

COLUMN

	x	P	y	x	M	y	x	Q	y
		5.3		0.5	0.6	0.6	0.3	0.3	
	10		13	2.4	1.3	2.2	1.2	1.3	
	6.7	6.6		2.9		3.7	2.7	2.9	

$b \times D = 2.8 \times 17.5$ $0.4 \times 6 = 16.8$

	x	F/b	y	x	T/b	y	x	P	y	x	a	y	x	m	y
		2.5		1.3	0.4		0.02								
	2.2	3.1		6.2	2.4		0.22	0.10	4.6	2.1		2-0.19	2-0.19		
	2.0	1.9													

	x	P	y	x	T	y	x	Q	y
		13.3		0.5	0.6	0.7	0.3	0.3	0.4
	2.6	4.1		4.7	4.4	1.0	0.2	2.6	1.0
	1.4	17.4		5.2		1.0	5.6	10.3	

$b \times D = 2.8 \times 17.5$

	x	F/b	y	x	T/b	y	x	P	y	x	a	y	x	m	y
		6.3		1.7	0.5										
	1.0	8.3		1.1	0.4		0.22	0.30	0.10	4.2		2-0.19			
	1.6	4.4													

	x	P	y	x	T	y	x	Q	y	
		22.2		0.4	0.6	0.7	0.3	1.2		$0.4 \times 6 = 13.4 - 1.5 \times 1.1 - 0.3 \times 2$
	1.0	9.0		0.1	0.9	1.0	4.6	8.6		$3.0 \times 0.1 = 11.5$
	1.7	21.2		0.5	1.0	2.0	9.3	13.4		$P/b = 0.22$

$b \times D = 2.8 \times 17.5$ $0.4 \times 6 = 13.6$ $0.4 \times 6 = 13.4$

	x	F/b	y	x	T/b	y	x	P	y	x	a	y	x	m	y
		10.6		0.4	1.9										
	1.0	14.9		1.0	1.9		0.62	0.29	13.0	6.1	T	5-0.19	2-0.19		
	1.5	11.0		2.5	12.3		0.07	0.36	19.3	8.0	B	7-0.19	2-0.19		

$\times P \times$	$\times M \times$	$\times Q \times$
1200	21 21 40	21 24
27 12	29 54 24 30	15 24
140 125 116	30 92	21 27

$b \times D = 23 \times 76$

$\times P/b \times$	$\times P/b^2 \times$	$\times P \times$	$\times d \times$	$\times n \times$
61	0.2 2.0	200		
28 6.0 54 5.5	64 5.9	0.6 0.15	3.4 3.2	2-DIA

$\times P \times$	$\times M \times$	$\times Q \times$
20.7	21 41 21 46	21 24
29 41	5.0 10.0 5.0 8.0	3.3 5.2
21.6 24.8 24.6 26.6	5.9 14.1	6.0 12.9

$b \times D = 23 \times 76$

$\times P/b \times$	$\times P/b^2 \times$	$\times P \times$	$\times d \times$	$\times n \times$
14.6	0.2 2.9	-		
21 16.6 14.2 12.6	12.6 9.0	0.20 0.17	6.3 3.6	2-DIA

$\times P \times$	$\times M \times$	$\times Q \times$
49.5	21 30 1.5	0 12
20 9.0	9.4 14.1 11.6 19.4	5.4 8.6
21.6 54.5 44.5 40.5	9.6 17.1 11.6 20.9	10.8 13.4

$b \times D = 23 \times 76$

$\Delta 2 = 14.4 - 12.6 = 1.8$

$\Delta 10 = 11.9 \rightarrow 10$

$\times P/b \times$	$\times M \times$	$\times P \times$	$\times d \times$	$\times n \times$
22.6	0.2 1.9	-		
27.8	20.4 10.9	0.27 0.17	13.3 3.6	2-DIA
19.3	24.7 12.3	1.23 0.22	24.3 6.0	2-DIA

P	π	σ
0.0	0.0	0
1.1	0.6 _{0.5}	0.3
1.1 4.4	0.6	0.6

$b \times d = 2.0 \times 2.0$

P/bd	π/bd^2	P_d	d_x	μ
0.0	0	-		
1.1 4.4	0.4	0.05	0.4	2-D19

P	π	σ
16.4	0	0
2.4	1.2	0.7
1.1 19.0	1.2	1.4

$b \times d = 2.0 \times 2.0$

P/bd	π/bd^2	P_d	d_x	μ
2.0	0	-		
2.4 16.7	0.6	-		2-D19

P	π	σ
2.2	0	0
7.5	1.2 _{1.5}	0.5
2.4 19.7	1.5	1.4

$b \times d = 2.0 \times 2.0$

P/bd	π/bd^2	P_d	d_x	μ
2.4	0	-		
4.4 25.2	0.5	-		2-D19

	x	P	Y	x	π	Y	x	Q	Y
L		5.7		0.4	0	0.1	0.2	0	
P	0.2		1.1	0.9	0.6	0.5	0.6	0.3	
S	1.2	5.9	5.7	1.6	0.6		1.5	0.6	

$b < D = 2.9 \times 2.9$

$2.9 = 5.1$

	x	P/b	Y	x	π/b ²	Y	x	P ₁	Y	x	a ₁	Y	x	π	Y
L		17.3		4.0	0.6	0.07	-								
P	0.6	7.6	17.3	9.0	3.4	0.26	0.05	2.0	0.4	2.19					2-D19

	x	P	Y	x	π	Y	x	Q	Y
L		19.5		0.6	0	0.1	0.4	0	
P	2.0	0.7	2.5	2.5	1.2	1.2	1.4	0.5	
S	2.5	20.2	19.5	3.3	1.3		3.2	1.4	

$b < D = 2.8 \times 2.8$

	x	P/b	Y	x	π/b ²	Y	x	P ₁	Y	x	a ₁	Y	x	π	Y
L		25.0		4.5	0.6	-	-								
P	2.0	26.4	25.0	10.6	2.7	0.74	-	6.7	-	2.022					2-D22

	x	P	Y	x	π	Y	x	Q	Y
L		32.7		0.4	0	0	0.2	0	
P	1.4		3.7	4.5	1.2	1.5	2.1	0.5	
S	3.5	35.1	32.7	4.1	1.2		4.4	1.4	

$b < D = 2.9 \times 2.9$

	x	P/b	Y	x	π/b ²	Y	x	P ₁	Y	x	a ₁	Y	x	π	Y
L		47.2		3.2	-	-	-								
P	1.5	45.0	47.2	27.2	6.3	1.76	-	10.6	-	2-D26					8.
S	3.7	41.4	47.2	26.6	6.5	1.70	-	12.2	-	3-D26					

$2.7 - 2.1 = 0.6 = 0.2$

$10.0 = 7.5$

5A

	X	P	Y	X	M	Y	X	Q	Y
L		22.0		01	08		01	05	
				01	09				
B	0	0.7		1.9	1.7		1.0	0.8	
				1.6	1.3				
P	22.0	22.5		2.0	2.3		1.1	1.3	
		22.1							

$b \times D = 2.0 \times 4.5$ $0.8/4 = 0.2$

	X	P/bD	Y	X	M/bD	Y	X	P/A	Y	X	Q/A	Y	X	M	Y
L		18.1		0.4	1.6		-	-							
B	18.1	18.6		2.0	4.2		-	-							2-D14
		17.5													2-D1A

	X	P	Y	X	M	Y	X	Q	Y
L		44.0		01	0		0.1	0	
				01	0.1				
B	0.1	2.3		3.9	3.0		2.2	1.7	
				3.9	3.0				
P	44.0	47.1		4.0	3.1		4.5	3.4	
		42.5							

$b \times D = 2.0 \times 4.5$

	X	P/bD	Y	X	M/bD	Y	X	P/A	Y	X	Q/A	Y	X	M	Y
L		44.0		0.4	0.2		-	-							
B	44.0	30.3		14.1	5.6		0.25	-	4.3						2-D1A
		33.7													2-D1A

	X	P	Y	X	M	Y	X	Q	Y
L		67.4		01	0.6		0	0.2	
				0	3.4				
B	0.4	5.2		6.5	3.5		3.0	2.0	
				7.9	4.3				
P	67.4	72.6		6.6	4.0		7.4	4.2	
		62.2		7.9	4.6				

$b \times D = 2.0 \times 4.5$ $0.2/4 = 0.05$ $0.2/4 = 0.05$

	X	P/bD	Y	X	M/bD	Y	X	P/A	Y	X	Q/A	Y	X	M	Y
L		67.4		0.4	0.4		-	-							
B	67.4	42.6		27.2	7.3		1.42	-	17.9						4-D25
		49.2		21.8	8.4		1.87	-	23.5						5-D25

Case	x	P	Y	x	Y	x	Y
L		3.0		0.3	0	0.3	0
F	0.4	0.4	1.1	0.4	0.6	0.6	0.3
S	0.4	0.4	1.4	0.6	1.0	0.6	

$b < b = 2.0 \times 2.3$

	x	P/b	Y	x	P/b ²	Y	x	P ₁	Y	x	P ₂	Y	x	P ₃	Y
L		0.3		1.7	0										
F	0.4	0.4	1.1	0.4	0.4	0.6	0.27	0.10	0.4	0.4	0.27	0.10	0.4	0.4	0.27

Case	x	P	Y	x	Y	x	Y
L		9.0		0.3	0	0.3	0
F	1.7	1.5	2.5	1.1	1.4	0.6	
S	12.0	10.5	2.0	1.1	3.0	1.2	

$b < b = 2.0 \times 2.0$

	x	P/b	Y	x	P/b ²	Y	x	P ₁	Y	x	P ₂	Y	x	P ₃	Y
L		1.5		1.7	0										
F	1.7	1.5	2.5	1.1	0.2	0.6	0.42	0.10	0.4	0.4	0.27	0.10	0.4	0.4	0.27

Case	x	P	Y	x	Y	x	Y
L		15.4		0.3	0	0.3	0
F	4.0	3.1	4.5	1.2	2.1	0.3	
S	19.4	13.4	4.5	1.2	4.2	1.4	

$b < b = 3.0 \times 2.0$

	x	P/b	Y	x	P/b ²	Y	x	P ₁	Y	x	P ₂	Y	x	P ₃	Y
L		0.3		1.7	0										
F	4.0	3.1	4.5	1.2	0.2	0.6	1.0	0.10	0.4	0.4	0.27	0.10	0.4	0.4	0.27

$P_{D10} \times P$	Y	$\times \pi$	Y	$\times \sigma$	Y
L	49	0	0	0	0
E	0	1.3	0.15	0.17	0.3
D	49	5.4	1.3	0.6	1.4
		44			

$b_{VD} = 2.12$ ~~0.22~~

$\times P/bD$	Y	$\times \pi/bD^2$	Y	$\times P_A$	Y	$\times A_T$	Y	$\times \mu$	Y
L	6.3	0	0	-	-				
D	6.3	8.4	12.3	3.4	2.4	0.04	1.5	0.6	2.019
		5.5							2.019

$P_{D10} \times P$	Y	$\times \pi$	Y	$\times \sigma$	Y
L	10.0	0	0	0	0
E	0	1.5	2.6	1.1	1.5
D	10.0	11.5	2.6	1.1	3.0
		8.5			1.2

$b_{LD} = 2.1$ ~~2.3~~

$\times P/bD$	Y	$\times \pi/bD^2$	Y	$\times P_A$	Y	$\times A_T$	Y	$\times \mu$	Y
L	12.8	0	0	-	-				
D	12.8	14.4	14.7	6.2	2.4	0.01	2.2	0.6	2.019
		10.4							2.019

$P_{D10} \times P$	Y	$\times \pi$	Y	$\times \sigma$	Y
L	15.6	0	0	0	0
E	0	3.1	4.0	1.2	3.3
D	15.6	16.7	4.0	1.4	6.5
		12.5	4.4		1.4

$b_{LD} = 2.1$ ~~2.3~~

$\times P/bD$	Y	$\times \pi/bD^2$	Y	$\times P_A$	Y	$\times A_T$	Y	$\times \mu$	Y
L	20.0	0	0	-	-				
D	20.0	20.0	20.6	4.6	1.00	0.0	7.8	0.6	2.022
		16.0	20.6		1.40		10.9		2.022

	x	P	y	x	P	y	x	P	y
L		6.1		0.6	0		0.7	0	
F	0.4	0.2		0.8	0.9		0.6	0.6	
S	6.4	6.7		1.4	0.9		1.5	1.2	
	5.7	5.4							

$b \times D = 2.3 \times 7.8$

	x	P	y	x	P	y	x	P	y	x	P	y
L		7.8		3.4	0		0.5					
S	0.3	0.1		7.9	5.1		0.7	0.9		1.6	0.7	
	7.7	7.5										

z-D19
z-D19

	x	P	y	x	P	y	x	P	y
L		7.1		0	0.1		0	0	
D	1.0	2.6		1.6	6.9		0.7	7.3	
S	6.1	10.7		2.0	10.3		1.2	6.6	
	6.1	7.5							

$b \times D = 2.8 \times 7.5$ $0.3 \times 1.6 \times 3$

	x	P	y	x	P	y	x	P	y	x	P	y
L		7.4		0.1								
S	2.9	5.1		4.3	6.6		0.13	0.24		2.7	5.0	
	2.9	1.7										

z-D19 z-D19

	x	P	y	x	P	y	x	P	y
L		7.0		0	2.3		0	0.8	
F	1.7	0.6		1.6	3.0		0.7	0.7	
S	1.7	1.6		2.0	0.0		1.4	2.2	
	1.7	1.4							

$b \times D = 2.8 \times 7.5$

	x	P	y	x	P	y	x	P	y	x	P	y
L		6.2		0	2.7							
S	6.3	6.5		4.3	5.1		0.03	0.12		1.7	2.5	
	6.0	5.4										

z-D19
z-D19

Case	x	P	Y	x	Y	x	Y
L	81			0	0	0	0
F	0	38		16	20	10.3	0.4
S	11.4	43		2.0	10.3	1.4	2.2

$b \times b = 38 \times 17.6$

x	P/100	Y	x	T/100 ²	Y	x	PA	Y	x	du	Y	x	u	Y
L	38			0	0	-	-							
S	11.4	51.7	2.0	43	66	0.12	0.24	3.4	5.0	2.019	2.019			

Case	x	P	Y	x	Y	x	Y
L	18.0			0.3	0.1	0.1	0
F	20	3.4		0.7	0.9	0.3	0.4
S	20.0	21.4		1.1	1.2	0.7	0.8

$b \times b = 28 \times 28$

x	P/100	Y	x	T/100 ²	Y	x	PA	Y	x	du	Y	x	u	Y
L	27.1			1.7	0.5	-	-							
S	14.7	24.4	2.0	6.3	6.3	-	-							

Case	x	P	Y	x	Y	x	Y
L	17.8			2.1	0.3	0.9	0.1
F	2.0	3.4		9.5	1.9	3.7	0.4
S	19.8	21.2		12.2	3.4	8.3	1.7

$b \times b = 28 \times 17.6$

x	P/100	Y	x	T/100 ²	Y	x	PA	Y	x	du	Y	x	u	Y
L	27			2.0	0.4	-	-							
S	10.1	6.9	2.0	7.8	5.1	0.30	0.10	4.2	2.1	2.019	2.019			

CEA	P	Y	X	R	T	Q	T
L	313		04	03	0.1	01	
			02	02			
E	2A	0.6	16	19	0.7	2.3	
			20	23			
S	022	31.4	2.2	2.5	1.4	1.7	
	00.6	70.7					

FD \$

$\alpha = 40 \times 2.3 / 30 = 1.07$

$P/\sigma_{fc} = 0.726$

$\mu/\sigma_{fc} = 0.011$ γ $\mu = 0$

$P/\sigma_{fc} = 0.010$ $\mu = 0.0096$

$\mu/\sigma_{fc} = 0.00204$ γ $\mu = 0$

$\sigma/\sigma_0 = 10.0$

$n = 12 - 13$

TIE BEAM

$z = 2.0$

$w = 0.176 \pi / l$

$j = \pi z / l$

16 ft

$M_{OE} = 9.9 + 0.2 = 10.1$

$M_{IE} = 5.8 + 0 = 5.8$

$w' = 0.176 + 0.2 = 1.37$ $l = 41.0$

$C = w'l^2 / 12 = 1.172$

$V_0 = " / 1.37 = 2.57$

$M_{IE} = 1.2C = 2.1$

$\Sigma M_{IE} = 5.8 + 2.1 = 7.9$

$M_{LE} = 0.6V_0 = 1.5$

$Q_{OE} = 10.1 / 0.176 \times 2.0 = 4.6$ $z = 1.9$

$Q_{IE} = 7.9 / " = 3.6$ $z = 1.9$

610 B B

$M_{OE} = 19.9 + 1.5 = 21.4$

$M_{IE} = 3.2 + 2.2 = 5.4$

$M_{LE} = 1.5 + 0 = 1.5$

$w' = 0.44 + 1.25 = 1.69$

$l = 41.0$

$w' = 0.176$

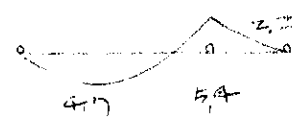
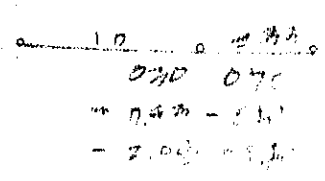
$l = 41.0$

$C = 2.03 \times 16.81^2 / 12 = 4.91$

$0.176 \times 41.0^2 / 12 = 0.24$

$V_0 = " / 1.69 = 7.43$

$V_0 = " / 0.176 = 0.51$



$\Sigma M_{IE} = 21.4 - 5.4 = 16.0$

$Q_{OE} = 21.4 / 0.176 \times 2.0 = 6.1$ $z = 1.9$

$Q_{IE} = 16.0 / " = 3.6$ $z = 1.9$

WUNDKEY:

$F_{\text{ET}} = 35 \times 75 \quad w = 0.67 \quad j = 59.5$

$M_{\text{FE}} = 0.9 + 0.3 = 1.2$

$w' = 0.67 - 1.07 = -1.40 \quad Q = 410$

$M_{\text{FO}} = 1.66 \times 4.1^2 / 2 + 35$

$Q_{\text{FE}} = 1.2 / 0.67 \times 3.0 = 0.7 \quad Z = D19$

$Q_{\text{LO}} = 3.5 / 0.67 \times 2.0 = 2.9 \quad Z = D19$

PINING

$F_{\text{ET}} = 35 \times 90$

$M_{\text{FE}} = 11.45 + 3.4 = 14.85$

$M_{\text{FO}} = 4.6 - 0.1 = 4.5$

$w' = 0.76 \quad Q = 496$

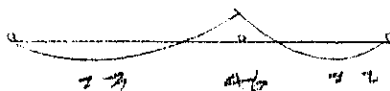
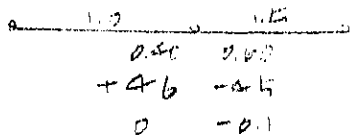
$w = 0.176 + 0.90 = 1.076 \quad Q = 464$

$C = 0.76 \times 6.96^2 / 2 = 3.6$

$1.076 \times 4.6^2 / 2 = 2.93$

$M_{\text{FO}} = \dots \quad 1.0 = 410$

$\dots \quad 1.3 = 446$



$M_{\text{FO}} = 4.5 + 4.6$

$Q_{\text{OE}} = 14.85 / 0.726 \times 3.0 = 6.8 \quad Z = D19$

$M_{\text{FE}} = 4.5 / 0.726 \times 2.0 = 3.1 \quad Z = D19$

FOUNDATION

PILE 30g $f_p = 25^T$

FRONTING 0.9 x 0.9 x 0.75 x 2.4 = 1.5

$$f_p' = 25 - 1.5 = 23.5 \rightarrow 23$$

35g $f_p = 30^T$

FRONTING 1.05 x 1.05 x 0.75 x 2.4 = 2.0

$$f_p' = 30 - 2.0 = 28$$

40g $f_p = 35^T$

FRONTING 1.2 x 1.2 x 0.75 x 2.4 = 2.6

$$f_p' = 35 - 2.6 = 32.4 \rightarrow 32$$

FOOTING

ID	WALL	THICKNESS	TYPE	IP	9 x n	l x l'
145	0.47 x 3.42	1.30	b.17	59.7	408 x 3	1.20 x 3.60
146	1.27 x 2.55	2.25				
147	0.47 x 1.91	0.97	2.64	27.2	408 x 1	1.20 x 1.20
148	1.27 x 1.71	1.55				
149	0.47 x 1.21	0.51	2.62	35.3	408 x 2	1.20 x 2.40
150	1.27 x 2.11	2.96				
151	1.27 x 2.56	3.25	6.06	82.9	408 x 4	2.40 x 2.40
152	1.27 x 2.92	6.00				
153	0.47 x 1.71	0.51	2.54	44.1	408 x 2	1.20 x 2.40
154	1.27 x 2.2	1.00				
155	0.15 x 2.92	0.52	4.00	10.8	408 x 1	1.20 x 1.20
156	0.15 x 1.91	0.55	4.00	22.2		
157	1.64 x 1.91	3.11	3.24	25.7		
158	1.00 x 3.06	2.30	2.50	12.8	309 x 1	0.90 x 0.90
159	0.30 x 2.42	1.15	1.13	4.1	41/3 = 13.7	1.00 x 1.50
160	1.13 x 1.82	1.10	1.76	10.0	309	0.90 x 0.90
161	0.54 x 1.02	0.55	1.70	15.2		
162	1.13 x 1.02	1.00	3.60	12.0		
163	0.54 x 2.00	1.10				
164	1.13 x 1.02	1.00	2.12	17.4		
165	0.91 x 5.9	3.30	4.54	30.2	309 x 2	0.90 x 1.80
166	0.91 x 2.14	1.90				
167		2.00	4.04	2.00		
168		3.00	6.66	20.3		
169	0.91 x 4.4	4.61	4.35	45.0	309 x 3	0.90 x 2.70
170	1.13 x 1.02	1.10	4.74	25.1	209 x 2	0.90 x 1.80
171	1.13 x 2.06	2.20	1.76	11.8	309 x 1	0.90 x 0.90
172	1.13 x 1.02	1.10	1.76	13.2		
173			9.19	40.5	309 x 3	0.90 x 2.70

$$F_2 \quad 408 \times 2 \quad 120 \times 240 \quad D = 175 \quad z' = 59.5$$

$$\sigma_p = 44.1 \quad \frac{1}{2} = 22.1 = \sigma$$

$$\tau_s = 22.1 \times 10^3 / 120 \times 59.5 = 31.1 < 5.0$$

$$q = 22.1 \times 10^3 / 59.5 \times 15 = 24.9$$

$$a = 22.1 \times 60 / 59.5 \times 2.0 = 11.1$$

$$\left. \begin{array}{l} q = 24.9 \\ a = 11.1 \end{array} \right\} \text{B-D16}$$

$$F_3 \quad 408 \times 3 \quad 120 \times 360$$

$$\sigma_p = 59.7 / 3 = 19.9$$

$$q = 19.9 \times 10^3 / 59.5 \times 15 = 22.3$$

$$a = 19.9 \times 120 / 59.5 \times 2.0 = 20.1$$

$$\left. \begin{array}{l} q = 22.3 \\ a = 20.1 \end{array} \right\} \text{B-D19}$$

$$F_4 \quad 408 \times 4 \quad 240 \times 240$$

$$\sigma_p = 87.9 / 4 = 20.7$$

$$q = 2 \times 20.7 \times 10^3 / 59.5 \times 15 = 46.4$$

$$a = 2 \times 20.7 \times 60 / 59.5 \times 2.0 = 20.9$$

$$\left. \begin{array}{l} q = 46.4 \\ a = 20.9 \end{array} \right\} \text{B-D19}$$

$$F_5 \quad 408 \times 1 \quad 120 \times 180$$

$$\text{B-D16}$$

$$F_6 \quad 308 \times 1 \quad 90 \times 240$$

$$\text{A-D16}$$

$$F_7 \quad 308 \times 2 \quad 90 \times 240 \quad r = 60 \quad z' = 46.4$$

$$\sigma_p = 24.9 / 2 = 12.4$$

$$\tau_s = 12.4 \times 10^3 / 90 \times 46.4 = 3.0 < 5$$

$$q = 12.4 \times 10^3 / 46.4 \times 2 = 13.3$$

$$a = 12.4 \times 60 / 46.4 \times 2.0 = 7.9$$

$$\left. \begin{array}{l} q = 13.3 \\ a = 7.9 \end{array} \right\} \text{A-D16}$$

$$F_8 \quad 308 \times 3 \quad 90 \times 360$$

$$\sigma_p = 40.0 / 3 = 13.3$$

$$a = 13.3 \times 90 / 46.4 \times 2.0 = 12.7 \quad \text{B-D16}$$

4.18

$L = 410 \quad G_j = 4.41 \quad \gamma = 1.32$

$M_{11} = 0.063 \times W \times 410^2 = 1.06 W$

$M_{12} = 0.062 \times \dots = 0.51 W$

$M_{21} = 0.062 \times \dots = 0.51 W$

$M_{22} = 0.034 \times \dots = 0.47 W$

0.65

0.53

0.53

0.42

0.47

0.42

0.29

0.24

$D = 12 \quad d = 9 \quad \gamma = 1.4$

$A_{x1} = 4.2 \quad D12 \quad D1 = A \quad 20 \text{ @}$

4.0

$D12 \quad D10 \quad A \quad 20 \text{ @}$

$A_{x2} = 2.8 \quad D10 \quad 20 \text{ @}$

2.7

$D10 \quad 20 \text{ @}$

$A_{y1} = 3.1 \quad D10 \quad 20 \text{ @}$

3.0

$D10 \quad 20 \text{ @}$

$A_{y2} = 2.1$

2.0

$L = 272 \quad G_j = 4.10 \quad \gamma = 1.70$

$M_{11} = 0.076 \times W \times 272^2 = 0.41 W$

$M_{12} = 0.051 \times \dots = 0.27 W$

$M_{21} = 0.051 \times \dots = 0.27 W$

$M_{22} = 0.024 \times \dots = 0.15 W$

0.33

0.15

0.33

0.15

0.13

0.08

$D = 0 \quad d = 0 \quad \gamma = 6.1 \quad 5.2$

$A_{x1} = 1.9 \quad D10 \quad 20 \text{ @}$

$A_{x2} = 1.2$

$A_{y1} = 1.2 \quad D10 \quad 20 \text{ @}$

$A_{y2} = 0.8$

0.33

0.15

0.33

0.15

0.13

0.08

5.2

$l_2 = 334$ $l_1 = 410$ $\gamma = 1.23$ $w_2 = 0.61$

$\mu_{x1} = 0.054 \times 0.61 \times 334^2 = 0.39$

$\mu_{x2} = 0.038 \times \dots = 0.26$

$\mu_{y1} = 0.042 \times \dots = 0.28$

$\mu_{y2} = 0.038 \times \dots = 0.19$

$D = 12$

$\sigma_{x1} = 2.5$ $D = 20$

$\sigma_{x2} = 1.7$

$\sigma_{y1} = 2.0$ $D = 25$

$\sigma_{y2} = 1.4$

$l_2 = 232$ $w_2 = 0.56$

$\mu_{x1} = 0.083 \times 0.56 \times 232^2 = 0.25$

$\mu_{x2} = 0.055 \times \dots = 0.17$

$\mu_{y1} = 0.052 \times \dots = 0.13$

$\mu_{y2} = 0.028 \times \dots = 0.08$

$D = 10$

$\sigma_{x1} = 2.0$ $D = 20$

$\sigma_{x2} = 1.4$

$\sigma_{y1} = 1.2$ $D = 20$

$\sigma_{y2} = 0.9$