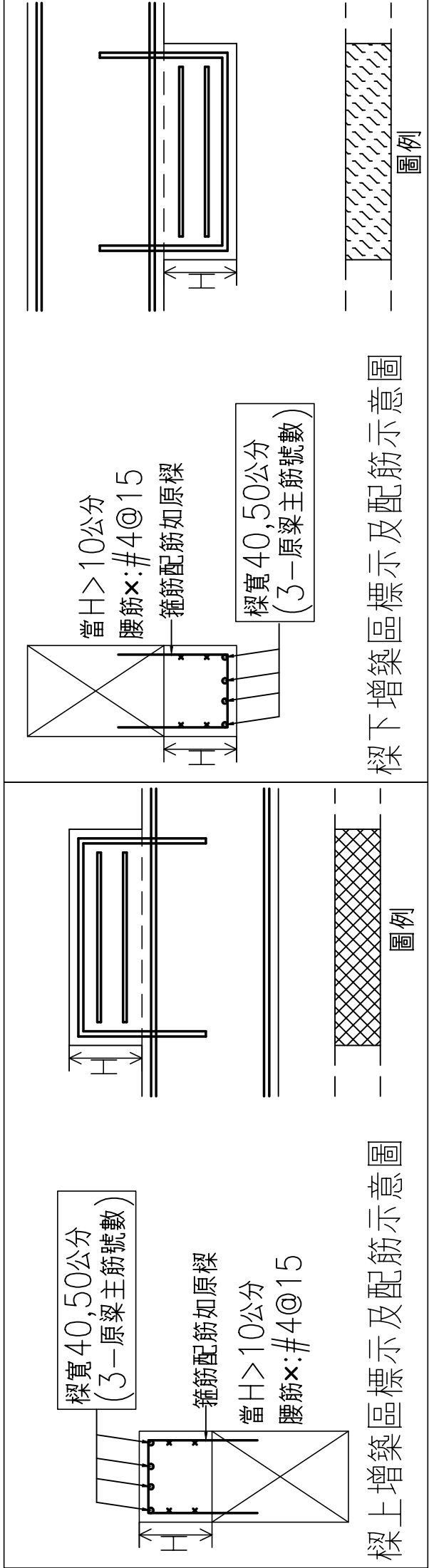
牆尺寸表		
編號	尺寸 (cm)	附註
WT20	20	撐牆
WT25	25	撐牆
W30	30	剪力牆

圖例說明:

	RC柱	梁端Fix(剛)接合		RC梁端固定(開口正端位置詳建築立面圖)
	RC柱加大	梁端Hinge(鉸)接合		RC梁端鉸接(正端位置詳建築立面圖)
	SRC柱	鋼梁側向支撐(規格詳標準圖)		RC梁
	鋼柱	表示鋼梁方向，端部預留		RC梁端部
	RC梁	所有柱若為鋼梁，則預留端部		RC梁端部
	SRC梁	應遵照圖則所註各參數，		RC梁端部
	STEEL梁	則表示參照圖則。		RC梁端部



1 一層結構平面圖
SI-02 A1=1/150cm A3=1/300cm



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備註說明

- ※承造人、承造人注意事項
- 一、承造人應向主任技師詳圖說、核算數量及安全性、實地勘察、開工前，承造人應向起造人申請變更，若指定與原圖說不符，經主任技師核對無誤後施工；若有不符圖說之處，應由起造人及設計，否則由起造人及承造人自行負責。
 - 二、承造人應向主任技師詳圖說、核算數量及安全性、實地勘察、開工前，承造人應向起造人申請變更，若指定與原圖說不符，經主任技師核對無誤後施工；若有不符圖說之處，應由起造人及設計，否則由起造人及承造人自行負責。
 - 三、承造人應向主任技師詳圖說、核算數量及安全性、實地勘察、開工前，承造人應向起造人申請變更，若指定與原圖說不符，經主任技師核對無誤後施工；若有不符圖說之處，應由起造人及設計，否則由起造人及承造人自行負責。
 - 四、圖說若有疑問，應以建築師所傳為準；如圖說變更設計，應待核准後再行施工，不得擅自更改。
 - 五、承造人不得將下列材料：1. 鋼筋 2. 各種鋼材之鋼筋。
 - 六、機板製作，應由承造人自行負責機板製作，應由承造人自行負責。
 - 七、若圖說有變更工程，名稱勿尺寸應配合圖說及實地施工。

日期	簽名	修改內容

工程名稱	PROJECT
------	---------

臺中市南屯區春安國民小學
新校舍興建工程

圖名 DRAWING NAME

一層結構平面圖

簽章 SIGNATURE

設計	賴正偉
繪圖	賴正偉
校核	李振宇
比例	A1=1:150
單位	CM
業務號碼	
日期	年 月
張號	圖號

S1-02

編號	尺寸 (cm)	附註
C1~C29	80x80	fc' = 280kgf/cm ²
C30	D=100	fc' = 280kgf/cm ²
C1A	D=40	fc' = 280kgf/cm ²
PC1	80x80	fc' = 280kgf/cm ²
PC2	D=400x25t(mm)	SN490B， 上下端鉚接

大榑尺寸表

編號	尺寸 (cm)	附註
B1~B11,B13~B26 CB2,CB7,CB18 CB25,PB1,PB2 G1~G15,G17,G14 CG15,CG17,CG17A PG1,PG2,PG3	50x70	fc' = 280kgf/cm2
G16,G18	80x80	fc' = 280kgf/cm2
B12	60x60	fc' = 280kgf/cm2
CG1,G1A	40x60	fc' = 280kgf/cm2
G2A	40x70	fc' = 280kgf/cm2
B1A	30x60	fc' = 280kgf/cm2
T1	RH-400x200x813+2P110	SN490B

小樑尺寸表

編號	尺寸 (cm)	附註
JB1,JB2,UG1,UG2 CUB1,CUG1	40x60	fc'=280kgf/cm2
JB3,UG3	30x60	fc'=280kgf/cm2
JB4	50x70	fc'=280kgf/cm2
UG4	25x60	fc'=280kgf/cm2
JB5,UG5	30x50	fc'=280kgf/cm2
UG6	40x70	fc'=280kgf/cm2

板尺寸表

編號	尺寸 (cm)	附註
1S0~1S3,1SW, S1,SW,RS1,PS1 CS1	20	
S2,PS2,CS2	25	

牆尺寸表

編號	尺寸 (cm)	附註
WT20	20	撈撈
WT25	25	撈撈
WT30	30	撈撈

柱尺寸表

編號	尺寸 (cm)	附註
C1~C29	80x80	$fc' = 280 \text{ kgf/cm}^2$
C30	D=100	$fc' = 280 \text{ kgf/cm}^2$
C1A	D=40	$fc' = 280 \text{ kgf/cm}^2$
PC1	80x80	$fc' = 280 \text{ kgf/cm}^2$
PC2	D=400x25t(mm)	SN490B， 上下兩端銲接

材料強度

1. 混凝土抗壓強度 (標準圓柱試體 28 天齡期)
 $f'_c = 280\text{kgf/cm}^2$ (28Days) [全部]

2. 鋼筋抗拉強度
柱及大梁: SN490B
小梁: SN400B
3. 作業鋼筋抗拉強度
[#3~#10] $F_y = 4200\text{kgf/cm}^2$ (ONS SD-420W)
ONS SD-420 須符合下列規定

(1) 出貨單列明強度不得超出規定值 1200kgf/cm² 以上。

(2) 實際測試強度與出貨單列明強度之比值不得小於 1.25。

4. 鋼接器: SA 鋼端接器

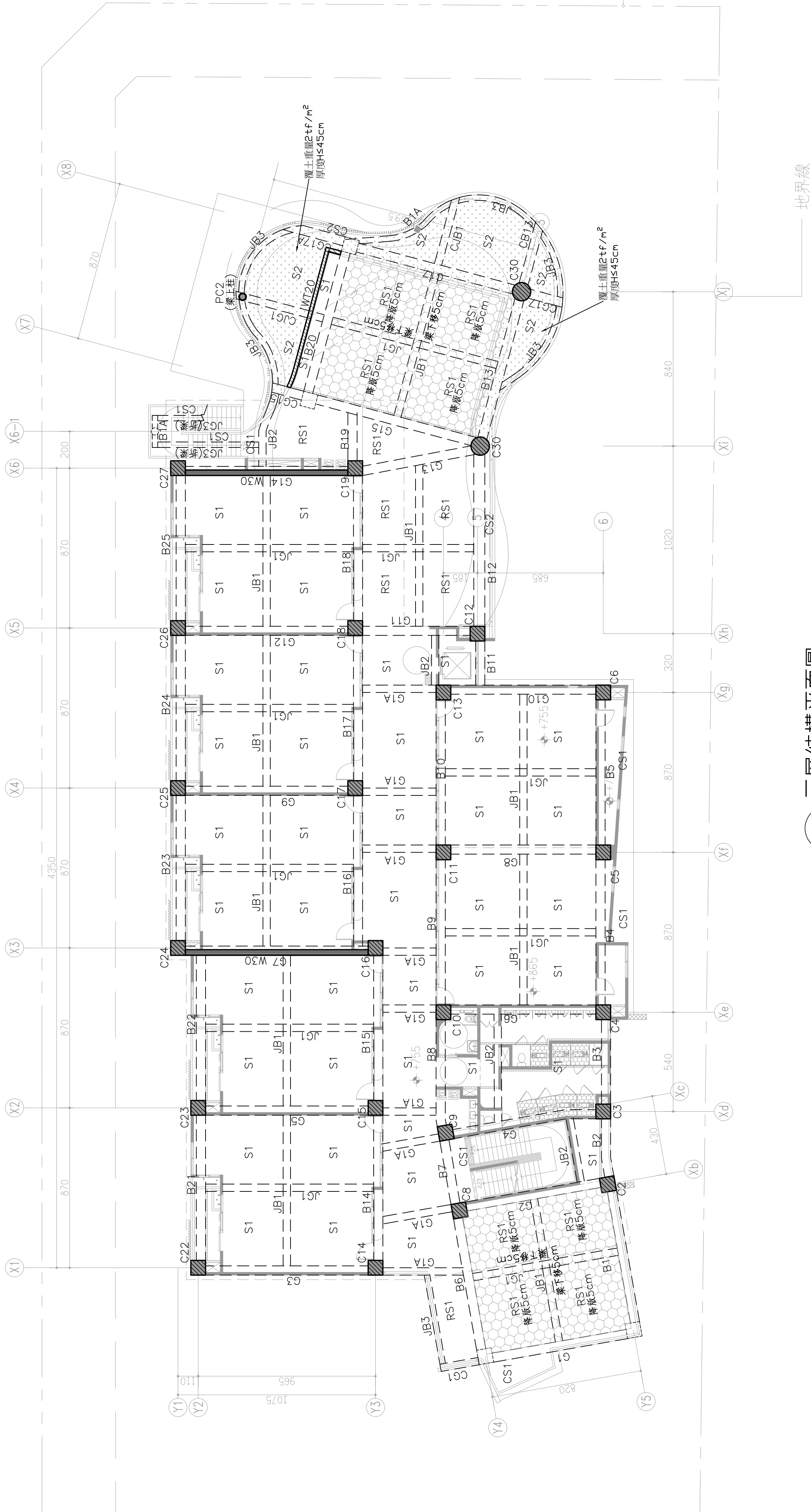
懸臂梁, 版本未詳者, 斷面及配筋由鄰版、版延伸。

鋼筋估算及施工, 依配筋率平面圖定。

5. 本圖中標示為剪力牆或 RC wall 均屬於結構牆, 原則上不得拆除或修改。

6. 本案結構由地震力控制, 結構基礎之埋地深度由地基承载力以 150T / 戶設計。若不足者, 則應適當須以地基改良或其他方式增加承载力。

圖例說明：

[illegible]

1 二層結構平面圖
S1-04 A1=1/150cm A3=1/300cm

日期	簽名	修改內容

工程名稱	PROJECT

臺中市南屯區春安國民小學
新校舍興建工程

圖名 DRAWING NAME

三層結構平面圖

簽章 SIGNATURE

設計	鄭正偉		圖號 S1-04
繪圖	鄭正偉		
校核	李振宇		
比例	A1=1:150		
單位	CM		
業務號碼			
日期	年 月	張號	

材料強度	
1. 混凝土抗壓強度 (標準試塊齡期 28 天驗明)	
$f_c' = 280\text{Kg}/\text{cm}^2$ (28Days) [全部]	
2. 鋼筋抗拉應力強度	
柱及大梁: SN490B	$f_y = 3300\text{kg}/\text{cm}^2$
小梁: SN400B	$f_y = 2400\text{kg}/\text{cm}^2$
3. 竹節鋼筋抗拉應力強度	
[# 3 ~ # 10] $F_y = 4200\text{Kg}/\text{cm}^2$ (CNS SD-420W)	
CNS SD-420 須符合下列規定	
(1) 出廠實測降伏強度不得超出規定降伏強度 1200kg/cm ² 以上。	
(2) 實測極限抗拉強度與實測降伏強度之比值不得小於 1.25。	
4. 鋼接器: SA 鋼接器	
懸臂樑、梁末詳者，斷面及配筋由鄰梁、樑延伸。	
鋼筋估算及施工，收配均按標準圖規定。	
5. 本章中提示為動力構造 RC wall 均屬於結構牆，原則上不得拆除或修改；	
6. 本章結構由地震力控制	
結構基礎之短期設計地承载力以 150T/㎡ 設計。	
若不足者，則應隨時須以地盤改良或其他方式增加承载力。	

柱尺寸表

編號	尺寸 (cm)	附註
C2A	D=200x10t(mm)	SN490B

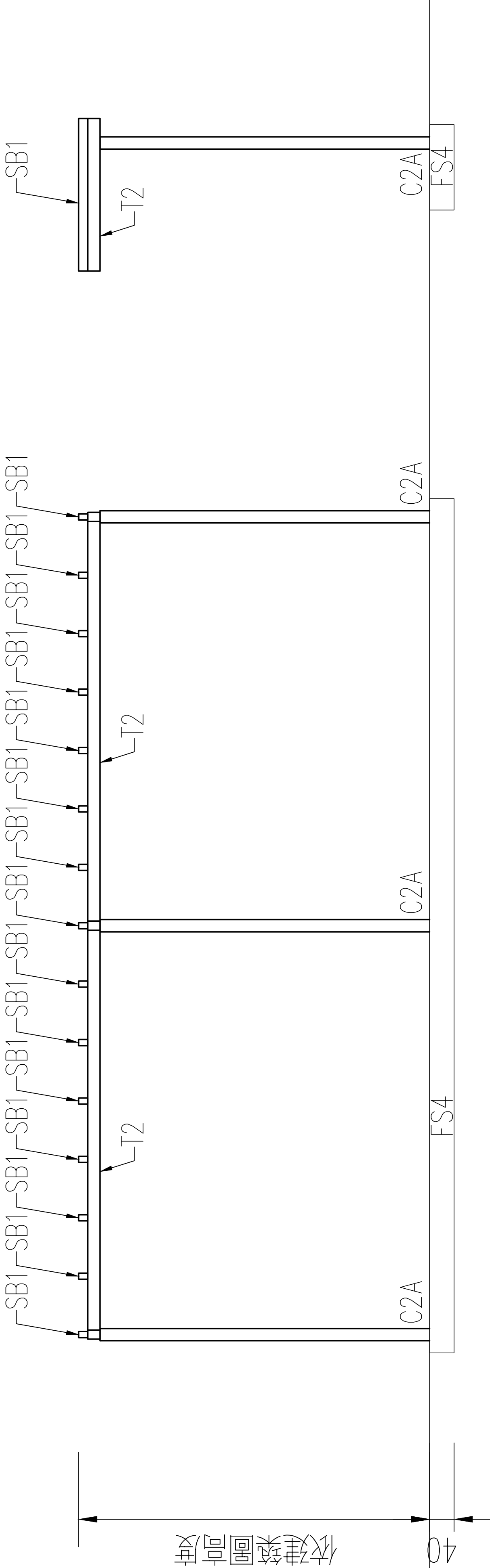
大梁尺寸表

編號	尺寸 (cm)	附註
T2	BOX-200x100x4.5(mm)	SN490B

小梁尺寸表

編號	尺寸 (cm)	附註
SB1	BOX-150x100x3.2(mm)	SN400B

建築圖則



1

雨遮構架圖

S6-01

A1=1/50 A3=1/100

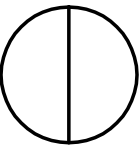
雨遮構架圖

簽章 SIGNATURE

設計	賴正偉
繪圖	賴正偉
校核	李振宇
比例	A1=1:50
單位	CM

業務號碼

日期	年	月
張號	圖號	



S6-01

附件 B、總和報告(輸入檔)

CONCRETESECTION "C280-50X285" TYPE "BEAM" COVERTOP 0.285 COVERBOTTOM 0.285 ATI 0 ABI 0 ATJ 0 ARJ 0
CONCRETESECTION "C280-850X285" TYPE "BEAM" COVERTOP 0.285 COVERBOTTOM 0.285 ATI 0 ABI 0 ATJ 0 ARJ 0

\$ WALL/SLAB/DECK PROPERTIES

SHELLPROP "C280S540" MATERIAL "C280" PROTOTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.4 TB 0.4
SHELLPROP "C350S580" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.8 TB 0.8
SHELLPROP "I3C50S15" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.15 TB 0.15
SHELLPROP "C280S25" MATERIAL "C280" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.25 TB 0.25
SHELLPROP "C280S15" MATERIAL "C280" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.15 TB 0.15
SHELLPROP "C350S25" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.25 TB 0.25
SHELLPROP "C245S20" MATERIAL "C245" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.2 TB 0.2
SHELLPROP "C245S18" MATERIAL "C245" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.18 TB 0.18
SHELLPROP "C420S20" MATERIAL "C420" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.15 TB 0.15
SHELLPROP "C420S15" MATERIAL "C420" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.15 TB 0.15
SHELLPROP "C420B80" MATERIAL "C420" PROTOTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.8 TB 0.8
SHELLPROP "C280S20" MATERIAL "C280" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.2 TB 0.2
SHELLPROP "C350S18" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.18 TB 0.18
SHELLPROP "C245S15" MATERIAL "C245" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.15 TB 0.15
SHELLPROP "C350S40" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.4 TB 0.4
SHELLPROP "C350W15" MATERIAL "C350" PROTOTYPE "WALL" TYPE "SHELL" PLATETYPE "THIN" TM 0.15 TB 0.15
SHELLPROP "C350S50" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.5 TB 0.5
SHELLPROP "C280W30" MATERIAL "C280" PROTOTYPE "WALL" TYPE "SHELL" PLATETYPE "THIN" TM 0.3 TB 0.3
SHELLPROP "I3C50S20" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.2 TB 0.2
SHELLPROP "C350W25" MATERIAL "C350" PROTOTYPE "WALL" TYPE "SHELL" PLATETYPE "THIN" TM 0.25 TB 0.25
SHELLPROP "C350S60" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.6 TB 0.6
SHELLPROP "C420S25" MATERIAL "C420" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.25 TB 0.25
SHELLPROP "C420W50" MATERIAL "C420" PROTOTYPE "WALL" TYPE "SHELL" PLATETYPE "THIN" TM 0.5 TB 0.5
SHELLPROP "C420W20" MATERIAL "C420" PROTOTYPE "WALL" TYPE "SHELL" PLATETYPE "THIN" TM 0.2 TB 0.2
SHELLPROP "C420W25" MATERIAL "C420" PROTOTYPE "WALL" TYPE "SHELL" PLATETYPE "THIN" TM 0.25 TB 0.25
SHELLPROP "C425S15" MATERIAL "C245" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.15 TB 0.15
SHELLPROP "C280S550" MATERIAL "C280" PROTOTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.5 TB 0.5
SHELLPROP "C350S540" MATERIAL "C350" PROTOTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.4 TB 0.4
SHELLPROP "C245C520" MATERIAL "C245" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.2 TB 0.2
SHELLPROP "C245C525" MATERIAL "C245" PROTOTYPE "SLAB" TYPE "MEMBRANE" TM 0.25 TB 0.25
SHELLPROP "C280W30" F1WID 0.5 F2WID 0.5 F3WID 0.5 N1WID 0.5 N2WID 0.5 N3WID 0.5
SHELLPROP "C350W25" F1WID 0.5 F2WID 0.5 F3WID 0.5 N1WID 0.5 N2WID 0.5 N3WID 0.5

\$ LINK PROPERTIES

LINKPROP "NLPR1" TYPE "DAMPER"
LINKPROP "NLPR1" DOF "U"

\$ PIER/SPANDREL NAMES

PIERNAME "P1"
PIERNAME "P11"
PIERNAME "P12"
PIERNAME "P13"
PIERNAME "P14"
PIERNAME "P15"
PIERNAME "P16"
PIERNAME "P17"
PIERNAME "P18"
PIERNAME "P19"
PIERNAME "P20"
PIERNAME "P21"
PIERNAME "P22"
PIERNAME "P23"
PIERNAME "P24"
PIERNAME "P25"
PIERNAME "P26"
PIERNAME "P27"
PIERNAME "P28"
PIERNAME "P29"
PIERNAME "P30"
PIERNAME "P31"
PIERNAME "P32"
PIERNAME "P33"

POINT "2884" 3.389949 14.6468086242676
POINT "2885" 2.13995 18.996809057373
POINT "2886" 3.389949 18.996809057373
POINT "2887" 48.88995 24.6889959021
POINT "2888" -0.7119575 4.03771162033081
POINT "2889" 7.215745 5.4355797676392
POINT "2890" 3.963951 6.69683389402618
POINT "2891" 2.539936 8.77435779571531
POINT "2892" 11.31421 5.93339920043945
POINT "2893" 3.389949 18.8718223571777
POINT "2894" 12.08995 18.8718223571777
POINT "2895" 20.78995 18.8718223571777
POINT "2896" 7.739949 14.068225479126
POINT "2897" 7.739949 23.6968231201172
POINT "2898" 16.43995 14.068225479126
POINT "2899" 16.43995 23.6968231201172
POINT "2902" 29.48995 19.971809387207
POINT "2903" 20.78995 10.0613678083864
POINT "2905" 38.18995 19.971827386475
POINT "2906" 46.88995 19.971827386475
POINT "2907" 51.1756 19.8655166625977
POINT "2908" 59.57916 17.6137924194336
POINT "2909" 54.12658 14.079695545044
POINT "2910" 56.62618 23.4002475738525
POINT "2911" 42.53995 15.1468229293823
POINT "2912" 42.53995 24.7968215942383
POINT "2913" 33.83995 15.1468086242676
POINT "2914" 33.83995 24.7968215942383
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POINT "2916" 25.13995 24.7968215942383
POINT "2917" 42.98957 8.4218502044677
POINT "2918" 34.68995 10.7968225479126
POINT "2920" 37.99371 10.7968225479126
POINT "2921" 48.54859 10.0613678083864
POINT "2922" 49.00799 11.758865356445
POINT "2926" 54.96893 13.8538875579834
POINT "2928" 57.41155 9.52416038513184
POINT "2936" 52.29096 7.22098684310913
POINT "2937" 38.63995 11.8218364715576
POINT "2938" 47.48957 11.7468357086182
POINT "2940" 42.53995 8.42846202850342
POINT "2942" 17.28995 5.99682950973511
POINT "2943" 25.88995 5.99682235717773
POINT "2944" 34.68995 5.99682235717773
POINT "2945" 30.33995 1.64682245254517
POINT "2946" 30.33995 10.3468227386475
POINT "2947" 21.63995 1.64682590961456
POINT "2948" 21.63995 10.346825996704
POINT "2950" 3.389949 8.92423820459605
POINT "2951" 50.58679 17.6080297851563
POINT "2952" 58.99034 15.4163045883179
POINT "2955" 46.88995 21.176845505371
POINT "2956" 51.52697 21.176845505371
POINT "2957" -1.788786 10.1449747085571
POINT "2959" 3.389949 11.0581655020319
POINT "2981" 7.699383 2.4377179145813
POINT "2983" 11.67081 3.27838826179504
POINT "2986" 2.139949 24.0968494415283
POINT "2987" 0.4399493 24.0968494415283
POINT "2990" -7.610049 18.996809057373
POINT "2991" 4.994945E-02 14.6468086242676
POINT "2992" 49.63995 26.0468502044678
POINT "2993" 48.13995 26.0468502044678
POINT "2994" 48.13995 21.176845505371
POINT "2996" 49.63995 21.176845505371
POINT "2998" 25.13995 19.971809387207
POINT "2999" 33.83995 19.9718151092529
POINT "3000" 42.53995 19.971827386475
POINT "3001" 16.43995 18.8718223571777
POINT "3002" 7.739949 18.8718223571777
POINT "3003" 3.251894 4.7366459854736
POINT "3004" 30.33995 5.99682235717773
POINT "3005" 21.63995 5.9968256503784
POINT "3006" 42.53995 11.7861204147339
POINT "3007" 53.20977 10.6500234603882
POINT "3008" 17.28995 0.29682931303978

PIERNAME "PW34"
PIERNAME "PW35"
PIERNAME "PW36"
PIERNAME "PW37"
PIERNAME "PW38"
PIERNAME "PW39"
PIERNAME "PW40"
PIERNAME "PW41"
PIERNAME "PW42"
PIERNAME "PW43"
PIERNAME "PW44"
PIERNAME "PW45"
PIERNAME "PW46"
PIERNAME "PW47"
PIERNAME "PW48"
PIERNAME "PW49"
PIERNAME "PW50"
PIERNAME "PW51"
PIERNAME "PW52"
PIERNAME "PW53"
PIERNAME "PW54"
PIERNAME "PW55"
PIERNAME "PW56"
PIERNAME "PW57"
PIERNAME "PW58"
PIERNAME "PW59"
PIERNAME "PW63"
SPANDRELNAME "S1"

\$ POINT COORDINATES

POINT "2550" -2.630274E-16 -7.02563007770607E-17
POINT "2837" 6.503787 9.47329139709473
POINT "2838" 7.927702 1.3978678806524
POINT "2839" -1.423915 8.07542324066162
POINT "2840" 10.73848 10.2199764571709
POINT "2842" 17.28995 1.6468239668396
POINT "2843" 11.88995 1.64682245254517
POINT "2844" 25.88995 1.64682245254517
POINT "2845" 34.68995 1.64682245254517
POINT "2846" 17.28995 10.3468294143677
POINT "2847" 25.88995 10.3468227386475
POINT "2848" 34.68995 10.3468227386475
POINT "2849" 37.88995 8.49685001373291
POINT "2850" 38.18995 15.1468229293823
POINT "2851" 38.18995 24.7968215942383
POINT "2852" 29.48995 15.1467952728271
POINT "2853" 29.48995 24.7968215942383
POINT "2854" 20.78995 24.7968215942383
POINT "2856" 20.78995 14.068225479126
POINT "2857" 12.08995 23.6968231201172
POINT "2858" 12.08995 14.068225479126
POINT "2859" 3.389949 14.068225479126
POINT "2860" 3.389949 23.6968231201172
POINT "2861" 52.4244 24.5261116027832
POINT "2862" 58.33036 12.953197479248
POINT "2863" 60.82796 22.2743854322705
POINT "2864" 49.9288 15.2949236297667
POINT "2865" 46.88995 24.7968215942383
POINT "2866" 46.88995 15.1468229293823
POINT "2867" 48.08918 8.34684944152832
POINT "2868" 56.49274 6.09512424468994
POINT "2869" 1.289949 24.0968494415283
POINT "2870" 0.4399507 18.996809057373
POINT "2871" 2.13995 14.6468086242676
POINT "2872" 48.88995 26.0468502044678
POINT "2873" 34.68995 8.49685001373291
POINT "2874" 20.78995 23.6968231201172
POINT "2875" 20.78995 15.1467952728271
POINT "2876" 34.68993 15.1468114852905
POINT "2877" 29.48995 10.3468227386475
POINT "2878" 25.88995 15.1467952728271
POINT "2879" 20.78995 10.346826533447
POINT "2880" 17.28995 14.068225479126
POINT "2881" 12.08995 10.2461442947388
POINT "2882" 10.22449 14.068225479126
POINT "2883" 5.697351 14.068225479126

POINT "3009" 25.88995 0.29682931303978
POINT "3010" 34.68995 0.29682931303978
POINT "3012" -2.139915 4.09042338398438
POINT "3013" -3.744915 7.53342342376709
POINT "3014" 1.289949 14.6468086242676
POINT "3016" 1.289949 10.346833499146
POINT "3020" 6.04041 19.3352089298223
POINT "3022" 54.78857 16.542176635742
POINT "3036" 56.10115 21.4407958984375
POINT "3040" 51.27589 20.2398109436035
POINT "3046" 46.88995 20.2398109436035
POINT "3048" 49.33799 13.9074396133423
POINT "3049" 57.74154 10.7537144165308
POINT "3056" 61.62008 9.71646785736084
POINT "3064" 60.37128 5.05587816238403
POINT "3070" 55.86834 3.76482915878296
POINT "3071" 50.89037 7.5962745791553
POINT "3073" 53.53976 11.8815774917663
POINT "3075" 37.88995 7.54684972763062
POINT "3076" 48.08995 7.54684972763062
POINT "3080" 3.530899 8.9490009576416
POINT "3086" 4.954814 0.873667418956757
POINT "3089" 4.942857 4.9115793731079
POINT "3098" 50.6887 11.325414962769
POINT "3097" 55.37738 18.7396545410156
POINT "3103" -3.338786 9.22497463226318
POINT "3104" -2.95204 7.71083164215088
POINT "3107" 48.13995 20.2398109436035
POINT "3108" 49.63995 20.2398109436035
POINT "3129" 37.88995 7.29684972763062
POINT "3130" 48.08918 7.14684963226318
POINT "3132" 34.68995 7.29684972763062
POINT "3134" 52.20274 4.675124168396
POINT "3135" 59.22274 8.53512382507324
POINT "141" 46.88995 12.4968233108521
POINT "142" 42.53995 12.4968233108521
POINT "143" 50.58995 12.4968233108521
POINT "144" 50.58995 15.1468229293823
POINT "145" 50.58995 24.7968215942383
POINT "146" 50.58995 19.971827386475
POINT "148" 38.0704 12.4968233108521
POINT "341" 17.28995 8.54682922363281
POINT "342" 17.28995 4.19682931000024
POINT "345" 11.54746 4.19682931000024
POINT "346" 10.9632 8.54682922363281
POINT "347" 7.571723 3.4167272817993
POINT "348" 11.60208 3.79011082649231
POINT "374" 60.30293 20.3149356842041
POINT "375" 51.89937 22.5666818347168
POINT "394" 17.28995 7.39682960510254
POINT "398" 11.1769 7.39682960510254
POINT "567" -5.56005 18.996809057373

\$ LINE CONNECTIVITIES

LINE "C73" COLUMN "2550" "2550" 1
LINE "C79" COLUMN "2837" "2837" 1
LINE "C80" COLUMN "2838" "2838" 1
LINE "C81" COLUMN "2839" "2839" 1
LINE "C82" COLUMN "2840" "2840" 1
LINE "C84" COLUMN "2842" "2842" 1
LINE "C85" COLUMN "2843" "2843" 1
LINE "C86" COLUMN "2844" "2844" 1
LINE "C87" COLUMN "2845" "2845" 1
LINE "C88" COLUMN "2846" "2846" 1
LINE "C89" COLUMN "2847" "2847" 1
LINE "C90" COLUMN "2848" "2848" 1
LINE "C91" COLUMN "2849" "2849" 1
LINE "C92" COLUMN "2850" "2850" 1
LINE "C93" COLUMN "2851" "2851" 1
LINE "C94" COLUMN "2852" "2852" 1
LINE "C95" COLUMN "2853" "2853" 1
LINE "C96" COLUMN "2854" "2854" 1
LINE "C98" COLUMN "2856" "2856" 1
LINE "C99" COLUMN "2857" "2857" 1
LINE "C100" COLUMN "2858" "2858" 1
LINE "C101" COLUMN "2859" "2859" 1

LINE "C102" COLUMN "2860" "2860" 1
LINE "C103" COLUMN "2861" "2861" 1
LINE "C104" COLUMN "2862" "2862" 1
LINE "C105" COLUMN "2863" "2863" 1
LINE "C106" COLUMN "2864" "2864" 1
LINE "C107" COLUMN "2865" "2865" 1
LINE "C108" COLUMN "2866" "2866" 1
LINE "C109" COLUMN "2867" "2867" 1
LINE "C110" COLUMN "2868" "2868" 1
LINE "C111" COLUMN "2869" "2869" 1
LINE "C112" COLUMN "2870" "2870" 1
LINE "C113" COLUMN "2871" "2871" 1
LINE "C114" COLUMN "2872" "2872" 1
LINE "C115" COLUMN "2951" "2951" 1
LINE "C116" COLUMN "2952" "2952" 1
LINE "C1" COLUMN "3036" "3036" 1
LINE "C2" COLUMN "567" "567" 1
LINE "B475" BEAM "2839" "2837" 0
LINE "B476" BEAM "2837" "2840" 0
LINE "B477" BEAM "2840" "2846" 0
LINE "B478" BEAM "2846" "2847" 0
LINE "B479" BEAM "2847" "2848" 0
LINE "B481" BEAM "2550" "2838" 0
LINE "B483" BEAM "2838" "2843" 0
LINE "B485" BEAM "2843" "2842" 0
LINE "B487" BEAM "2842" "2844" 0
LINE "B489" BEAM "2844" "2845" 0
LINE "B490" BEAM "2845" "2848" 0
LINE "B491" BEAM "2873" "2849" 0
LINE "B492" BEAM "2849" "2857" 0
LINE "B493" BEAM "2867" "2864" 0
LINE "B494" BEAM "2864" "2862" 0
LINE "B495" BEAM "2862" "2863" 0
LINE "B496" BEAM "2864" "2861" 0
LINE "B497" BEAM "2861" "2863" 0
LINE "B498" BEAM "2859" "2858" 0
LINE "B499" BEAM "2858" "2856" 0
LINE "B500" BEAM "2856" "2854" 0
LINE "B502" BEAM "2857" "2874" 0
LINE "B503" BEAM "2859" "2860" 0
LINE "B504" BEAM "2860" "2837" 0
LINE "B505" BEAM "2854" "2853" 0
LINE "B506" BEAM "2853" "2851" 0
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LINE "B509" BEAM "2875" "2852" 0
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LINE "B512" BEAM "2850" "2851" 0
LINE "B513" BEAM "2850" "2866" 0
LINE "B516" BEAM "2866" "2864" 0
LINE "B517" BEAM "2849" "2850" 0
LINE "B519" BEAM "2877" "2852" 0
LINE "B521" BEAM "2879" "2856" 0
LINE "B522" BEAM "2846" "2880" 0
LINE "B523" BEAM "2881" "2858" 0
LINE "B526" BEAM "2871" "2884" 0
LINE "B527" BEAM "2871" "2885" 0
LINE "B528" BEAM "2870" "2886" 0
LINE "B529" BEAM "2870" "2869" 0
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LINE "B532" BEAM "2867" "2868" 0
LINE "B533" BEAM "2868" "2862" 0
LINE "B534" BEAM "2888" "2889" 0
LINE "B536" BEAM "2889" "2892" 0
LINE "B537" BEAM "2893" "2894" 0
LINE "B538" BEAM "2894" "2895" 0
LINE "B539" BEAM "2896" "2897" 0
LINE "B540" BEAM "2898" "2899" 0
LINE "B542" BEAM "2903" "2902" 0
LINE "B544" BEAM "2902" "2905" 0
LINE "B545" BEAM "2905" "2906" 0
LINE "B546" BEAM "2906" "2907" 0
LINE "B547" BEAM "2907" "2908" 0
LINE "B548" BEAM "2909" "2910" 0

LINE "B166" BEAM "3080" "2850" 0
LINE "B179" BEAM "146" "145" 0
LINE "B193" BEAM "346" "341" 0
LINE "B195" BEAM "345" "342" 0
LINE "B202" BEAM "347" "348" 0
LINE "B207" BEAM "3036" "2910" 0
LINE "B215" BEAM "375" "374" 0
LINE "B217" BEAM "146" "3036" 0
LINE "B223" BEAM "398" "394" 0
LINE "B233" BEAM "2868" "3036" 0
LINE "B238" BEAM "567" "2870" 0

\$ AREA CONNECTIVITIES

AREA "W26" PANEL 4 "2856" "2854" "2854" "2856" 1 1 0 0
AREA "W27" PANEL 4 "2866" "2865" "2865" "2866" 1 1 0 0
AREA "F385" FLOOR 4 "2837" "2981" "2983" "2840" 0 0 0 0
AREA "F386" FLOOR 4 "2981" "2838" "2843" "2983" 0 0 0 0
AREA "F387" FLOOR 4 "2987" "2839" "2950" "2950" 0 0 0 0
AREA "F388" FLOOR 4 "2859" "2950" "2837" "2883" 0 0 0 0
AREA "F389" FLOOR 4 "2883" "2837" "2840" "2882" 0 0 0 0
AREA "F390" FLOOR 4 "2882" "2840" "2881" "2858" 0 0 0 0
AREA "F394" FLOOR 4 "2858" "2881" "2846" "2880" 0 0 0 0
AREA "F395" FLOOR 4 "2880" "2846" "2879" "2856" 0 0 0 0
AREA "F397" FLOOR 4 "2876" "2918" "2920" "2850" 0 0 0 0
AREA "F399" FLOOR 3 "2866" "2867" "2864" 0 0 0
AREA "F400" FLOOR 4 "2955" "2866" "2864" "2956" 0 0 0 0
AREA "F402" FLOOR 4 "2951" "2864" "2862" "2952" 0 0 0 0
AREA "F405" FLOOR 4 "2832" "2902" "2988" "2915" 0 0 0 0
AREA "F406" FLOOR 4 "2902" "2953" "2913" "2999" 0 0 0 0
AREA "F407" FLOOR 4 "2902" "2853" "2916" "2998" 0 0 0 0
AREA "F408" FLOOR 4 "2853" "2902" "2999" "2914" 0 0 0 0
AREA "F409" FLOOR 4 "2850" "2905" "2999" "2913" 0 0 0 0
AREA "F410" FLOOR 4 "2905" "2850" "2911" "3000" 0 0 0 0
AREA "F411" FLOOR 4 "2905" "2851" "2914" "2999" 0 0 0 0
AREA "F412" FLOOR 4 "2851" "2905" "3000" "2912" 0 0 0 0
AREA "F413" FLOOR 4 "2903" "2998" "2916" "2854" 0 0 0 0
AREA "F414" FLOOR 4 "2998" "2903" "2875" "2915" 0 0 0 0
AREA "F415" FLOOR 4 "3000" "2906" "2865" "2912" 0 0 0 0
AREA "F416" FLOOR 4 "2906" "3000" "2911" "2866" 0 0 0 0
AREA "F417" FLOOR 4 "2857" "2894" "3001" "2899" 0 0 0 0
AREA "F418" FLOOR 4 "2894" "2857" "2897" "3002" 0 0 0 0
AREA "F419" FLOOR 4 "2894" "2858" "2898" "3001" 0 0 0 0
AREA "F420" FLOOR 4 "2858" "2894" "3002" "2896" 0 0 0 0
AREA "F421" FLOOR 4 "2883" "3002" "2897" "2860" 0 0 0 0
AREA "F422" FLOOR 4 "3002" "2893" "2859" "2896" 0 0 0 0
AREA "F423" FLOOR 4 "3001" "2895" "2874" "2899" 0 0 0 0
AREA "F424" FLOOR 4 "2895" "3001" "2898" "2856" 0 0 0 0
AREA "F425" FLOOR 4 "2888" "3003" "2891" "2839" 0 0 0 0
AREA "F426" FLOOR 4 "2888" "2550" "2890" "3003" 0 0 0 0
AREA "F427" FLOOR 4 "3003" "2889" "2857" "2901" 0 0 0 0
AREA "F428" FLOOR 4 "2889" "3003" "2890" "2838" 0 0 0 0
AREA "F429" FLOOR 4 "2892" "2942" "2846" "2840" 0 0 0 0
AREA "F430" FLOOR 4 "2942" "2892" "2843" "2842" 0 0 0 0
AREA "F431" FLOOR 4 "2847" "2943" "3004" "2946" 0 0 0 0
AREA "F432" FLOOR 4 "2943" "2847" "2948" "3005" 0 0 0 0
AREA "F433" FLOOR 4 "2943" "2844" "2945" "3004" 0 0 0 0
AREA "F434" FLOOR 4 "2844" "2943" "3005" "2947" 0 0 0 0
AREA "F435" FLOOR 4 "2942" "3005" "2948" "2846" 0 0 0 0
AREA "F436" FLOOR 4 "3005" "2942" "2842" "2947" 0 0 0 0
AREA "F437" FLOOR 4 "3004" "2944" "2848" "2946" 0 0 0 0
AREA "F438" FLOOR 4 "2944" "3004" "2945" "2845" 0 0 0 0
AREA "F439" FLOOR 4 "2878" "2847" "2877" "2852" 0 0 0 0
AREA "F440" FLOOR 4 "2847" "2878" "2875" "2879" 0 0 0 0
AREA "F441" FLOOR 4 "2852" "2877" "2848" "2876" 0 0 0 0
AREA "F442" FLOOR 4 "2937" "3006" "2911" "2850" 0 0 0 0
AREA "F443" FLOOR 4 "2837" "2849" "2949" "3006" 0 0 0 0
AREA "F444" FLOOR 4 "3006" "2838" "2866" "2911" 0 0 0 0
AREA "F445" FLOOR 4 "2938" "3006" "2940" "2867" 0 0 0 0
AREA "F450" FLOOR 4 "2922" "3007" "2909" "2864" 0 0 0 0
AREA "F451" FLOOR 4 "3007" "2922" "2867" "2936" 0 0 0 0
AREA "F452" FLOOR 4 "3007" "2928" "2862" "2909" 0 0 0 0
AREA "F453" FLOOR 4 "2928" "3007" "2936" "2868" 0 0 0 0
AREA "F454" FLOOR 4 "3008" "3009" "2844" "2842" 0 0 0 0
AREA "F455" FLOOR 4 "3009" "3010" "2845" "2844" 0 0 0 0
AREA "F456" FLOOR 4 "3013" "2839" "2888" "3012" 0 0 0 0
AREA "F457" FLOOR 4 "3014" "3016" "2959" "2884" 0 0 0 0

LINE "B550" BEAM "2913" "2914" 0
LINE "B551" BEAM "2915" "2916" 0
LINE "B556" BEAM "2918" "2920" 0
LINE "B567" BEAM "2921" "2926" 0
LINE "B573" BEAM "2922" "2928" 0
LINE "B579" BEAM "2936" "2909" 0
LINE "B580" BEAM "2937" "2938" 0
LINE "B589" BEAM "2940" "2911" 0
LINE "B590" BEAM "2892" "2942" 0
LINE "B591" BEAM "2942" "2943" 0
LINE "B592" BEAM "2943" "2944" 0
LINE "B593" BEAM "2945" "2946" 0
LINE "B600" BEAM "2951" "2952" 0
LINE "B602" BEAM "2955" "2956" 0
LINE "B607" BEAM "2957" "2959" 0
LINE "B635" BEAM "2981" "2983" 0
LINE "B646" BEAM "2987" "2886" 0
LINE "B649" BEAM "2991" "2871" 0
LINE "B650" BEAM "2990" "2870" 0
LINE "B651" BEAM "2993" "2992" 0
LINE "B656" BEAM "2994" "2993" 0
LINE "B657" BEAM "2996" "2992" 0
LINE "B662" BEAM "3016" "3014" 0
LINE "B676" BEAM "2952" "3029" 0
LINE "B702" BEAM "3023" "3038" 0
LINE "B712" BEAM "2951" "3040" 0
LINE "B713" BEAM "2867" "2951" 0
LINE "B714" BEAM "2868" "2952" 0
LINE "B719" BEAM "3046" "3040" 0
LINE "B720" BEAM "3040" "3038" 0
LINE "B721" BEAM "3036" "3020" 0
LINE "B727" BEAM "2936" "3023" 0
LINE "B728" BEAM "3048" "3049" 0
LINE "B750" BEAM "3049" "3056" 0
LINE "B753" BEAM "2868" "3064" 0
LINE "B759" BEAM "3070" "2868" 0
LINE "B764" BEAM "3071" "3070" 0
LINE "B765" BEAM "3070" "3064" 0
LINE "B766" BEAM "3064" "3056" 0
LINE "B767" BEAM "2952" "3056" 0
LINE "B786" BEAM "3080" "2837" 0
LINE "B788" BEAM "3086" "2838" 0
LINE "B791" BEAM "3089" "2889" 0
LINE "B809" BEAM "3107" "2993" 0
LINE "B811" BEAM "3108" "2992" 0
LINE "B2" BEAM "2865" "145" 0
LINE "B3" BEAM "2866" "144" 0
LINE "B4" BEAM "141" "2866" 0
LINE "B5" BEAM "2906" "146" 0
LINE "B8" BEAM "144" "146" 0
LINE "B10" BEAM "142" "2911" 0
LINE "B12" BEAM "142" "141" 0
LINE "B13" BEAM "141" "143" 0
LINE "B14" BEAM "143" "144" 0
LINE "B18" BEAM "148" "142" 0
LINE "B21" BEAM "2550" "2839" 0
LINE "B24" BEAM "2890" "2891" 0
LINE "B27" BEAM "2838" "2837" 0
LINE "B30" BEAM "2843" "2840" 0
LINE "B33" BEAM "2842" "2846" 0
LINE "B36" BEAM "2947" "2948" 0
LINE "B39" BEAM "2844" "2847" 0
LINE "B42" BEAM "2840" "2882" 0
LINE "B45" BEAM "2837" "2883" 0
LINE "B48" BEAM "2950" "2859" 0
LINE "B51" BEAM "2839" "2957" 0
LINE "B54" BEAM "2858" "2857" 0
LINE "B57" BEAM "2847" "2878" 0
LINE "B60" BEAM "2848" "2876" 0
LINE "B63" BEAM "2911" "2912" 0
LINE "B66" BEAM "2917" "2911" 0
LINE "B69" BEAM "2867" "2866" 0
LINE "B72" BEAM "2866" "2863" 0
LINE "B93" BEAM "2871" "2986" 0
LINE "B96" BEAM "2870" "2987" 0
LINE "B149" BEAM "3086" "3080" 0

AREA "F458" FLOOR 4 "3040" "2951" "3023" "3036" 0 0 0 0
AREA "F463" FLOOR 3 "3071" "3070" "2868" 0 0 0
AREA "F464" FLOOR 3 "2868" "3070" "3064" 0 0 0
AREA "F465" FLOOR 4 "3049" "2868" "3064" "3056" 0 0 0 0
AREA "F466" FLOOR 3 "2952" "3049" "3056" 0 0 0
AREA "F468" FLOOR 4 "2936" "3073" "3048" "2867" 0 0 0 0
AREA "F469" FLOOR 4 "3073" "2936" "2868" "3049" 0 0 0 0
AREA "F470" FLOOR 4 "3073" "3023" "2951" "3048" 0 0 0 0
AREA "F471" FLOOR 4 "3073" "3049" "2952" "3023" 0 0 0 0
AREA "F472" FLOOR 4 "3046" "2866" "2864" "3040" 0 0 0 0
AREA "F473" FLOOR 4 "3003" "2890" "2550" "2888" 0 0 0 0
AREA "F474" FLOOR 4 "3003" "2890" "2838" "2889" 0 0 0 0
AREA "F475" FLOOR 4 "2847" "2839" "2888" "3003" 0 0 0 0
AREA "F477" FLOOR 4 "2874" "2899" "3001" "2895" 0 0 0 0
AREA "F479" FLOOR 4 "2854" "2916" "2998" "2903" 0 0 0 0
AREA "F480" FLOOR 4 "2849" "3075" "3076" "2867" 0 0 0 0
AREA "F481" FLOOR 4 "2859" "3080" "2837" "2883" 0 0 0 0
AREA "F482" FLOOR 4 "3089" "3089" "2899" "2837" 0 0 0 0
AREA "F483" FLOOR 4 "3089" "3086" "2838" "2889" 0 0 0 0
AREA "F485" FLOOR 4 "2837" "2889" "2892" "2840" 0 0 0 0
AREA "F488" FLOOR 4 "2889" "2838" "2843" "2892" 0 0 0 0
AREA "F489" FLOOR 4 "2911" "2917" "2867" "2866" 0 0 0 0
AREA "F490" FLOOR 4 "2917" "2911" "2850" "2849" 0 0 0 0
AREA "F491" FLOOR 4 "2928" "2862" "2892" "3096" 0 0 0 0
AREA "F492" FLOOR 4 "2864" "2922" "3096" "2926" 0 0 0 0
AREA "F494" FLOOR 3 "2921" "3096" "2922" 0 0 0
AREA "F495" FLOOR 3 "2867" "3096" "2921" 0 0 0
AREA "F496" FLOOR 4 "3096" "2867" "2868" "2928" 0 0 0 0
AREA "F498" FLOOR 4 "2907" "2906" "2866" "2864" 0 0 0 0
AREA "F500" FLOOR 4 "2906" "2907" "2861" "2865" 0 0 0 0
AREA "F501" FLOOR 4 "2907" "3097" "2910" "2861" 0 0 0 0
AREA "F502" FLOOR 4 "3097" "2907" "2864" "2909" 0 0 0 0
AREA "F503" FLOOR 4 "3097" "2908" "2863" "2910" 0 0 0 0
AREA "F504" FLOOR 4 "2908" "3097" "2909" "2862" 0 0 0 0
AREA "F507" FLOOR 4 "2918" "2873" "2849" "2929" 0 0 0 0
AREA "F509" FLOOR 4 "3036" "3023" "2952" "3020" 0 0 0 0
AREA "F510" FLOOR 4 "3103" "3104" "2839" "2957" 0 0 0 0
AREA "F511" FLOOR 4 "3132" "3129" "2849" "2873" 0 0 0 0
AREA "F512" FLOOR 4 "2849" "3129" "3130" "2867" 0 0 0 0
AREA "F515" FLOOR 4 "2867" "3130" "3134" "2868" 0 0 0 0
AREA "F514" FLOOR 3 "2868" "3135" "2862" 0 0 0
AREA "F1" FLOOR 4 "2850" "148" "142" "2911" 0 0 0 0
AREA "F2" FLOOR 4 "2911" "142" "141" "2866" 0 0 0 0
AREA "F3" FLOOR 4 "2866" "141" "143" "144" 0 0 0 0
AREA "F4" FLOOR 4 "2906" "2866" "144" "146" 0 0 0 0
AREA "F5" FLOOR 4 "2865" "2906" "146" "145" 0 0 0 0
AREA "F8" FLOOR 4 "2838" "2843" "348" "347" 0 0 0 0
AREA "F9" FLOOR 4 "2892" "2889" "347" "348" 0 0 0 0
AREA "F10" FLOOR 4 "2846" "2840" "346" "341" 0 0 0 0
AREA "F11" FLOOR 4 "341" "346" "345" "342" 0 0 0 0
AREA "F12" FLOOR 4 "342" "345" "2843" "2842" 0 0 0 0
AREA "F20" FLOOR 4 "374" "3036" "3023" "2952" 0 0 0 0
AREA "F22" FLOOR 4 "375" "2951" "3023" "3036" 0 0 0 0
AREA "F23" FLOOR 4 "3036" "2910" "2861" "375" 0 0 0 0
AREA "F24" FLOOR 4 "2910" "3036" "374" "2863" 0 0 0 0
AREA "F32" FLOOR 4 "398" "394" "2846" "2849" 0 0 0 0
AREA "F33" FLOOR 4 "394" "398" "2843" "2842" 0 0 0 0
AREA "F34" FLOOR 4 "2846" "2840" "2843" "2842" 0 0 0 0
AREA "F39" FLOOR 4 "2870" "2886" "2860" "2869" 0 0 0 0

\$ POINT ASSIGN

POINTASSIGN "2990" "2FL" RESTRAINT "UZ"
POINTASSIGN "2991" "2FL" RESTRAINT "UZ"
POINTASSIGN "2837" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2838" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2839" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2550" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2840" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2842" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2843" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2844" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2845" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2846" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2847" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2848" "1FL" RESTRAINT "UX UY"
POINTASSIGN "2849" "1FL" RESTRAINT "UX UY"

[illegible][illegible]

COMBO 'STA002'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA002'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA002'	LOAD 'LIVE'	SF 1.6		
COMBO 'STA003'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA003'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA003'	LOAD 'LIVE'	SF 1		
COMBO 'STA003'	COMBO 'EQ'	SF 0.3		
COMBO 'STA003'	LOAD 'PRISM'	SF 1		
COMBO 'STA004'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA004'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA004'	LOAD 'LIVE'	SF 1		
COMBO 'STA004'	COMBO 'EQ'	SF 0.3		
COMBO 'STA004'	LOAD 'PRISM'	SF 1		
COMBO 'STA005'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA005'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA005'	LOAD 'LIVE'	SF 1		
COMBO 'STA005'	COMBO 'EQ'	SF 0.3		
COMBO 'STA005'	LOAD 'NEQPM'	SF 1		
COMBO 'STA006'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA006'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA006'	LOAD 'LIVE'	SF 1		
COMBO 'STA006'	COMBO 'EQ'	SF 0.3		
COMBO 'STA006'	LOAD 'NEQNM'	SF 1		
COMBO 'STA007'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA007'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA007'	LOAD 'LIVE'	SF 1		
COMBO 'STA007'	COMBO 'EQ'	SF 0.3		
COMBO 'STA007'	LOAD 'PRISM'	SF 1		
COMBO 'STA008'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA008'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA008'	LOAD 'LIVE'	SF 1		
COMBO 'STA008'	COMBO 'EQ'	SF 0.3		
COMBO 'STA008'	LOAD 'PRISM'	SF 1		
COMBO 'STA009'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA009'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA009'	LOAD 'LIVE'	SF 1		
COMBO 'STA009'	COMBO 'EQ'	SF 0.3		
COMBO 'STA009'	LOAD 'NEQPM'	SF 1		
COMBO 'STA010'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA010'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA010'	LOAD 'LIVE'	SF 1		
COMBO 'STA010'	COMBO 'EQ'	SF 0.3		
COMBO 'STA010'	LOAD 'NEQNM'	SF 1		
COMBO 'STA011'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA011'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA011'	LOAD 'LIVE'	SF 1		
COMBO 'STA011'	COMBO 'EQ'	SF 0.3		
COMBO 'STA011'	LOAD 'PRISM'	SF 1		
COMBO 'STA012'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA012'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA012'	LOAD 'LIVE'	SF 1		
COMBO 'STA012'	COMBO 'EQ'	SF 0.3		
COMBO 'STA012'	LOAD 'PRISM'	SF 1		
COMBO 'STA013'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA013'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA013'	LOAD 'LIVE'	SF 1		
COMBO 'STA013'	COMBO 'EQ'	SF 0.3		
COMBO 'STA013'	LOAD 'NEQNM'	SF 1		
COMBO 'STA014'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA014'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA014'	LOAD 'LIVE'	SF 1		
COMBO 'STA014'	COMBO 'EQ'	SF 0.3		
COMBO 'STA014'	LOAD 'NEQNM'	SF 1		
COMBO 'STA015'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA015'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA015'	LOAD 'LIVE'	SF 1		
COMBO 'STA015'	COMBO 'EQ'	SF 0.3		
COMBO 'STA015'	LOAD 'PRISM'	SF 1		
COMBO 'STA016'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA016'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA016'	LOAD 'LIVE'	SF 1		
COMBO 'STA016'	COMBO 'EQ'	SF 0.3		
COMBO 'STA016'	LOAD 'PRISM'	SF 1		
COMBO 'STA017'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'
COMBO 'STA017'	LOAD 'DEAD'	SF 1.2		
COMBO 'STA017'	LOAD 'LIVE'	SF 1		

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$ ANALYSIS OPTIONS
  ACTIVDOF 'UX UY UZ RX RY RZ'
  DYNAMICS MODES 50 MODETYPE 'EIGEN'  TOL 0.000001
  PDELTA METHOD 'ITERATIVE'  MAXITER 3  TOLD 0.001
  PDELTA LOAD 'DEAD'  FACTOR 1
  MASSOFTIONS GRAVITY 9.80665  SOURCE 'LOADS'  LATERALONLY 'YES'  STORYLEVELONLY 'YES'
  MASSOFTIONS LOAD 'DEAD'  FACTOR 1

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RESPONSE SPECTRUM CASES
RSCASE "5001P" DAMP 0.05 DIRCMBDO "SRSS" ANG 0 ECCENTRICITY 0.05
RSCASE "5001P" FUNC1 "5001N" SFI 11.539
RSCASE "5001P" DIRCMBDO "CQC"
RSCASE "5001N" DAMP 0.05 DIRCMBDO "SRSS" ANG 180 ECCENTRICITY 0.05
RSCASE "5001N" FUNC1 "5001N" SFI 11.539
RSCASE "5001N" DIRCMBDO "CQC"
RSCASE "5001N" DAMP 0.05 DIRCMBDO "SRSS" ANG 180 ECCENTRICITY 0.05
RSCASE "5001N" FUNC2 "5001I" SFI 25.908
RSCASE "5001N" DIRCMBDO "CQC"
RSCASE "5001P" DAMP 0.05 DIRCMBDO "SRSSDOFFED" ORTHOFACOR 0 ANG 0 ECCENTRICITY 0.05
RSCASE "5001P" FUNC2 "5001I" SFI 25.908
RSCASE "5001P" DIRCMBDO "CQC"

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[illegible]

COMBO 'RS003'	COMBO 'EQW'	SF 0.3			
COMBO 'RS003'	SPEC 'S001PX'	SF 1			
COMBO 'RS004'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS004'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS004'	LOAD 'LIVE'	SF 1			
COMBO 'RS004'	COMBO 'EQW'	SF 0.3			
COMBO 'RS004'	SPEC 'S001NX'	SF 1			
COMBO 'RS005'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS005'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS005'	LOAD 'LIVE'	SF 1			
COMBO 'RS005'	COMBO 'EQW'	SF -0.3			
COMBO 'RS005'	SPEC 'S001PX'	SF 1			
COMBO 'RS006'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS006'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS006'	LOAD 'LIVE'	SF 1			
COMBO 'RS006'	COMBO 'EQW'	SF -0.3			
COMBO 'RS006'	SPEC 'S001NX'	SF 1			
COMBO 'RS007'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS007'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS007'	LOAD 'LIVE'	SF 1			
COMBO 'RS007'	COMBO 'EQW'	SF -0.3			
COMBO 'RS007'	SPEC 'S001PX'	SF 1			
COMBO 'RS008'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS008'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS008'	LOAD 'LIVE'	SF 1			
COMBO 'RS008'	COMBO 'EQW'	SF -0.3			
COMBO 'RS008'	SPEC 'S001NX'	SF 1			
COMBO 'RS009'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS009'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS009'	LOAD 'LIVE'	SF 1			
COMBO 'RS009'	COMBO 'EQW'	SF 1			
COMBO 'RS009'	SPEC 'S001PX'	SF 0.3			
COMBO 'RS010'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS010'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS010'	LOAD 'LIVE'	SF 1			
COMBO 'RS010'	COMBO 'EQW'	SF 1			
COMBO 'RS010'	SPEC 'S001PX'	SF 0.3			
COMBO 'RS011'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS011'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS011'	LOAD 'LIVE'	SF 1			
COMBO 'RS011'	SPEC 'S001PX'	SF 1			
COMBO 'RS011'	SPEC 'S001NX'	SF 0.3			
COMBO 'RS012'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS012'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS012'	LOAD 'LIVE'	SF 1			
COMBO 'RS012'	COMBO 'EQW'	SF 1			
COMBO 'RS012'	SPEC 'S001PX'	SF 0.3			
COMBO 'RS013'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS013'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS013'	LOAD 'LIVE'	SF 1			
COMBO 'RS013'	COMBO 'EQW'	SF -1			
COMBO 'RS013'	SPEC 'S001PX'	SF 0.3			
COMBO 'RS014'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS014'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS014'	LOAD 'LIVE'	SF 1			
COMBO 'RS014'	COMBO 'EQW'	SF -1			
COMBO 'RS014'	SPEC 'S001NX'	SF 0.3			
COMBO 'RS015'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS015'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS015'	LOAD 'LIVE'	SF 1			
COMBO 'RS015'	COMBO 'EQW'	SF -1			
COMBO 'RS015'	SPEC 'S001PX'	SF 0.3			
COMBO 'RS016'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS016'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS016'	LOAD 'LIVE'	SF 1			
COMBO 'RS016'	COMBO 'EQW'	SF -1			
COMBO 'RS016'	SPEC 'S001NX'	SF 0.3			
COMBO 'RS017'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS017'	LOAD 'DEAD'	SF 1.2			
COMBO 'RS017'	LOAD 'LIVE'	SF 0.9			
COMBO 'RS017'	COMBO 'EQW'	SF 0.3			
COMBO 'RS017'	SPEC 'S001PX'	SF 1			
COMBO 'RS018'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	
COMBO 'RS018'	LOAD 'DEAD'	SF 0.9			
COMBO 'RS018'	COMBO 'EQW'	SF 0.3			
COMBO 'RS018'	SPEC 'S001NX'	SF 1			
COMBO 'RS019'	TYPE 'ADP'	DESIGN 'STEELSTRENGTH'	DESIGN 'CONCRETE'	DESIGN 'WALL'	

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COMBO 'RS019'   LOAD 'DEAD'   SF 0.9
COMBO 'RS019'   COMBO 'EQU'   SF 0.3
COMBO 'RS019'   SPEC 'SLOPI1' SF 1
COMBO 'RS020'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS020'   LOAD 'DEAD'   SF 0.9
COMBO 'RS020'   COMBO 'EQU'   SF 0.3
COMBO 'RS020'   SPEC 'SLOPI1' SF 1
COMBO 'RS021'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS021'   TYPE 'ADP'   SF 0.9
COMBO 'RS021'   COMBO 'EQU'   SF 0.3
COMBO 'RS021'   SPEC 'SLOPI1' SF 1
COMBO 'RS022'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS022'   LOAD 'DEAD'   SF 0.9
COMBO 'RS022'   COMBO 'EQU'   SF -0.3
COMBO 'RS022'   SPEC 'SLOPI1' SF 1
COMBO 'RS023'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS023'   LOAD 'DEAD'   SF 0.9
COMBO 'RS023'   COMBO 'EQU'   SF -0.3
COMBO 'RS023'   SPEC 'SLOPI1' SF 1
COMBO 'RS024'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS024'   LOAD 'DEAD'   SF 0.9
COMBO 'RS024'   COMBO 'EQU'   SF -0.3
COMBO 'RS024'   SPEC 'SLOPI1' SF 1
COMBO 'RS025'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS025'   LOAD 'DEAD'   SF 0.9
COMBO 'RS025'   COMBO 'EQU'   SF 1
COMBO 'RS025'   SPEC 'SLOPI1' SF 0.3
COMBO 'RS026'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS026'   LOAD 'DEAD'   SF 0.9
COMBO 'RS026'   COMBO 'EQU'   SF 1
COMBO 'RS026'   SPEC 'SLOPI1' SF 0.3
COMBO 'RS027'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS027'   LOAD 'DEAD'   SF 1
COMBO 'RS027'   COMBO 'EQU'   SF 1
COMBO 'RS027'   SPEC 'SLOPI1' SF 0.3
COMBO 'RS028'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS028'   LOAD 'DEAD'   SF 0.9
COMBO 'RS028'   COMBO 'EQU'   SF 1
COMBO 'RS028'   SPEC 'SLOPI1' SF 0.3
COMBO 'RS029'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS029'   LOAD 'DEAD'   SF 0.9
COMBO 'RS029'   COMBO 'EQU'   SF 1
COMBO 'RS029'   SPEC 'SLOPI1' SF 0.3
COMBO 'RS030'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS030'   LOAD 'DEAD'   SF 0.9
COMBO 'RS030'   COMBO 'EQU'   SF -1
COMBO 'RS030'   SPEC 'SLOPI1' SF 0.3
COMBO 'RS031'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS031'   LOAD 'DEAD'   SF 0.9
COMBO 'RS031'   COMBO 'EQU'   SF -1
COMBO 'RS031'   SPEC 'SLOPI1' SF 0.3
COMBO 'RS032'   TYPE 'ADP'   DESIGN 'STEELSTRENGTH' DESIGN 'CONCRETE' DESIGN 'WALL'
COMBO 'RS032'   LOAD 'DEAD'   SF 0.9
COMBO 'RS032'   COMBO 'EQU'   SF -1
COMBO 'RS032'   SPEC 'SLOPI1' SF 0.3

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$ STEEL DESIGN PREFERENCES
STEELPREFERENCE CODE 'AISC-LR8993' THRESHOLD 'EVERYSTEP' FRAMETYPE 'MOMENT FRAM'
STEELPREFERENCE NUMPERCENTRAB 0.9 PHICR0.85 PHICR0.9 PHICR1.0 PHICR1.0 PHICR1.0 PHICR1.0
STEELPREFERENCE PHICR0.85 PHICR1.0 PHICR1.0 0.85 PHICR1.0 PHICR1.0 PHICR1.0 PHICR1.0
STEELPREFERENCE CONSIDERINDEFLECTION 'YES' RELATIVEDEFLECTION 'BOTH'
STEELPREFERENCE INDEFLECTIONLIMIT 120 SDEFLECTIONLIMIT 120 LDEFLECTIONLIMIT 360
STEELPREFERENCE CAMBERMAXLIMIT 0.1016 CAMBERMINLIMIT 0.0254 SDEFLECTIONLIMITS 0.0254 LDEFLECTIONLIMITS 0.0254
STEELPREFERENCE CALCULATECAMBER 'NO' PERCENTCAMBER 1.0 CAMBERMAXLIMIT 180 CAMBERMINLIMIT 180
STEELPREFERENCE CAMBERMAXLIMIT 0.1016 CAMBERMINLIMIT 0.0635 CAMBERROUNDING 0.0
STEELPREFERENCE PATTERNL0F 0.75 MAINTERRATION 1 SKULMIT 0.95

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$ CONCRETE DESIGN PREFERENCES
CONCRETEPREFERENCE CODE 'ACI 318-05 (BC 2003)' THRESHOLD 'EVERYSTEP' CONSIDERINDEFLECTION 'NO'
CONCRETEPREFERENCE NUMITERATIONS 20 NUMPOINTSIN11 PATTERNL0F 0.75 UPLIFTLIMIT 0.0
CONCRETEPREFERENCE SCID 'PHI' PHISINCONTRL 0.9 PHICOMPRESSIONCONTRL 0.65 PHICOMPRESSURECONTRL 0.65
PHISHAISEISMIC 0.6 PHISHAIRPOINT 0.85

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$ COMPOSITE DESIGN PREFERENCES
COMPOSITEPREFERENCE CODE 'AISC-LR8993'

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COMPOSITEPREFERENCE PH1-B 0.9 PH1-BCNE 0.9 PH1-BCNP 0.85 PH1-BCPE 0.9 PH1-BCPP 0.85 PH1-V 0.9
COMPOSITEPREFERENCE SHORED "NO" AMIDDLERANGE 70 PATTERNNLF 0.75 SRELIMIT 1 SINGLESEGMENT "NO" STUDINCREASEFACTOR 1
MINUMBERSTRESS 0
COMPOSITEPREFERENCE DLIMIT 0 SLLIMIT 240 LLLIMIT 360 TLLIMIT 240 CREEPFACTOR 1
COMPOSITEPREFERENCE ADMCAMBER 100 CAMBERIGNORE 0.01905 CAMBERBMAX 0.1016 CAMBERRELMAX 180 CAMBERINTERVAL 0.00635 CAMBERBOUNDOWN
"YES"
COMPOSITEPREFERENCE V1BL 25 CONSIDERREFQ "NO" MINREFQ 8 CONSIDERDAMP "NO" MINNERDAMP 4
COMPOSITEPREFERENCE VIBRATIONCRITERION "WALKING" OCCUPANCYCATEGORY "PAPEROFFICE" DAMPINGRATIO 0.03 WALKINGACCELERATIONLIMIT 0.005
COMPOSITEPREFERENCE RHYTHMICACTIVITY "AEROBICS" AFFECTIONOCCUPANCYCATEGORY "PAPEROFFICE"
COMPOSITEPREFERENCE RHYTHMICACCELERATIONLIMIT 0.005 UPPERSTEPSTRESS 2.75 LOWERSTEPFREQUENCY 2
COMPOSITEPREFERENCE EQUIPMENTORUSECATEGORY "COMPUTERSYSTEM" VIBRELACTIVITYLIMIT 0.002032
COMPOSITEPREFERENCE FOOTFALLIMPULSEFOAST 5 FOOTFALLIMPULSEFORMODERATE 2.5 FOOTFALLIMPULSEFOSLOW 1.4
COMPOSITEPREFERENCE FOOTFALLIMPULSEFOAST 0.142856 FOOTFALLIMPULSEFORMODERATE 0.127059 FOOTFALLIMPULSEFOSLOW 0.1088622
COMPOSITEPREFERENCE OPTIMIZEPRICE "NO" CONNECTORPRICE 0 CAMBERPRICE 0

\$ WALL DESIGN PREFERENCES
WALLPREFERENCE CODE "UC907" THIDESIGN "EVERYSTEP"
WALLPREFERENCE REBARUNITS "in 2" REBAR/LENGTHUNITS "in 2"/ft
WALLPREFERENCE PH1-B 0.9 PH1-C 0.7 PH1-VNS 0.85 PH1-VS 0.6 PMAXFACTOR 0.8
WALLPREFERENCE NUMCURVES 24 NUMPOINTS 11
WALLPREFERENCE PMAX 0.06 PMAX 0.04 IPMAX 0.02 IPMIN 0.0025
WALLPREFERENCE UFLIMIT 0.95

\$ DIMENSION LINES

\$ LOG
STARTCOMMENTS
ENDCOMMENTS
END
\$ END OF MODEL FILE

雨迹

\$ CONTROLS
UNITS "TONF" "M" "C"
TITLE1 "yoli"
TITLE2 "A3"
PREFERENCE MERGETOL 0.001
RLFF METHOD "NONE"
\$ STORIES - IN SEQUENCE FROM TOP
STORY "RFL" HEIGHT 3.55 MASTERSTORY "Yes"
STORY "1FL" HEIGHT 0.4 MASTERSTORY "Yes"
STORY "BASE" ELEV -0.4

\$ GRIDS
GRIDSYSTEM "CSYS1" TYPE "CARTESIAN" BUBBLESIZE 2
GRID "CSYS1" LABEL "X1" DIR "X" COORD 0 VISIBLE "Yes" BUBBLELOC "End"
GRID "CSYS1" LABEL "Y2" DIR "Y" COORD 0.7 VISIBLE "Yes" BUBBLELOC "End"
GRID "CSYS1" LABEL "X3" DIR "X" COORD 14.4 VISIBLE "Yes" BUBBLELOC "End"
GRID "CSYS1" LABEL "Y1" DIR "Y" COORD 0 VISIBLE "Yes" BUBBLELOC "Start"
GRID "CSYS1" LABEL "Y2" DIR "Y" COORD 0.4 VISIBLE "Yes" BUBBLELOC "Start"
GRID "CSYS1" LABEL "Y3" DIR "Y" COORD 2.5 VISIBLE "Yes" BUBBLELOC "Start"
REFERENCEPOINT "CSYS1" X 0 Y 0 VISIBLE "No"

\$ DIAPHRAGM NAMES
DIAPHRAGM "D1" TYPE RIGID

\$ MATERIAL PROPERTIES
MATERIAL "STEEL" TYPE "Steel" WEIGHTPERVOLUME 7.83344
MATERIAL "STEEL" SYMTYPE "Isotropic" E 20389020 U 0.3 A 1.1699999959091656E-05
MATERIAL "STEEL" FY 35153.48 FU 45690.53 FUE 38668.83 FUE 50269.48
MATERIAL "STEEL" HSYMTYPE "Kinematic" SSTYPE "Simple" STRAINATHARDENING 0.015 STRAINATMASTRESS 0.11 STRAINATRUPTURE 0.17 FINALSLOPE -0.1
-0.1 INTENSION 0.01 LSTENSION 0.02 CPTENSION 0.05 10CCOMPRESSION 0.005 15CCOMPRESSION 0.01 CFCOMPRESSION 0.02
MATERIAL "CONC" TYPE "Concrete" WEIGHTPERVOLUME 2.402016
MATERIAL "CONC" SYMTYPE "Isotropic" E 2531051 U 0.2 A 9.89999895424116E-06
MATERIAL "CONC" FC 2812.279
MATERIAL "CONC" TIMEDEPCONCODE "CEBFIP90"
MATERIAL "CONC" HSYMTYPE "Concrete" ENERGYDEFACT 0 SSTYPE "Simple" STRAINATFC 0.00221914 STRAINATULTIMATE 0.005 FINALSLOPE -0.1
INTENSION 0.01 LSTENSION 0.02 CPTENSION 0.05 10CCOMPRESSION 0.005 15CCOMPRESSION 0.006 CFCOMPRESSION 0.015
MATERIAL "OTHER" TYPE "Concrete" WEIGHTPERVOLUME 7.8334
MATERIAL "OTHER" SYMTYPE "Isotropic" E 20389020 U 0.3 A 1.1699999959091656E-05
MATERIAL "OTHER" DESIGNTYPE "OTHER"
MATERIAL "OTHER" HSYMTYPE "Elastic" INTENSION 0.01 LSTENSION 0.02 CPTENSION 0.05 10CCOMPRESSION 0.005 15CCOMPRESSION 0.01 CFCOMPRESSION 0.015

MATERIAL "SN490B" FY 33000 FU 50000 FUE 38668.83 FUE 50269.48
REBARDEFINITION "10d" AREA 7.85E-05 DIA 0.01
REBARDEFINITION "12d" AREA 0.000113 DIA 0.012
REBARDEFINITION "14d" AREA 0.000154 DIA 0.014
REBARDEFINITION "16d" AREA 0.000201 DIA 0.016
REBARDEFINITION "20d" AREA 0.000314 DIA 0.02
REBARDEFINITION "25d" AREA 0.000401 DIA 0.025
REBARDEFINITION "28d" AREA 0.000531 DIA 0.028
REBARDEFINITION "28d" AREA 0.000616 DIA 0.028
\$ FRAME SECTIONS
FRAMESECTION "C40L" MATERIAL "C210" SHAPE "Concrete Circle" D 0.4
FRAMESECTION "C80L" MATERIAL "C210" SHAPE "Concrete Circle" D 0.6
FRAMESECTION "R294X200X812" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.294 B 0.2 TF 0.012 TW 0.008
FRAMESECTION "R200X100X53.5X8" MATERIAL "A36" SHAPE "Steel 1/4Ie Flange" D 0.2 B 0.1 TF 0.008 TW 0.0055
FRAMESECTION "R244X175X711" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.244 B 0.175 TF 0.011 TW 0.007
FRAMESECTION "C-75X43X132.3" MATERIAL "A36" SHAPE "Cold Formed C" D 0.075 B 0.045 T 0.0023 RAD 0.0023 LIP 0.015
FRAMESECTION "R650X500X1638" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.65 B 0.65 TF 0.036 TW 0.016
FRAMESECTION "R650X500X16328" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.65 B 0.5 TF 0.028 TW 0.012
FRAMESECTION "R650X400X12325" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.65 B 0.4 TF 0.028 TW 0.012
FRAMESECTION "T500X100X12" MATERIAL "STR400" SHAPE "Steel Tube" D 0.5 B 0.1 TF 0.012 TW 0.012
FRAMESECTION "T500X150X12" MATERIAL "STR400" SHAPE "Steel Tube" D 0.5 B 0.15 TF 0.012 TW 0.012
FRAMESECTION "T500X200X12" MATERIAL "STR400" SHAPE "Steel Tube" D 0.5 B 0.2 TF 0.012 TW 0.012
FRAMESECTION "R6700X300X2118" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.7 B 0.3 TF 0.018 TW 0.012
FRAMESECTION "T200X100X9" MATERIAL "STR400" SHAPE "Steel Tube" D 0.2 B 0.1 TF 0.009 TW 0.009
FRAMESECTION "T350X150X12" MATERIAL "STR400" SHAPE "Steel Tube" D 0.4 B 0.15 TF 0.012 TW 0.012
FRAMESECTION "T400X200X12" MATERIAL "STR400" SHAPE "Steel Tube" D 0.4 B 0.2 TF 0.012 TW 0.012
FRAMESECTION "D105" MATERIAL "C280" SHAPE "Concrete Circle" D 1.05
FRAMESECTION "D120" MATERIAL "C280" SHAPE "Concrete Circle" D 1.2
FRAMESECTION "R6700X300X3324" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.7 B 0.3 TF 0.024 TW 0.013
FRAMESECTION "R30X160" MATERIAL "C245" SHAPE "Concrete Rectangular" D 0.6 B 0.3
FRAMESECTION "C650" MATERIAL "C280" SHAPE "Concrete Circle" D 0.65
FRAMESECTION "B-40X60" MATERIAL "C280" SHAPE "Concrete Rectangular" D 0.6 B 0.4
FRAMESECTION "R640X250X114" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.64 B 0.25 TF 0.014 TW 0.009
FRAMESECTION "R640X200X8132" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.4 B 0.2 TF 0.013 TW 0.008
FRAMESECTION "R6450X200X9314" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.45 B 0.2 TF 0.014 TW 0.009
FRAMESECTION "R640X300X11318" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.44 B 0.3 TF 0.018 TW 0.011
FRAMESECTION "R6500X200X10316" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.5 B 0.2 TF 0.016 TW 0.01
FRAMESECTION "R648X300X11318" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.488 B 0.3 TF 0.018 TW 0.011
FRAMESECTION "R650X250X114" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.25 B 0.25 TF 0.014 TW 0.009
FRAMESECTION "R6300X300X10315" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.3 B 0.3 TF 0.015 TW 0.01
FRAMESECTION "R6350X350X12319" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.35 B 0.35 TF 0.019 TW 0.012
FRAMESECTION "R640X400X1321" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.4 B 0.4 TF 0.021 TW 0.013
FRAMESECTION "SC" SHAPE "Auto Select" AUTOSELECTDESIGNTYPE "Steel"
FRAMESECTION "SC" SHAPE "Auto Select" AUTOSELECTDESIGNTYPE "Steel"
FRAMESECTION "R658X300X12320" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.588 B 0.3 TF 0.02 TW 0.012
FRAMESECTION "R6X400X400X19" MATERIAL "SN490B" SHAPE "Steel Tube" D 0.4 B 0.4 TF 0.019 TW 0.019
FRAMESECTION "R6X400X400X25" MATERIAL "SN490B" SHAPE "Steel Tube" D 0.4 B 0.4 TF 0.025 TW 0.025
FRAMESECTION "R6X400X400X3.6" MATERIAL "SN490B" SHAPE "Steel Tube" D 0.4 B 0.4 TF 0.036 TW 0.036
FRAMESECTION "R650X400X20117" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.5 B 0.45 TF 0.02 TW 0.02
FRAMESECTION "R604" SHAPE "Auto Select" AUTOSELECTDESIGNTYPE "Steel"
FRAMESECTION "R6350X175X711" MATERIAL "A36" SHAPE "Steel 1/4Ie Flange" D 0.35 B 0.175 TF 0.011 TW 0.007
FRAMESECTION "R6390X300X10316" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.39 B 0.3 TF 0.016 TW 0.01
FRAMESECTION "R6446X190X8132" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.446 B 0.199 TF 0.012 TW 0.008
FRAMESECTION "R6496X190X8132" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.496 B 0.199 TF 0.014 TW 0.009
FRAMESECTION "R650X200X11319" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.506 B 0.2 TF 0.019 TW 0.011
FRAMESECTION "R648X300X11315" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.482 B 0.3 TF 0.015 TW 0.011
FRAMESECTION "R6596X190X10315" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.596 B 0.199 TF 0.015 TW 0.01
FRAMESECTION "R6600X200X11317" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.6 B 0.2 TF 0.017 TW 0.011
FRAMESECTION "R6606X200X12320" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.606 B 0.201 TF 0.02 TW 0.012
FRAMESECTION "R658X200X114" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.582 B 0.3 TF 0.022 TW 0.014
FRAMESECTION "R6594X300X214328" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.594 B 0.302 TF 0.023 TW 0.014
FRAMESECTION "R6692X300X13320" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.692 B 0.3 TF 0.02 TW 0.013
FRAMESECTION "R6700X300X13324" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.7 B 0.3 TF 0.024 TW 0.013
FRAMESECTION "R6708X300X21528" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.708 B 0.302 TF 0.028 TW 0.015
FRAMESECTION "R6780X300X142" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.78 B 0.3 TF 0.022 TW 0.014
FRAMESECTION "R6800X300X14326" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.8 B 0.3 TF 0.026 TW 0.014
FRAMESECTION "R6808X302X16330" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.808 B 0.302 TF 0.03 TW 0.016
FRAMESECTION "R6300X175X711" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.3 B 0.175 TF 0.011 TW 0.007
FRAMESECTION "R6248X124X538" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.248 B 0.124 TF 0.008 TW 0.005
FRAMESECTION "C40X60" MATERIAL "C245" SHAPE "Concrete Rectangular" D 0.4 B 0.6
FRAMESECTION "R550X450X9" MATERIAL "SN490B" SHAPE "Steel Tube" D 0.55 B 0.35 TF 0.009 TW 0.009
FRAMESECTION "R650X150X6.539" MATERIAL "SN490B" SHAPE "Steel 1/4Ie Flange" D 0.3 B 0.15 TF 0.009 TW 0.0065
FRAMESECTION "R6X588X300X12320" MATERIAL "SN490B" SHAPE "Steel Tube" D 0.588 B 0.3 TF 0.02 TW 0.026
FRAMESECTION "R6X692X300X13320" MATERIAL "SN490B" SHAPE "Steel Tube" D 0.692 B 0.3 TF 0.02 TW 0.025
FRAMESECTION "R6X792X300X14322" MATERIAL "SN490B" SHAPE "Steel Tube" D 0.792 B 0.3 TF 0.02 TW 0.0265

\$ REBAR DEFINITIONS
REBARDEFINITION "2#" AREA 3.2258E-05 DIA 0.00635
REBARDEFINITION "3#" AREA 7.09676E-05 DIA 0.00925
REBARDEFINITION "4#" AREA 0.00012932 DIA 0.0127
REBARDEFINITION "5#" AREA 0.000199996 DIA 0.015875
REBARDEFINITION "6#" AREA 0.000283704 DIA 0.01905
REBARDEFINITION "7#" AREA 0.000387096 DIA 0.022225
REBARDEFINITION "8#" AREA 0.000509676 DIA 0.0254
REBARDEFINITION "9#" AREA 0.00064516 DIA 0.0286512
REBARDEFINITION "10#" AREA 0.000819352 DIA 0.032258
REBARDEFINITION "11#" AREA 0.00100645 DIA 0.035814
REBARDEFINITION "12#" AREA 0.0014514 DIA 0.0430922
REBARDEFINITION "18#" AREA 0.00258064 DIA 0.0573278
REBARDEFINITION "10M" AREA 0.0001 DIA 0.0113
REBARDEFINITION "15M" AREA 0.0002 DIA 0.016
REBARDEFINITION "20M" AREA 0.0003 DIA 0.0195
REBARDEFINITION "25M" AREA 0.0005 DIA 0.0252
REBARDEFINITION "30M" AREA 0.0007 DIA 0.0299
REBARDEFINITION "33M" AREA 0.001 DIA 0.0357
REBARDEFINITION "45M" AREA 0.0015 DIA 0.0437
REBARDEFINITION "50M" AREA 0.0025 DIA 0.0564
REBARDEFINITION "6d" AREA 2.83E-05 DIA 0.006

[illegible]

CONCRETESLABPREFERENCE USERSTRESS "No" INITCONCRAT 0.8 LLFRACTION 0.5

\$ DIMENSION LINES

DIMLINE DEFAULTSYSTEM CSYS1

\$ TABLE SETS

\$ PROJECT INFORMATION

PROJECTINFO COMPANYNAME "joli" MODELNAME "A3"

\$ LOG

STARTCOMMENTS

ENDCOMMENTS

END

\$ END OF MODEL FILE

附件 C、程式函

副本

發文方式：紙本郵寄

檔號：

保存年限：

臺中市政府都市發展局 函

40755

臺中市西屯區台灣大道四段925號5樓
之2

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承辦人：甯智江
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受文者：臺中市結構工程技師公會

發文日期：中華民國113年5月28日

發文字號：中市都建字第1130116899號

速別：普通件

密等及解密條件或保密期限：

附件：20240528100309

請轉知全體會員

陳建宏 0531

主旨：有關中華民國結構工程技師公會全國聯合會審查通過之「ETABS V9.**」結構分析程式乙案，本局同意備案仍請依說明事項辦理，請查照。

說明：

- 一、依據中華民國結構工程技師公會全國聯合會113年5月20日結師全字第1130201號及暨結構應用電子計算機程式認證書(結軟登字第041A號)及建築技術規則建築構造篇第七條規定暨內政部90年1月15日台(90)內營字第9082175號函結論辦理。
- 二、本計算機程式「ETABS V9.**」之程式申請人「眾元電腦有限公司」，同意於本市轄範圍內使用至該程式更新版本止，惟使用者據以完成之分析及設計結果仍應自行研判其正確性並負設計責任。
- 三、副本加發本市轄相關公會，惠請通告所屬會員。

正本：眾元電腦有限公司

副本：社團法人臺中市建築師公會、社團法人臺中市土木技師公會、臺中市結構工程技師公會、本局建造管理科（均含附件）

局長 李正偉



臺中市政府都市發展局 函

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受文者：社團法人臺中市土木技師公會

發文日期：中華民國110年6月11日
發文字號：中市都建字第1100113133號
速別：普通件
密等及解密條件或保密期限：
附件：

主旨：有關中華民國土木技師公會全國聯合會審查通過之
「ETABS V19.**」結構分析程式乙案，本局同意備查仍請
依說明事項辦理，復請查照。

說明：

- 一、依據中華民國土木技師公會全國聯合會110年5月5日土技全聯(110)字第111號及暨結構應用電子計算機程式認證書(土全結軟登字第026號)及建築技術規則建築構造篇第七條規定暨內政部90年1月15日台(90)內營字第9082175號函結論辦理。
- 二、本計算機程式「ETABS V19.**」之程式經銷商「眾元電腦有限公司」，於本市轄範圍內自110年5月5日起使用至114年5月4日止，惟使用者據以完成之分析及設計結果仍應自行研判其正確性並負設計責任。
- 三、副本加發本市轄相關公會，惠請通告所屬會員。

正本：眾元電腦有限公司

副本：臺中市建築師公會、社團法人臺中市土木技師公會、臺中市結構工程技師公會、
本局建造管理科

