Calculation Book

I. Name of Project: Shanghai Pudong Airport Oil Depot Pump room

II. Seismic intensity: 7

III. Frame seismic grade: 3

IV. Structure importance parameter: Ro=1.0

V. Site soil type: IV

VI. Soil endurance: R=110KPa

VII. Foundation load-bearing layer elevation:

VIII. Materials: column -- C25 beam board -- C25

wall: clay brick 240mm (5.40KN/m2)

I. Load:

1. Living load: roof 0.7KN/m2

2. Static load: roof ceiling 0.50KN/m2

structure layer (100mm) 2.50KN/m2

roof (roof 1) 2.28KN/m2

total 5.28KN/m2

3. Wind load: 0.55 KN/m^2

X. Selection of main members

1.Brick Column bxh=480x490

2. Main beam (L=8400mm)

bxh=350x800mm

bxh=200x400mm

3. Board thickness

h=100mm

XI. Design basis

1. Current national architecture & structure standards and codes;
2. Shanghai City's << Base Foundation Design Codes >> DBJ08--11--89;
3. Shanghai City's << Base Treatment Technical Codes >> DBJ08--40--94;
4. Shanghai City's << Building Anti-seismic Design Standards >> DBJ08--09--92;

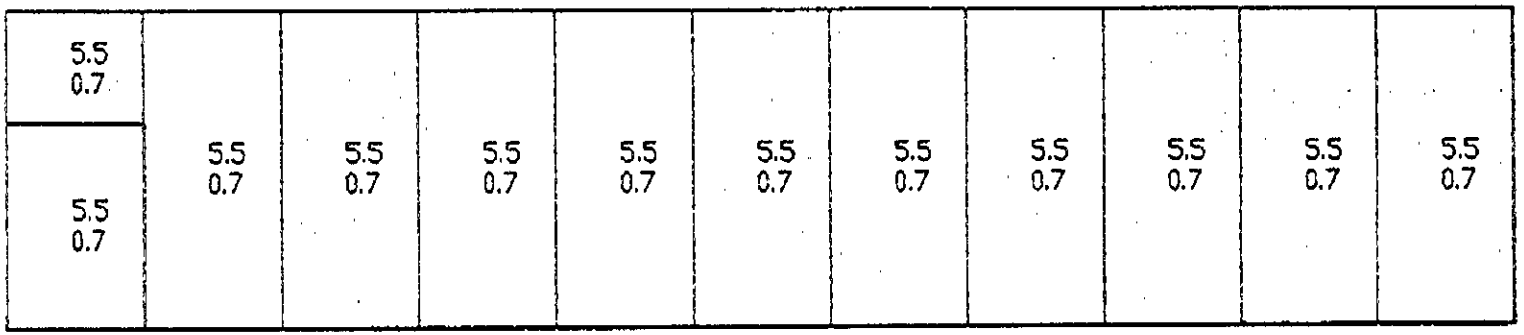
XII. Computer programs

China Building Science Research Institue CAD Engineering Department

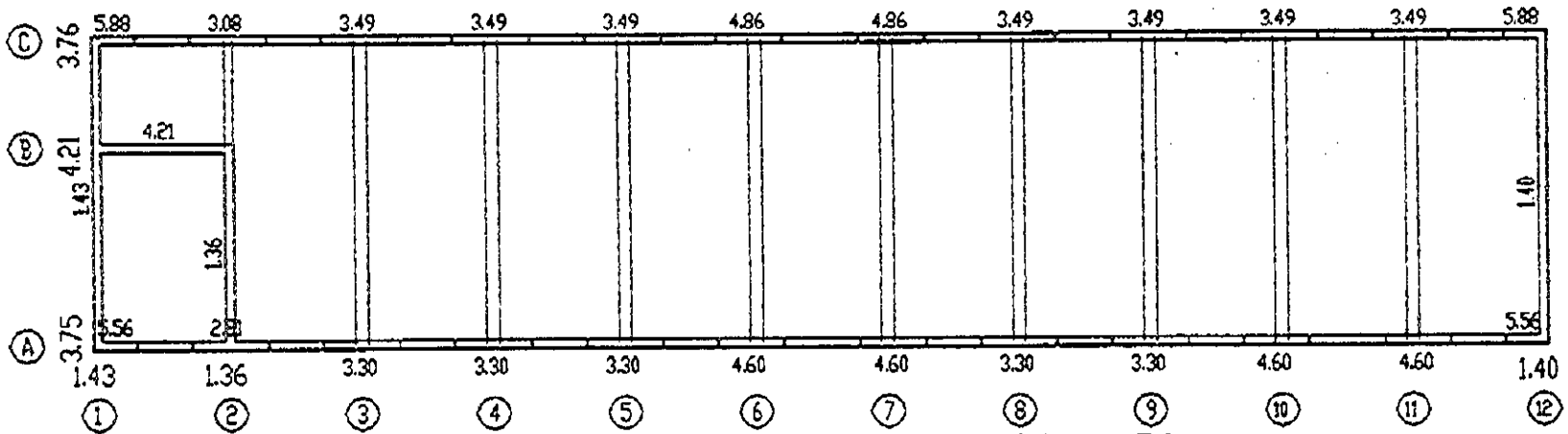
PMCAD	August, 1996
PK	August, 1996
JCCAD	August, 1996

XIII. Conclusion:

It is concluded from calculation above, the integral strength and deformation of structure meet the design requirements, the geometric dimensions also meet the requirements of strength and deformation regulated by Codes. The primary data of structural model, major calculation results, combining results of main internal forces of each member, structural layout, internal force drawing, reinforcing results of major members refer the next page, based on which construction drawings are made.



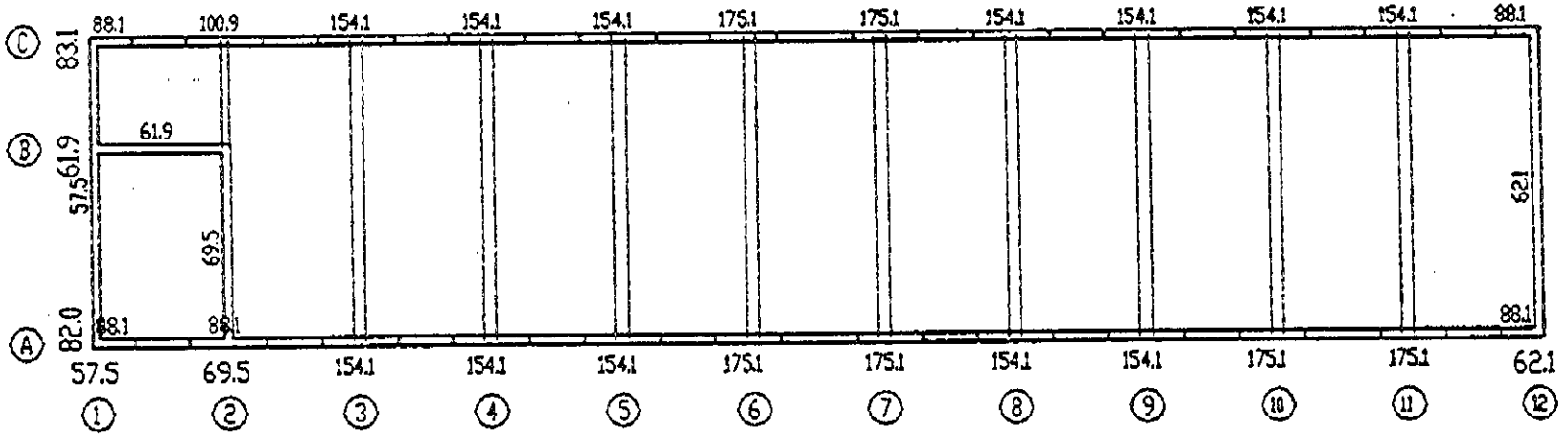
floor load



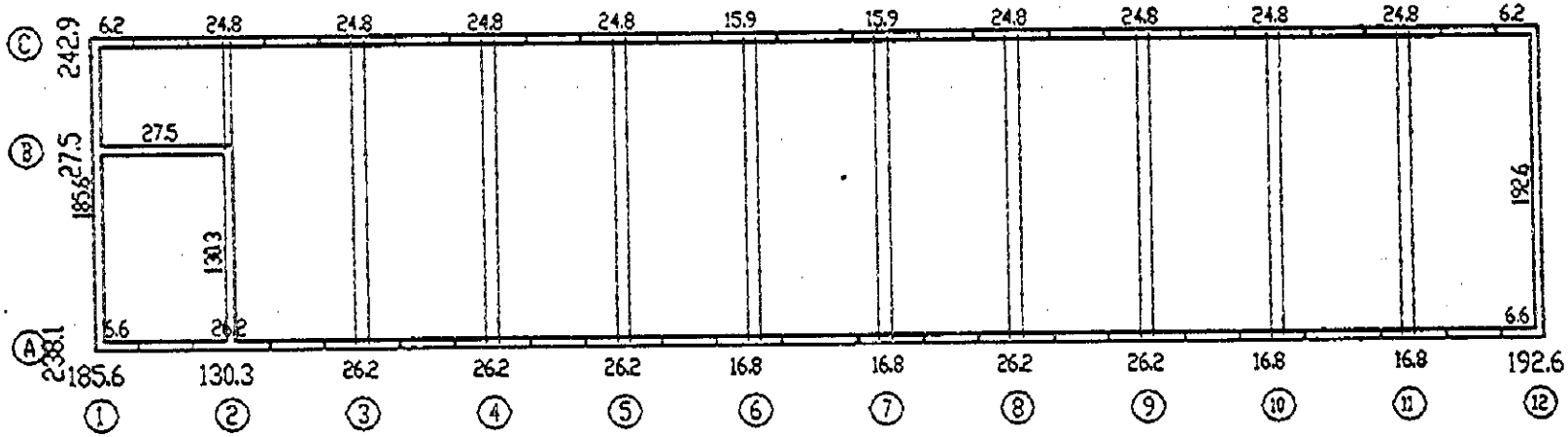
G1=4890.7 F1=391.2 V1=391.2 LD=7.0 GD=2.0 M =5.0

Aseismic calculation result

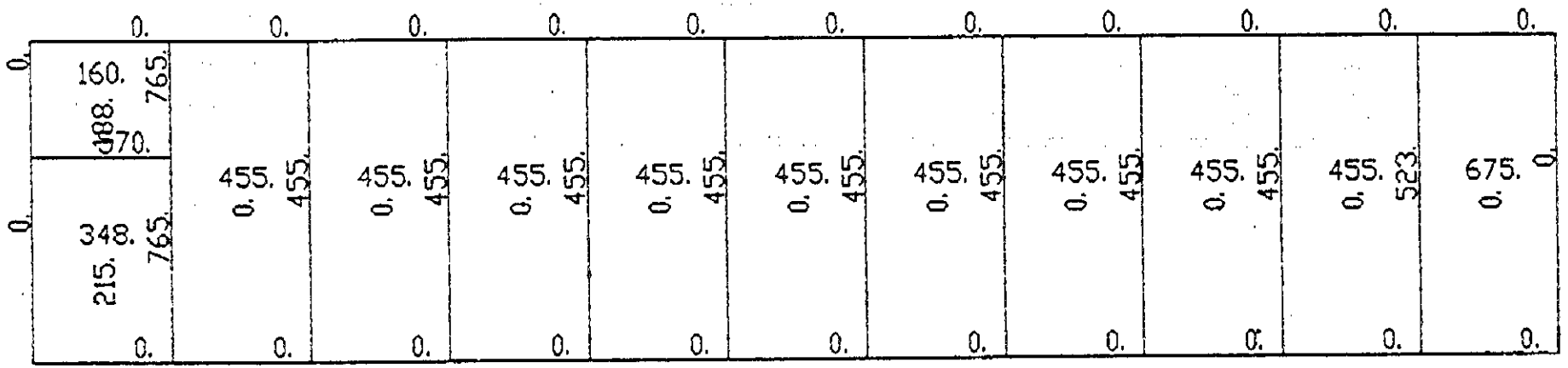
(ratio between resistance and affection)



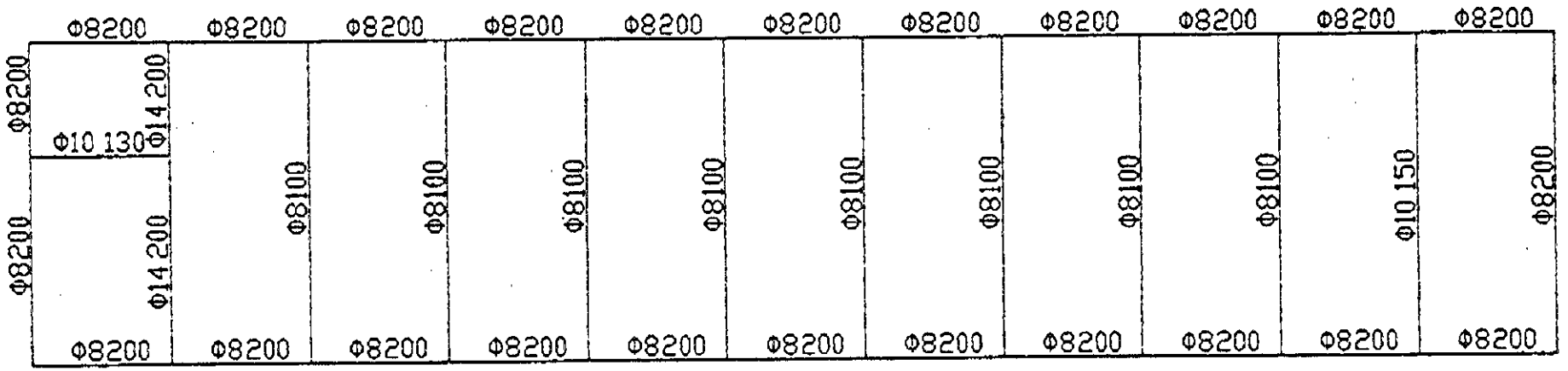
Wall axial force design value drawing (kN/M)



Earthquake shear force design value drawing (kN)



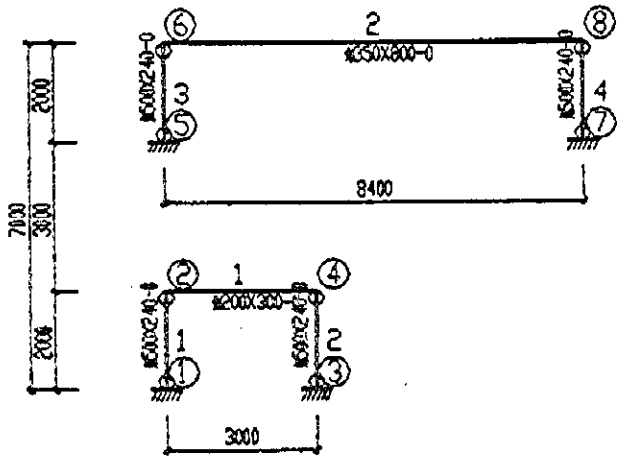
Cast-in-situ board calculation rein-situfordement



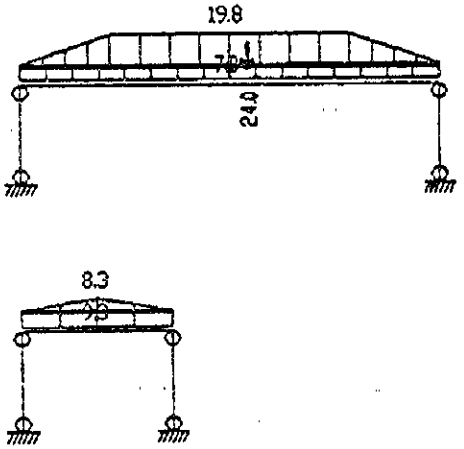
cast-in-situ board abutment reinforcement drawing

Cast-in-board bending moment drawing (kN.m)

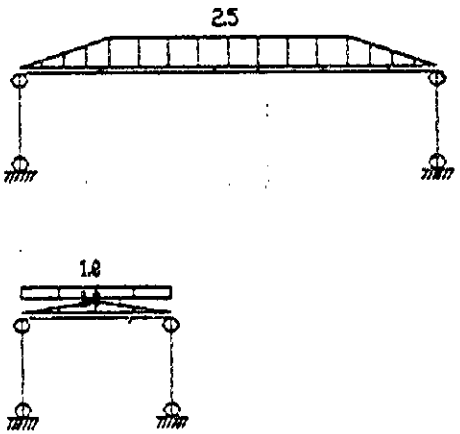
board in-span reinforcement drawing



Frame elevation drawing



Constant load drawing



Living load drawing

LL-1 drawing

****** LL-1 Calculation Result ******

OUTPUT DATA

---- Zhong xin xi ------

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0.90 1.00
0

OUTPUT DATA

------- Jiao Dian Zuo Biao --------

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(5) 0.00 3.00 (6) 0.00 5.00 (7) 8.40 3.00 (8) 8.40 5.00

OUTPUT DATA

------- Zhu Guan Lian Hao --------

(1) 1 2 (2) 3 4 (3) 5 6 (4) 7 8

------- Liang Guan Lian Hao --------

(1) 2 4 (2) 6 8

OUTPUT DATA

------- Zhi Zuo Yue Shu Xin Xi --------

(1) 1111 (2) 3111 (3) 5111 (4) 7111

OUTPUT DATA

------- Shang Xia Zhu Jian Dian Pian Xin --------

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(8) 0.00

OUTPUT DATA

------- Biao Zhun Jie Mian Xin Xi --------

(1) 1, 200, 300, 6
(2) 1, 350, 800, 6
(3) 1, 500, 240, 6

OUTPUT DATA

----- Zhu Ji Suan Chang Du(After consider steel) ------

(1) 1.00 (2) 1.00 (3) 1.00 (4) 1.00

OUTPUT DATA

---- Zhu Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----

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(4) 3 3 0

---- Liang Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----

(1) 1 0 0 (2) 2 0 0
IIQQ= 30

STIF COMPUTE

DEAD COMPUTE

JOINT LOAD: JR XM XN

0

COLUMN LOAD: JC KL P X KX

0

BEAM LOAD: NE LI KL P X P1 X1 KL P X P1 X1

1 2 1 9.30 0.00 6 8.30 1.50

1 3 4 24.00 4.55 1 7.00 0.00

6 19.80 1.80

DEAD LOAD

STIF COMPUTE

LIVE COMPUTE

JOINT LOAD: JR XM XN

0

COLUMN LOAD: JC KL P X KX

0

BEAM LOAD: NE LI KL P X P1 X1 KL P X P1 X1

1 2 6 1.00 1.50 1 1.00 0.00

1 1 6 2.50 1.80

COMBI COMPUTE

COMBINATION AND REINFORCEMENT

Concrete COLUMN 1(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 500, H= 240

NO 2 As= 0. M= -0.03 N= 20.18 NO 2 As= 0. M= -0.05 N= -20.18
GG= 240.

Concrete COLUMN 2(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 500, H= 240

NO 2 As= 0. M= 0.03 N= 20.18 NO 2 As= 0. M= 0.05 N= -20.18
GG= 240.

Concrete COLUMN 3(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 500, H= 240

NO 2 As= 0. M= -0.03 N= 105.74 NO 2 As= 0. M= -0.07 N= -105.74
GG= 240.

Concrete COLUMN 4(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 500, H= 240

NO 2 As= 0. M= 0.03 N= 107.74 NO 2 As= 0. M= 0.07 N= -107.74
GG= 240.

Concrete BEAM 1(SECTION TYPE= 1 ANG= 0, L= 3.00)
Section property: B= 200, H= 300
BOTTOM

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.00	-6.37	-11.89	-16.39	-19.76	-21.86	-22.59	-21.86	-19.76	-16.39	-11.89	-6.37	0.00
As(1)=	90.	79.	150.	209.	255.	284.	294.	284.	255.	209.	150.	79.	90.
As(2)=	90.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	90.

TOP

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
As(1)=	90.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	90.
As(2)=	90.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	90.

Vl= 27.36 NO 1 Vr= 27.36 NO 3 Asv/s= 0.00 As(3)= 90.
Umaxb= 0.005 Umaxt= 0.002

Concrete BEAM 2(SECTION TYPE= 1 ANG= 0, L= 8.40)
Section property: B= 350, H= 800
BOTTOM

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.00	-93.90	-178.57	-248.81	-301.73	-337.18	-355.16	-345.58	-308.45	-253.85	-181.93	-95.58	0.00
As(1)=	420.	403.	779.	1101.	1351.	1521.	1609.	1562.	1383.	1125.	794.	410.	420.
As(2)=	420.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	420.

TOP

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
As(1)=	420.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	420.
As(2)=	420.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	420.

Vl= 138.44 NO 1 Vr= 140.84 NO 3 Asv/s= 0.00 As(3)= 420.
Umaxb= 0.006 Umaxt= 0.002
COMPUTE END

CONTENTS

Calculation Book 26-Mar-97

1 • Design Introduction

I. Name of Project: Shanghai Pudong Airport Oil Depot Auxiliary Tank Farm

II. Structure type: one-floor brick & concrete structure

III. Foundation type: R.C. Strip foundation

IV. Aseismic intensity: 7

V. Site soil type: IV

VI. Soil endurance: R=110KPa/m2

VII. Structure importance parameter: Ro=1.0

VIII.Foundation load-bearing layer elevation:

IX. Materials: column -- C20 beam board -- C20
wall: clay brick 240mm (5.40KN/m2)

X. Load:

1. Living load: roof 0.70KN/m2

2. Static load: roof ceiling 0.30KN/m2
structure layer (120mm) 3.00KN/m2
roof (roof 1) 2.00KN/m2
total 5.30KN/m2

XI. Selection of main members

1. Brick column 480x480mm
2. Main beam (L=9000mm)
bxh=250x750
3. Board thickness: h=120mm

XII. Design basis

1. Current national architecture & structure standards and codes;
2. Shanghai City's << Base Foundation Design Codes >> DBJ08--11--89;
3. Shanghai City's << Base Treatment Technical Codes >> DBJ08--40--94;
4. Shanghai City's << Building Aseismic Design Standards >> DBJ08--09--92;
5. << Shanghai Pudong Airport Oil Depot Rock & Soil Investigation Immediate Report >> made by China Aviation Industry Investigation & Design Institute;

XIII. Computer programs

China Building Science Research Institue CAD Engineering Department

PMCAD CAD, structure plan CAD;August, 1996

PK Structural calculation & construction drawing making of R.C. Frame, framed bent and continuous beam; August, 1996

JCCAD Independent foundation & strip foundation design; August, 1996

XIV. Conclusion:

It is concluded from calculation above, the integral strength and deformation of structure meet the design requirements, the geometric dimensions also meet the requirements of strength and deformation regulated by Codes. The primary data of structural model, major calculation results, combining results of main internal forces of each member, structural layout, internal force drawing, reinforcing results of major members refer the next page, based on which construction drawings are made.

2 • Primary data document Ylk.pm （For PMCAD）

```
C---NST MST NAXIS  NYS KCL  KBE  KDK  MLOD ALIVE  MXD  MYD BLKD
DWS  BLP
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     3,    4,    9,   10,   11,   12,
     4,    4,   13,   14,   15,   16,
     5,    4,   17,   18,   19,   20,
     6,    4,   21,   22,   23,   24,
     7,    4,   25,   26,   27,   28,
     8,    4,   29,   30,   31,   32,
     9,    8,    1,    5,    9,   13,   17,   21,   25,   29,
    10,    8,    4,    8,   12,   16,   20,   24,   28,   32,
    11,    8,    2,    6,   10,   14,   18,   22,   26,   30,
    12,    8,    3,    7,   11,   15,   19,   23,   27,   31,
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    1.000,   6.000,   0.200,   0.400,
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C---((HSLD(i,j),j=1,3),i=1,MLOD)
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C---QUE JEI DIAN
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C=============================================================C
C                          LAYER    1
C=============================================================C
C---BHOU    RWB    BHC    IC    ICC      IG
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     4,    4,   13,   14,   15,   16,
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     6,    4,   21,   22,   23,   24,
     7,    4,   25,   26,   27,   28,
     8,    4,   29,   30,   31,   32,
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          908,    2,      0.000,      0.000
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         1008,    2,      0.000,      0.000
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     10000020,    1,      0.000,      0.120,      180
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     10000028,    1,      0.000,      0.120,      180
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END
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3 · Beam （L-1） date document （梁 L-1 数据文件）

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20, 20, 2, 0, 0, 1.00, 1.25,13,

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8.760, .000,

C _____ zhu guan lian hao
1, 2, 3, 4,

C _____ liang guan lian hao
2, 4,

C _____ yue su xin xi
1111, 3111,

C _____ zhu ji suan chang du xi su
0,

C _____ zhu jie dian pian xin
0,

C _____ biao zhun jie mian
1, .25, .75,
1, -.48, .48,
C _____ zhu jie mian hao
2, 2,
C _____ liang jie mian hao
1,

CCC _____ jie dian (jing) he zai
0,
CCC _____ zhu jian (jing) he zai
0,
CCC _____ liang jian (jing) he zai
1, 2, 1, 4.7,
6, 27.0, 2.55,
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0,
CCC _____ zhu jian (huo) he zai

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CCC _____ liang jian (huo) he zai
1, 1, 6,        3.6,   2.55,
C _____ di zhen can shu
    1, 5, 2.0, 0, 0, 1.0, 0,

 88888
C _____ zhou xian pian xin
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C _____ zhi zhuo xin xi
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C _____ ci liang xin xi
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 EOF
A      ,B      ,
L-1     ,
 END
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4 • Structure analysys of Beam （L-1） result document 梁 L-1 计算结果文件

****** PK11.EXE ******

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   1.00  1.25
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 ( 1)  .00 -2.00  ( 2)  .00   .00  ( 3) 8.76 -2.00  ( 4) 8.76   .00

 OUTPUT  DATA
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 ( 1)  2   4

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 ( 1) 1.00  ( 2) 1.00

 OUTPUT  DATA
 ( 1)  .00  ( 2)  .00  ( 3)  .00  ( 4)  .00

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 ( 2)      1.00     -.48      .48      .00      .00      .00

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          STIF COMPUTE
          DEAD COMPUTE
JOINT  LOAD:    JR        XM        XN
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COLUMN LOAD:    JC        KL        P         X         KX
                0

BEAM   LOAD:    NE        LI        KL        P         X         PI
```

X1

1 2 1 4.70 .00
6 27.00 2.55

DEAD LOAD

MEMBER	M	N	V	M	N	V
1	-.07	104.42	-.11	-.14	-104.42	.11
2	.07	104.42	.11	.14	-104.42	-.11
1	.14	.11	104.42	-.14	-.11	104.42

STIF COMPUTE
LIVE COMPUTE

JOINT LOAD: JR XM XN
0

COLUMN LOAD: JC KL P X KX
0

BEAM LOAD: NE LI KL P X PI
X1

1 1 6 3.60 2.55

EART COMPUTE
COMBI COMPUTE

COMBINATION AND REINFORCEMENT

BEAM 1 (B= .250, H= .750, L= 8.76)

NUMBER	M	N	V	M	N	V
1	.19	.14	140.95	-.17	-.13	125.31
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3	.17	.13	125.31	-.19	-.14	140.95
4	.14	.11	104.42	-.16	-.12	120.07
5	.19	.14	138.61	-.17	-.13	125.31
6	.16	.12	117.72	-.14	-.11	104.42
7	.17	.13	125.31	-.19	-.14	138.61
8	.14	.11	104.42	-.16	-.12	117.72
9	.19	.14	138.61	-.17	-.13	125.31
10	.16	.12	117.72	-.14	-.11	104.42
11	.17	.13	125.31	-.19	-.14	138.61
12	.14	.11	104.42	-.16	-.12	117.72

17	.19	.14	140.95	-.19	-.14	140.95
18	.16	.12	120.07	-.16	-.12	120.07
19	.17	.13	125.31	-.17	-.13	125.31
20	.14	.11	104.42	-.14	-.11	104.42
21	.19	.14	138.61	-.19	-.14	138.61
22	.16	.12	117.72	-.16	-.12	117.72
23	.17	.13	125.31	-.17	-.13	125.31
24	.14	.11	104.42	-.14	-.11	104.42
25	.19	.14	138.61	-.19	-.14	138.61
26	.16	.12	117.72	-.16	-.12	117.72
27	.17	.13	125.31	-.17	-.13	125.31
28	.14	.11	104.42	-.14	-.11	104.42

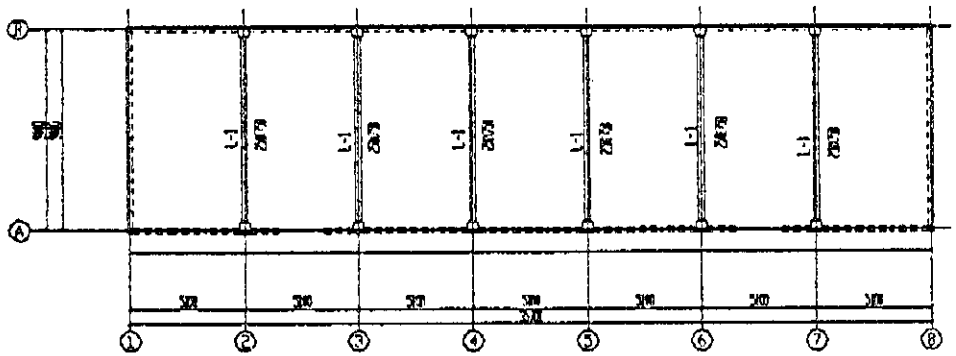
BOTTOM

SECTION	1	2	3	4	5	6	7
M=	.00	-191.97	-326.55	-372.46	-326.55	-191.97	.00
As(1)=	469.	935.	1701.	1994.	1701.	935.	469.
As(2)=	469.	0.	0.	2102.	0.	0.	469.

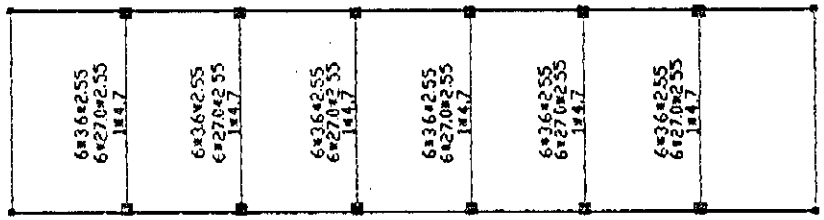
TOP

SECTION	1	2	3	4	5	6	7
M=	.19	.00	.00	.00	.00	.00	.19
As(1)=	469.	0.	0.	0.	0.	0.	469.
As(2)=	469.	0.	0.	0.	0.	0.	469.

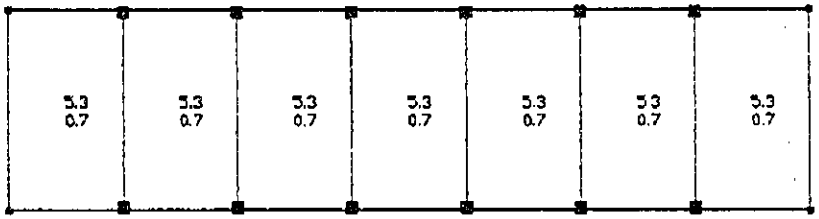
Vl= 140.95 NO 1 Vr= 140.95 NO 3 As(3)= 469. Umaxb= .011 Umaxt= .002
Asv/s= .07
PK1 COMPUTE END



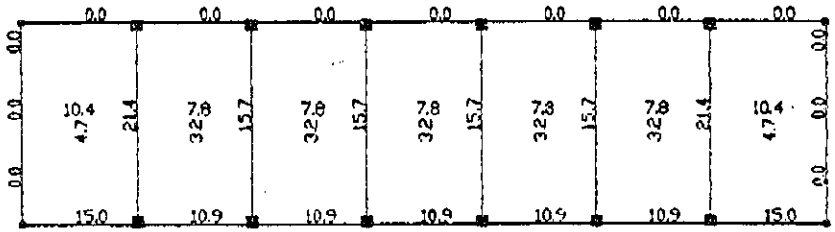
FLOOR STRUCURE PLAN(UNIT:CM) 1:100



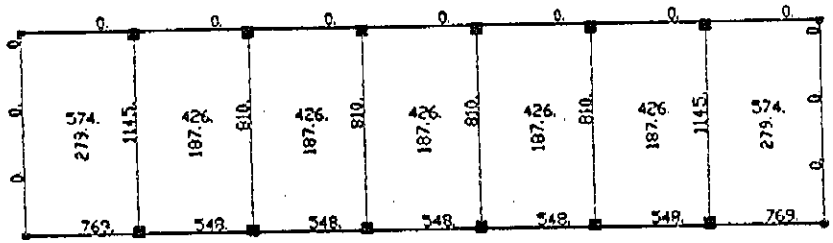
WALL AND BEAM LOAD



1st floor (floor load)



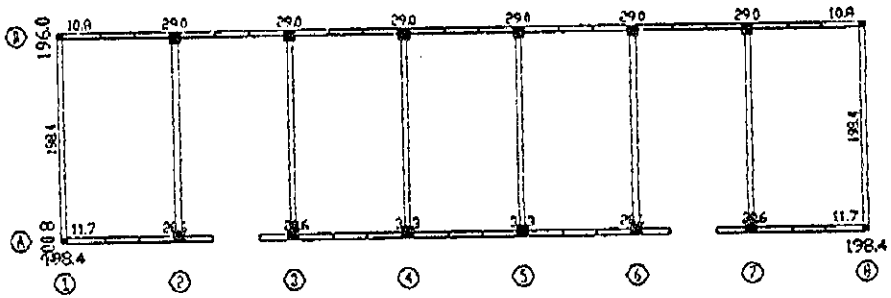
1st FLOOR CAST-IN-SITU BOARD
BENDING MOMENT DRAWING (UNIT:KN-M)



1st FLOOR CAST-IN-SITU BOARD
CALCULATION REINFORCEMENT

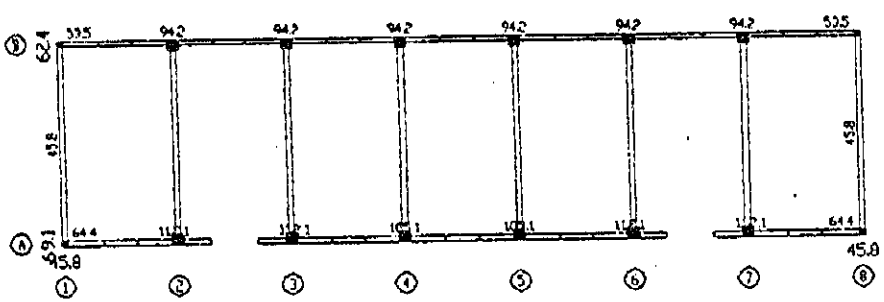
(UNIT:mm²/m;STEEL GRADE: I ; CONCRETE:C20)

现浇板计算配筋图 (BAS.T)



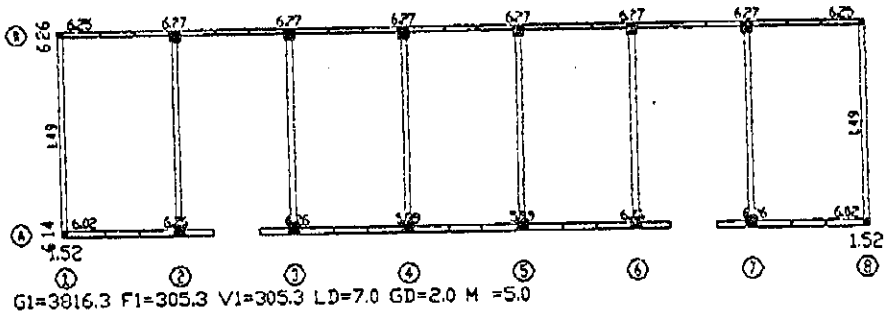
EARTHUAKE SHEAR FORCE DESIGN VALUE DRAWING (KN)

1层地震剪力设计值图 (kN)



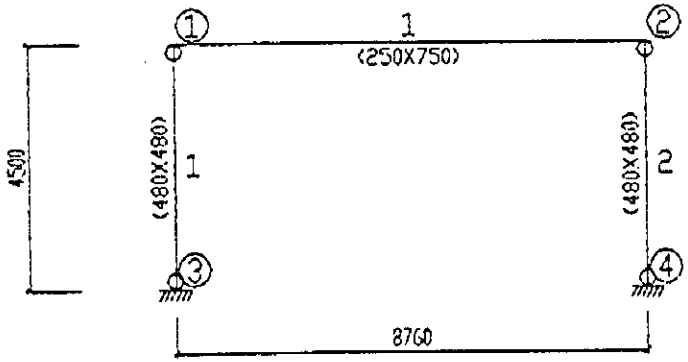
WALL AXIAL FORCE DESIGN VALUE DRAWING (KN/M)

1层墙轴力设计值图 (KN/M)

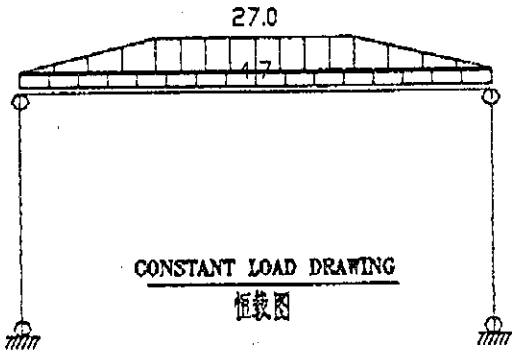


ASEISMIC CALCULATION RESULT
(RATIO BETWEEN RESISTANCE AND AFFECTION,
FIGURE IN BRACKET IS AREA OF REINFORCEMENT)

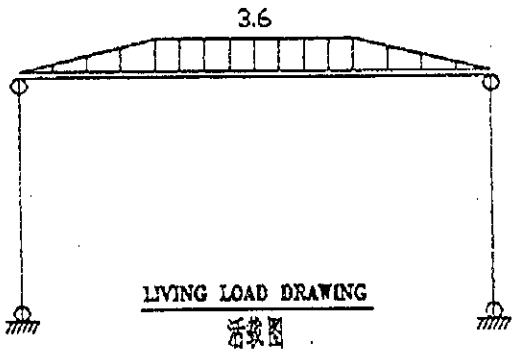
抗震验算结果 (承载力与作用之比, 括号内为配筋面积)



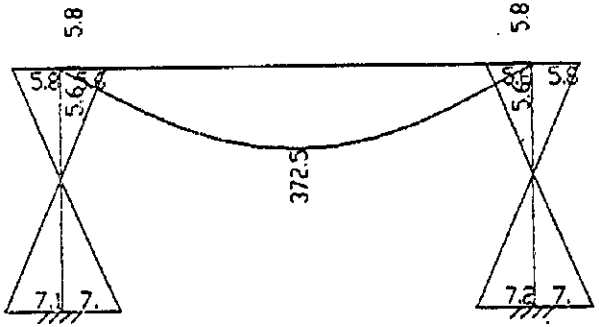
FRAME ELEVATION DRAWING
框架立面图



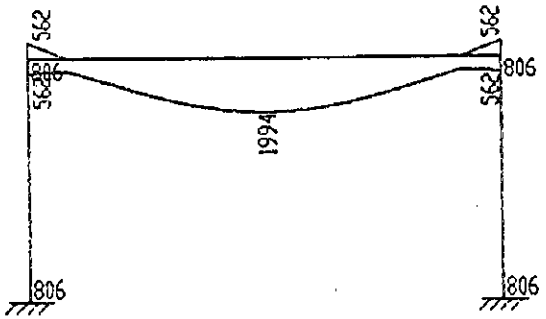
CONSTANT LOAD DRAWING
恒载图



LIVING LOAD DRAWING
活载图



BENDING MOMENT OUTLINE (KN-M)
弯矩包络图



REINFORCEMENT OUTLINE
配筋包络图 (MM²)

Calculation Book

I. Name of Project: Shanghai Pudong Airport Oil Depot Substation Room

II. Seismic intensity: 7

III. Frame seismic grade: 3

IV. Structure importance parameter: Ro=1.0

V. Site soil type: IV

VI. Soil endurance: R=110KPa

VII. Foundation load-bearing layer elevation:

VIII. Materials: column -- C25 beam board -- C25

wall: clay brick 240mm (5.40KN/m2)

I. Load:

1. Living load: floor 2.00KN/m2

roof 0.70KN/m2

2. Static load:

floor	ceiling		0.50KN/m2
	structure layer (110mm)		2.75KN/m2
	floor		1.65KN/m2
	total		4.90KN/m2
roof	ceiling		0.50KN/m2
	structure layer (110mm)		2.75KN/m2
	roof (roof 1)		3.55KN/m2
	total		6.80KN/m2
roof	ceiling		0.50KN/m2
	structure layer (110mm)		2.75KN/m2
	roof (roof 2)		2.7KN/m2
	total		5.95KN/m2

3. Wind load: 0.55 KN/m^2

X. Selection of main members

1. Column bxh=350x350

2. Main beam

bxh=350x700m

bxh=300x600mm

bxh=200x450mm

bxh=150x350mm

bxh=150x300mm

3. Board thickness

h=110mm

XI. Design basis

1. Current national architecture & structure standards and codes;

2. Shanghai City's << Base Foundation Design Codes >> DBJ08--11--89;

3. Shanghai City's << Base Treatment Technical Codes >> DBJ08--40--94;

4. Shanghai City's << Building Anti-seismic Design Standards >> DBJ08--09--92;

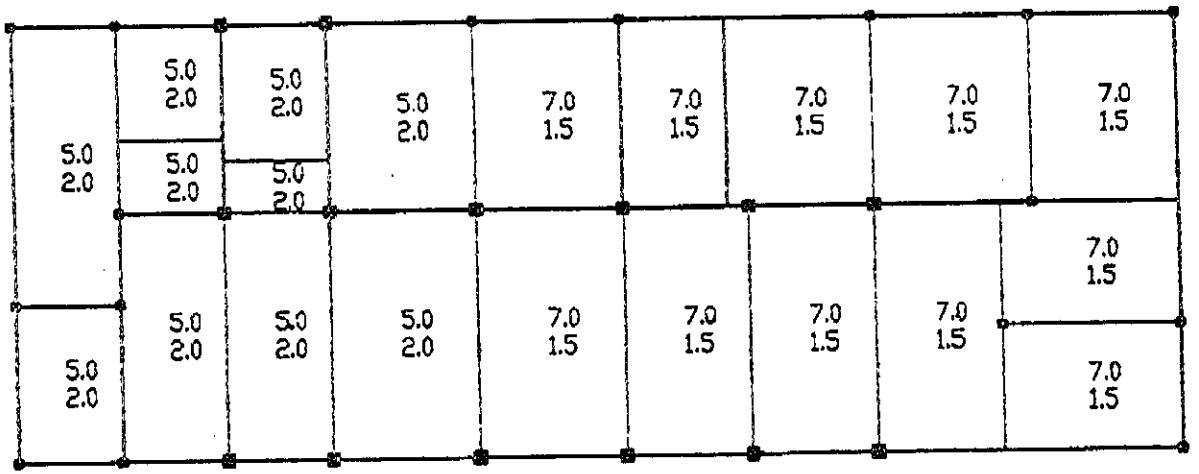
XII. Computer programs

China Building Science Research Institue CAD Engineering Department

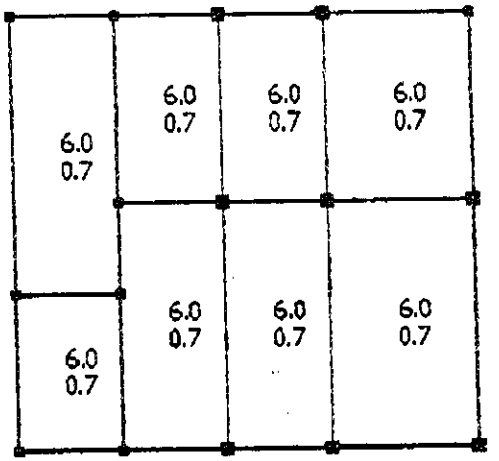
PMCAD	August, 1996
PK	August, 1996
JCCAD	August, 1996

XIII. Conclusion:

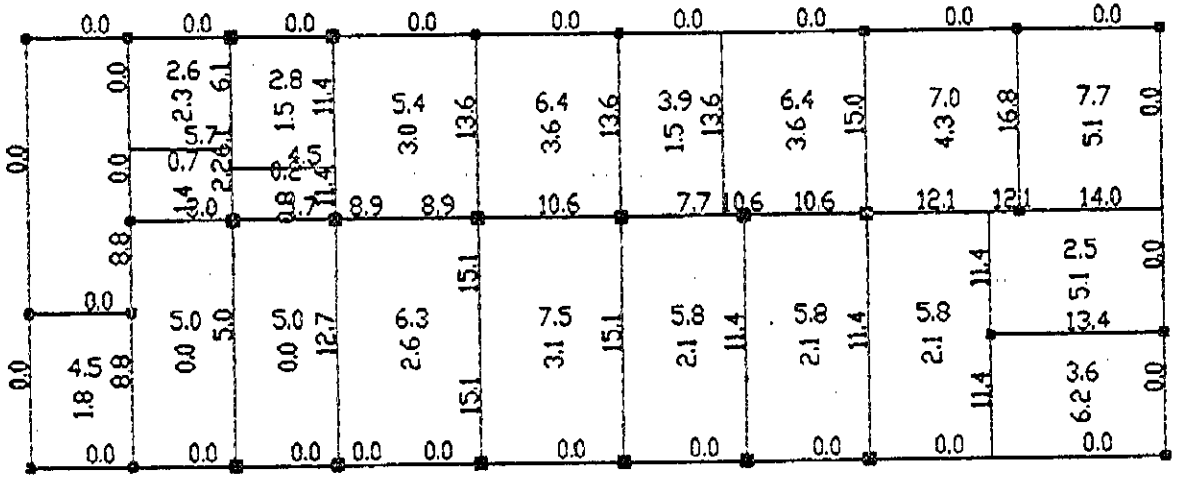
It is concluded from calculation above, the integral strength and deformation of structure meet the design requirements, the geometric dimensions also meet the requirements of strength and deformation regulated by Codes. The primary data of structural model, major calculation results, combining results of main internal forces of each member, structural layout, internal force drawing, reinforcing results of major members refer the next page, based on which construction drawings are made.



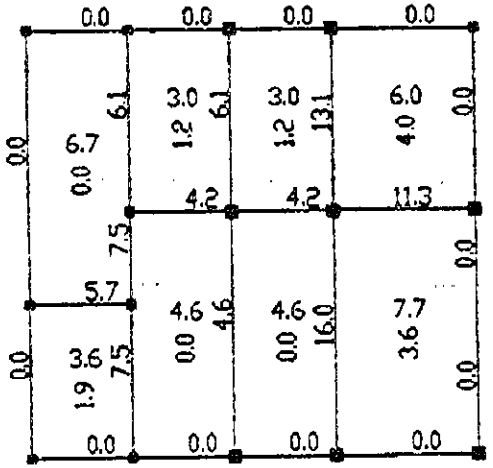
Ground Floor Load



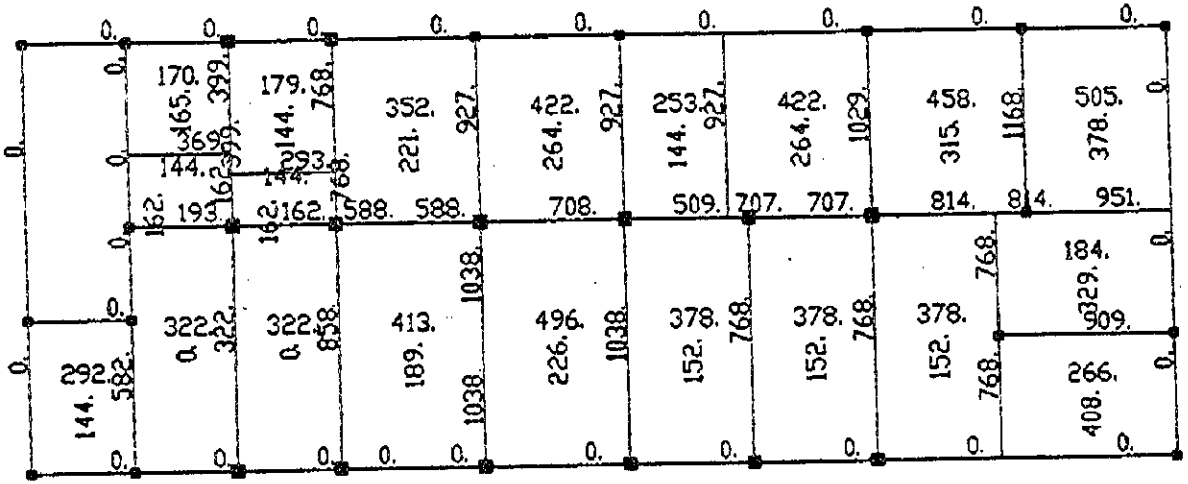
Roof Load



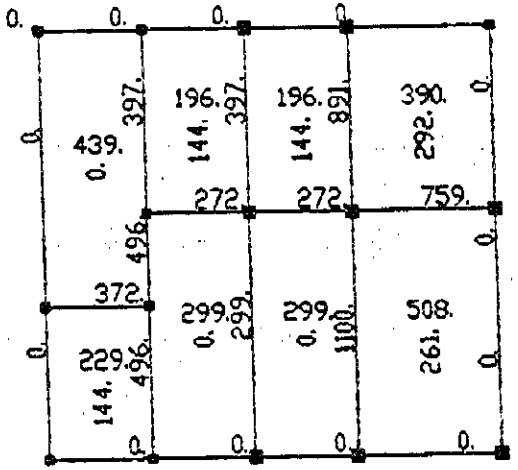
Ground Floor Cast-in-board bending moment drawing (kN.M)



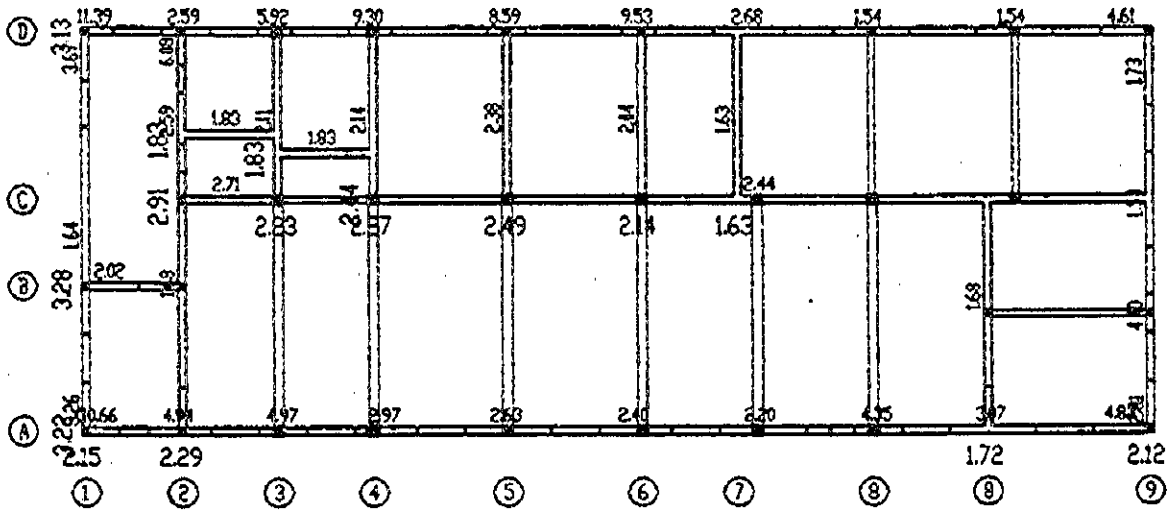
Roof Cast-in-board bending moment drawing (kN.M)



Cast-in-situ board calculation rein-situfordement



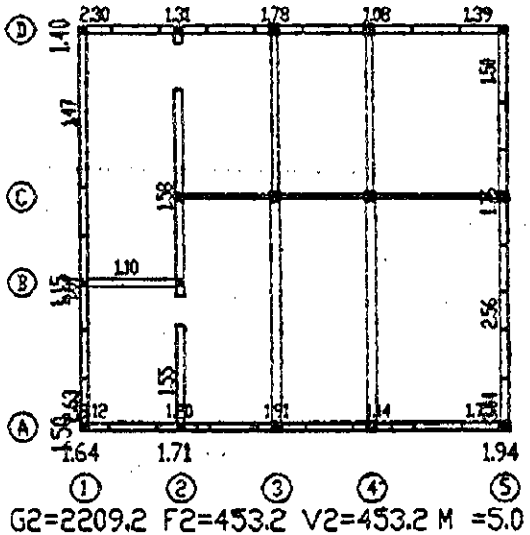
Cast-in-situ board calculation rein-situfordement



G1=8147.0 F1=489.6 V1=942.9 LD=7.0 GD=1.0 M =5.0

Ground Floor Aseismic calculation result

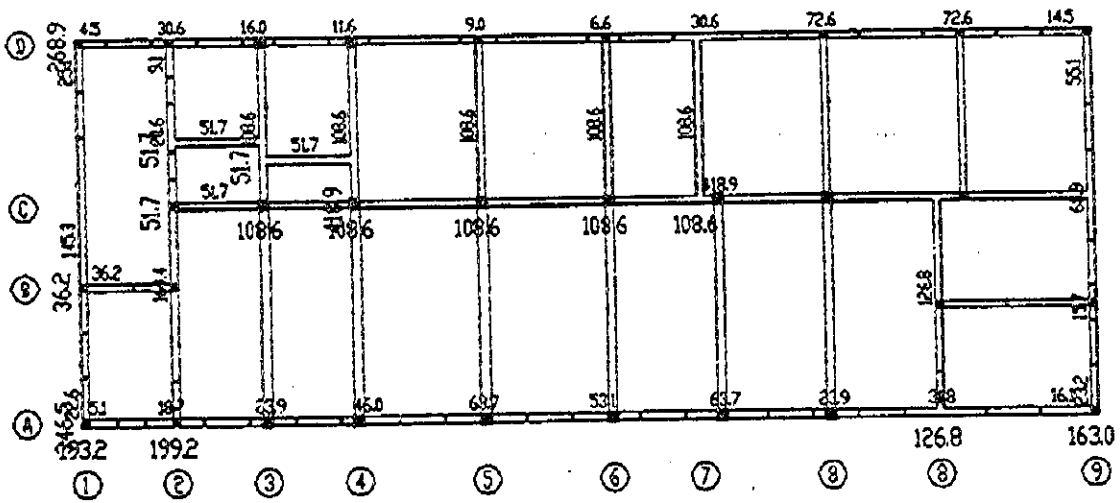
(ratio between resistance and affection)



G2=2209.2 F2=453.2 V2=453.2 M =5.0

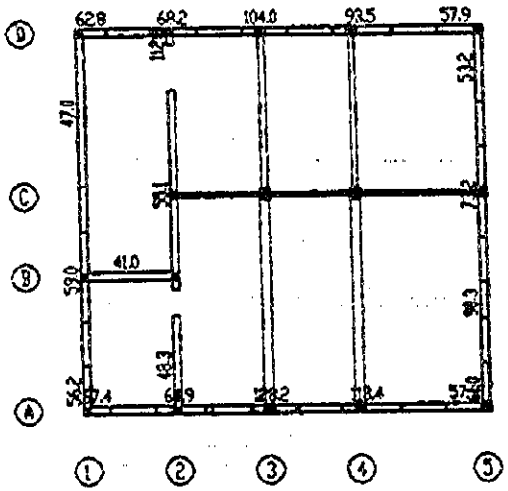
2nd Floor Aseismic calculation result

(ratio between resistance and affection)



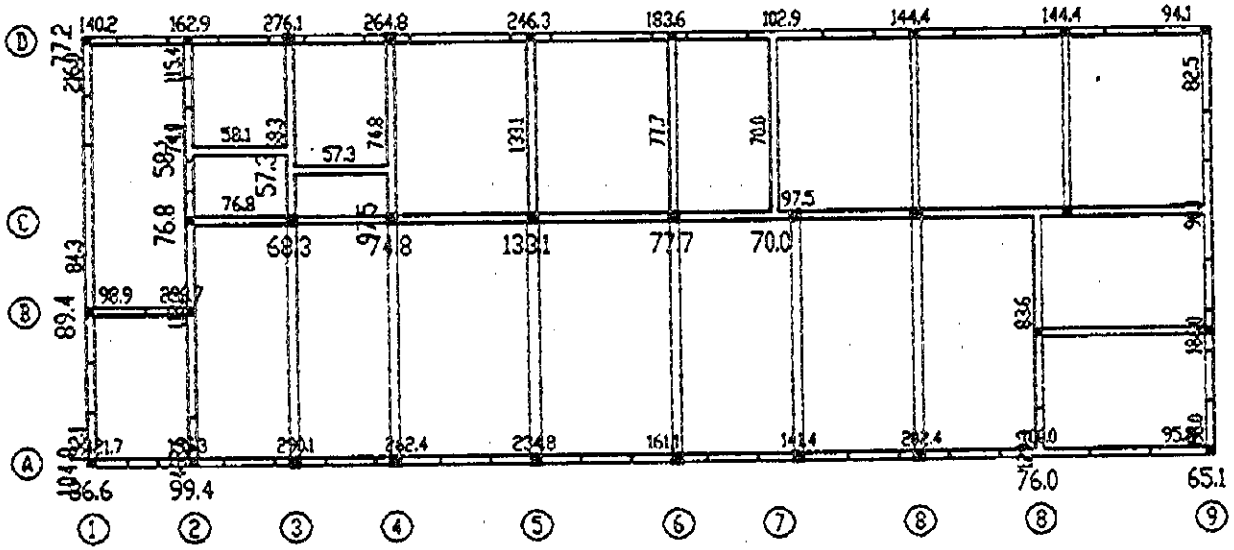
Ground Floor Earthquake shear force design value drawing

(kN)

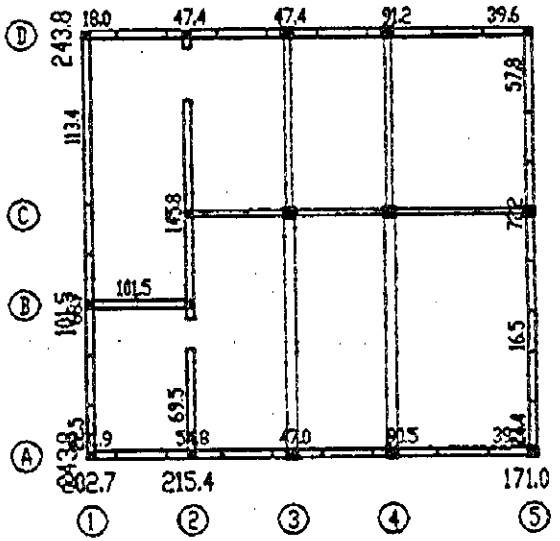


2nd Floor Earthquake shear force design value drawing

(kN)

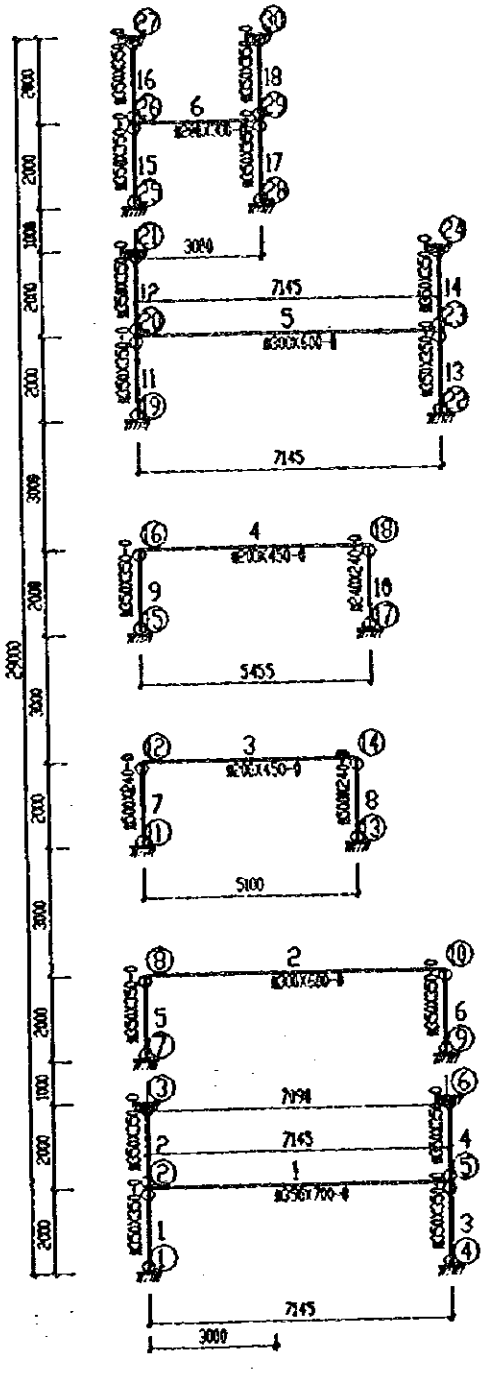


Ground Floor Wall axial force design value drawing (kN/M)

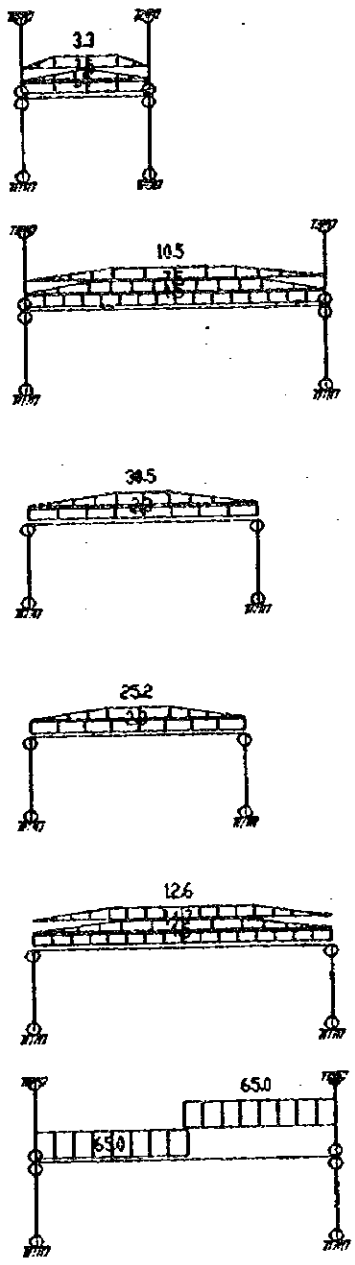


2nd FloorWall axial force design value drawing

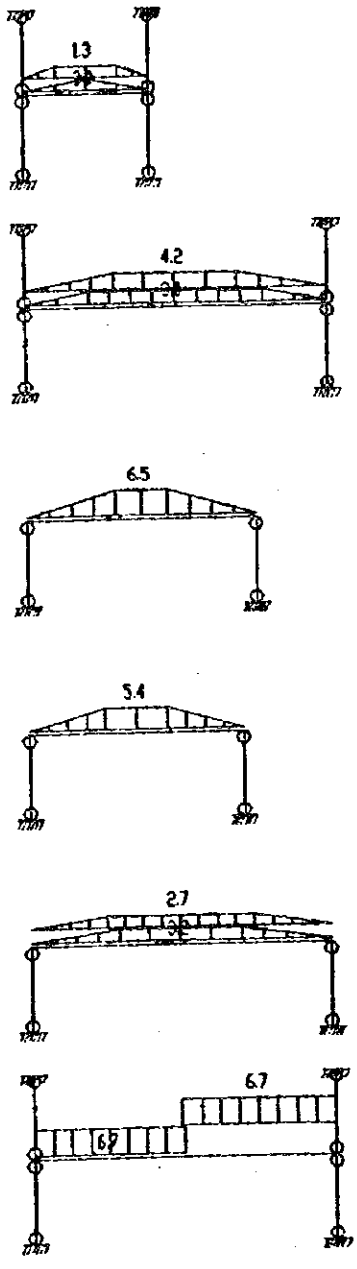
(kN/M)



Frame Elevation Drawing

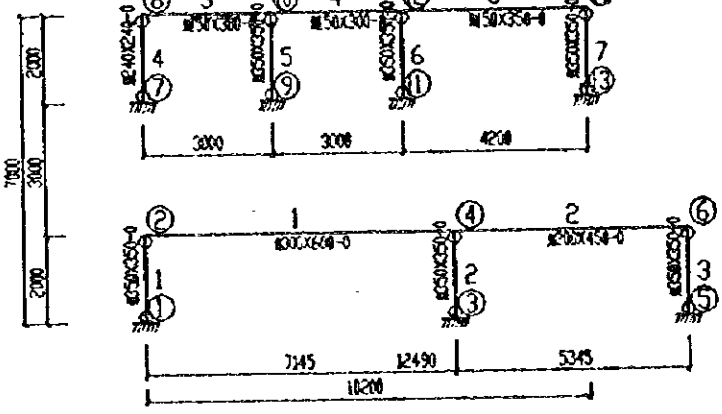


Constant load drawing

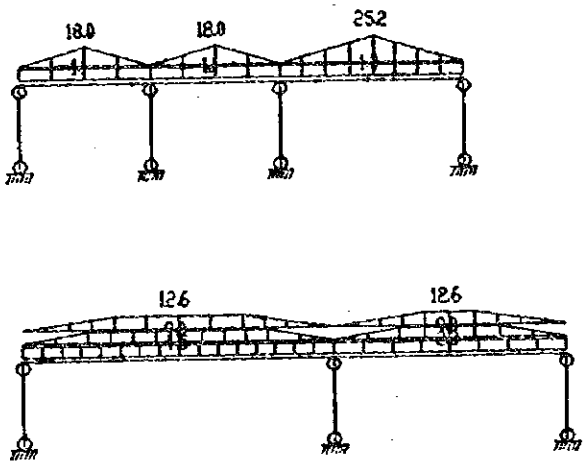


Living load drawing

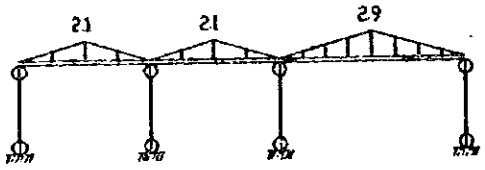
LL-1~LL-6 DRAWING



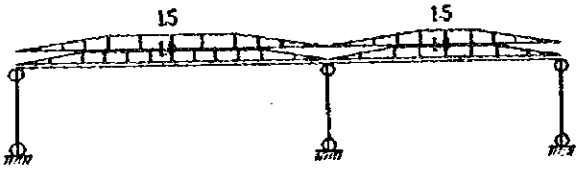
Frane Elevation Drawing



Constant load drawing



LL-7-LL-8 Drawing



Living load drawing

****** LL-1 ~ LL-6 Calculation Result ******

OUTPUT DATA

---- Zhong xin xi ------

30 18 6 0 18 7 1 0 5 25 25 2 0
0

0.90 1.00

0

OUTPUT DATA

------- Jiao Dian Zuo Biao --------

(1) 0.00 -2.00 (2) 0.00 0.00 (3) 0.00 2.00 (4) 7.14 -2.00
(5) 7.14 0.00 (6) 7.14 2.00 (7) 0.00 3.00 (8) 0.00 5.00
(9) 7.09 3.00 (10) 7.09 5.00 (11) 0.00 8.00 (12) 0.00 10.00
(13) 5.10 8.00 (14) 5.10 10.00 (15) 0.00 13.00 (16) 0.00 15.00
(17) 5.45 13.00 (18) 5.45 15.00 (19) 0.00 18.00 (20) 0.00 20.00
(21) 0.00 22.00 (22) 7.14 18.00 (23) 7.14 20.00 (24) 7.14 22.00
(25) 0.00 23.00 (26) 0.00 25.00 (27) 0.00 27.00 (28) 3.00 23.00
(29) 3.00 25.00 (30) 3.00 27.00

OUTPUT DATA

------- Zhu Guan Lian Hao --------

(1) 1 2 (2) 2 3 (3) 4 5 (4) 5 6 (5) 7 8
(6) 9 10 (7) 11 12 (8) 13 14 (9) 15 16 (10) 17 18
(11) 19 20 (12) 20 21 (13) 22 23 (14) 23 24 (15) 25 26
(16) 26 27 (17) 28 29 (18) 29 30

------- Liang Guan Lian Hao --------

(1) 2 5 (2) 8 10 (3) 12 14 (4) 16 18 (5) 20 23
(6) 26 29

OUTPUT DATA

------- Zhi Zuo Yue Shu Xin Xi --------

(1) 1111 (2) 3111 (3) 4111 (4) 6111 (5) 7111

(6) 9111 (7) 11111 (8) 13111 (9) 15111 (10) 17111
(11) 19111 (12) 21111 (13) 22111 (14) 24111 (15) 25111
(16) 27111 (17) 28111 (18) 30111

OUTPUT DATA

------- Shang Xia Zhu Jian Dian Pian Xin --------
(1) 0.00 (2) 0.00 (3) 0.00 (4) 0.00 (5) 0.00 (6) 0.00 (7) 0.00
(8) 0.00 (9) 0.00 (10) 0.00 (11) 0.00 (12) 0.00 (13) 0.00 (14) 0.00
(15) 0.00 (16) 0.00 (17) 0.00 (18) 0.00 (19) 0.00 (20) 0.00 (21) 0.00
(22) 0.00 (23) 0.00 (24) 0.00 (25) 0.00 (26) 0.00 (27) 0.00 (28) 0.00
(29) 0.00 (30) 0.00

OUTPUT DATA

------- Biao Zhun Jie Mian Xin Xi --------
(1) 1, 350, 700, 6
(2) 1, 300, 600, 6
(3) 1, 200, 450, 6
(4) 1, 200, 300, 6
(5) 1, 350, 350, 6
(6) 1, 500, 240, 6
(7) 1, 240, 240, 6

OUTPUT DATA

----- Zhu Ji Suan Chang Du(After consider steel) ------
(1) 1.00 (2) 1.00 (3) 1.00 (4) 1.00 (5) 1.00 (6) 1.00 (7) 1.00
(8) 1.00 (9) 1.00 (10) 1.00 (11) 1.00 (12) 1.00 (13) 1.00 (14) 1.00
(15) 1.00 (16) 1.00 (17) 1.00 (18) 1.00

OUTPUT DATA

---- Zhu Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----
(1) 5 3 0 (2) 5 3 0 (3) 5 3 0
(4) 5 3 0 (5) 5 3 0 (6) 5 3 0
(7) 6 3 0 (8) 6 3 0 (9) 5 3 0
(10) 7 3 0 (11) 5 3 0 (12) 5 3 0
(13) 5 3 0 (14) 5 3 0 (15) 5 3 0

(16) 5 3 0 (17) 5 3 0 (18) 5 3 0

---- Liang Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----

(1) 1 0 0 (2) 2 0 0 (3) 3 0 0

(4) 3 0 0 (5) 2 0 0 (6) 4 0 0

IIQQ= 90

STIF COMPUTE

DEAD COMPUTE

JOINT LOAD:	JR	XM	XN
	0		

COLUMN LOAD:	JC	KL	P	X	KX
	0				

BEAM LOAD:	NE	LI	KL	P	X	P1	X1
KL	P	X	P1	X1			
		1	2	2	65.00	3.60	
3	65.00	3.60					
		1	3	1	4.50	0.00	
6	14.70	2.10					
			6	12.60	1.80		
		1	2	1	2.30	0.00	
6	25.20	1.80					
		1	2	1	2.30	0.00	
6	30.50	2.10					
		1	3	1	4.50	0.00	
6	7.50	1.50					
			6	10.50	2.10		
		1	3	1	1.50	0.00	
6	7.50	1.50					
			6	3.30	0.75		

DEAD LOAD

STIF COMPUTE

LIVE COMPUTE

JOINT LOAD:	JR	XM	XN
	0		

COLUMN LOAD: JC KL P X KX
0

BEAM LOAD: NE LI KL P X PI XI
KL P X PI XI

1 2 2 6.70 3.60
3 6.70 3.60

1 2 6 3.20 2.10
6 2.70 1.80

1 1 6 5.40 1.80
1 1 6 6.50 2.10

1 2 6 3.00 1.50
6 4.20 2.10

1 2 6 3.00 1.50
6 1.30 0.75

COMBI COMPUTE

COMBINATION AND REINFORCEMENT

Concrete COLUMN 1(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 2 As= 0. M= -0.07 N= 117.00 NO 2 As= 0. M= -0.14 N= -117.00

GG= 245.

Concrete COLUMN 2(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 7 As= 256. M= -0.19 N= -157.28 NO 7 As= 255. M= -0.09 N= 157.28

GG= 245.

Concrete COLUMN 3(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 2 As= 0. M= 0.07 N= 117.00 NO 2
As= 0. M= 0.14 N= -117.00
GG= 245.

Concrete COLUMN 4(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 5 As= 256. M= 0.19 N= -157.28 NO 5
As= 255. M= 0.09 N= 157.28
GG= 245.

Concrete COLUMN 5(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 2 As= 0. M= -0.05 N= 85.96 NO 2
As= 0. M= -0.11 N= -85.96
GG= 245.

Concrete COLUMN 6(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 2 As= 0. M= 0.05 N= 85.96 NO 2
As= 0. M= 0.11 N= -85.96
GG= 245.

Concrete COLUMN 7(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 500, H= 240

NO 2 As= 0. M= -0.06 N= 47.45 NO 2
As= 0. M= -0.11 N= -47.45
GG= 240.

Concrete COLUMN 8(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 500, H= 240

NO 2 As= 0. M= 0.06 N= 47.44 NO 2
As= 0. M= 0.11 N= -47.44
GG= 240.

Concrete COLUMN 9(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 2 As= 0. M= -0.08 N= 57.44 NO 2
As= 0. M= -0.16 N= -57.44
GG= 245.

Concrete COLUMN 10(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 240, H= 240

NO 2 As= 0. M= 0.08 N= 57.44 NO 2
As= 0. M= 0.16 N= -57.44
GG= 115.

Concrete COLUMN 11(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 2 As= 0. M= -0.04 N= 31.87 NO 2
As= 0. M= -0.08 N= -31.87
GG= 245.

Concrete COLUMN 12(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 7 As= 85. M= -0.13 N= -51.58 NO 7
As= 84. M= -0.07 N= 51.58
GG= 245.

Concrete COLUMN 13(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly=

2.00)

Section property: B= 350, H= 350

NO 2 As= 0. M= 0.04 N= 31.87 NO 2 As= 0. M= 0.08 N= -31.87

GG= 245.

Concrete COLUMN 14(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 5 As= 85. M= 0.13 N= -51.58 NO 5 As= 84. M= 0.07 N= 51.58

GG= 245.

Concrete COLUMN 15(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 2 As= 0. M= -0.02 N= 5.79 NO 2 As= 0. M= -0.03 N= -5.79

GG= 245.

Concrete COLUMN 16(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 7 As= 16. M= -0.05 N= -9.55 NO 7 As= 16. M= -0.03 N= 9.55

GG= 245.

Concrete COLUMN 17(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 2 As= 0. M= 0.02 N= 5.79 NO 2 As= 0. M= 0.03 N= -5.79

GG= 245.

Concrete COLUMN 18(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 350, H= 350

NO 5 As= 16. M= 0.05 N= -9.55 NO 5 As= 16. M= 0.03 N= 9.55

GG= 245.

Concrete BEAM 1(SECTION TYPE= 1 ANG= 0, L= 7.14)

Section property: B= 350, H= 700

BOTTOM

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.00	-171.47	-312.30	-422.16	-501.03	-548.93	-565.82	-548.93	-501.03	-422.16	-312.30	-171.47	0.00
As(1)=	368.	869.	1649.	2311.	2824.	3153.	3273.	3153.	2824.	2311.	1649.	869.	368.
As(2)=	368.	0.	0.	0.	2981.	3338.	3469.	3338.	2981.	0.	0.	0.	368.

TOP

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34
As(1)=	368.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	368.
As(2)=	368.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	368.

Vl= 314.57 NO 1 Vr= 314.57 NO 3 Asv/s= 0.53 As(3)= 368. Umaxb= 0.013 Umaxt= 0.002

Concrete BEAM 2(SECTION TYPE= 1 ANG= 0, L= 7.09)

Section property: B= 300, H= 600

BOTTOM

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.00	-71.65	-137.21	-192.22	-232.67	-256.97	-265.07	-256.97	-232.67	-192.22	-137.21	-71.65	0.00

As(1)= 270. 421. 830. 1194. 1476. 1652. 1712. 1652.
1476. 1194. 830. 421. 270.
As(2)= 270. 0. 0. 0. 0. 0. 1818. 0.
0. 0. 0. 0. 270.
TOP
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.14
As(1)= 270. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 270.
As(2)= 270. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 270.

Vl= 124.32 NO 1 Vr= 124.32 NO 3 Asv/s= 0.00 As(3)=
270. Umaxb= 0.010 Umaxt= 0.002

Concrete BEAM 3(SECTION TYPE= 1 ANG= 0, L= 5.10)
Section property: B= 200, H= 450
BOTTOM
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.00 -28.83 -55.70 -78.85 -96.66 -107.65 -111.31 -107.65
-96.66 -78.85 -55.70 -28.83 0.00
As(1)= 135. 232. 463. 676. 852. 966. 1005. 966.
852. 676. 463. 232. 135.
As(2)= 135. 0. 0. 0. 926. 1054. 1098. 1054.
926. 0. 0. 0. 135.
TOP
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.15 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.15
As(1)= 135. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 135.
As(2)= 135. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 135.

Vl= 69.41 NO 1 Vr= 69.41 NO 3 Asv/s= 0.00 As(3)=

135. Umaxb= 0.011 Umaxt= 0.002

Concrete BEAM 4(SECTION TYPE= 1 ANG= 0, L= 5.45)

Section property: B= 200, H= 450

BOTTOM

SECTION 1 2 3 4 5 6 7 8 9 10 11 12 13

M= 0.00 -37.44 -72.47 -102.84 -126.51 -141.45 -146.45 -141.45 -126.51 -102.84 -72.47 -37.44 0.00

As(1)= 135. 304. 616. 915. 1174. 1353. 1416. 1353. 1174. 915. 616. 304. 135.

As(2)= 135. 0. 0. 997. 1292. 1502. 1578. 1502. 1292. 997. 0. 0. 135.

TOP

SECTION 1 2 3 4 5 6 7 8 9 10 11 12 13

M= 0.21 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.21

As(1)= 135. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 135.

As(2)= 135. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 135.

Vl= 84.19 NO 1 Vr= 84.19 NO 3 Asv/s= 0.09 As(3)= 135. Umaxb= 0.016 Umaxt= 0.002

Concrete BEAM 5(SECTION TYPE= 1 ANG= 0, L= 7.14)

Section property: B= 300, H= 600

BOTTOM

SECTION 1 2 3 4 5 6 7 8 9 10 11 12 13

M= 0.00 -59.61 -113.83 -158.74 -191.56 -211.28 -217.85 -211.28 -191.56 -158.74 -113.83 -59.61 0.00

As(1)= 270. 349. 681. 970. 1190. 1325. 1371. 1325. 1190. 970. 681. 349. 270.

As(2)= 270. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 270.

TOP

SECTION 1 2 3 4 5 6 7 8

9 10 11 12 13
M= 0.24 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.24
As(1)= 270. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 270.
As(2)= 270. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 270.

Vl= 103.16 NO 1 Vr= 103.16 NO 3 Asv/s= 0.00 As(3)=
270. Umaxb= 0.008 Umaxt= 0.002

Concrete BEAM 6(SECTION TYPE= 1 ANG= 0, L= 3.00)
Section property: B= 200, H= 300
BOTTOM
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.00 -4.58 -8.89 -12.57 -15.38 -17.16 -17.79 -17.16
-15.38 -12.57 -8.89 -4.58 0.00
As(1)= 90. 56. 111. 158. 195. 219. 228. 219.
195. 158. 111. 56. 90.
As(2)= 90. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 90.
TOP
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.09 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.09
As(1)= 90. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 90.
As(2)= 90. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 90.

Vl= 19.10 NO 1 Vr= 19.10 NO 3 Asv/s= 0.00 As(3)=
90. Umaxb= 0.004 Umaxt= 0.002
PK1 COMPUTE END

****** LL-7 、 LL-8 Calculation Result ******

OUTPUT DATA

---- Zhong xin xi ------

14 7 5 0 7 6 1 0 5 25 25 2 0
0

0.90 1.00
0

OUTPUT DATA

------- Jiao Dian Zuo Biao --------

(1) 0.00 -2.00 (2) 0.00 0.00 (3) 7.14 -2.00 (4) 7.14 0.00
(5) 12.49 -2.00 (6) 12.49 0.00 (7) 0.00 3.00 (8) 0.00 5.00
(9) 3.00 3.00 (10) 3.00 5.00 (11) 6.00 3.00 (12) 6.00 5.00
(13) 10.20 3.00 (14) 10.20 5.00

OUTPUT DATA

------- Zhu Guan Lian Hao --------

(1) 1 2 (2) 3 4 (3) 5 6 (4) 7 8 (5) 9 10
(6) 11 12 (7) 13 14

------- Liang Guan Lian Hao --------

(1) 2 4 (2) 4 6 (3) 8 10 (4) 10 12 (5) 12 14

OUTPUT DATA

------ Zhi Zuo Yue Shu Xin Xi --------

(1) 1111 (2) 3111 (3) 5111 (4) 7111 (5) 9111
(6) 11111 (7) 13111

OUTPUT DATA

------- Shang Xia Zhu Jian Dian Pian Xin --------

(1) 0.00 (2) 0.00 (3) 0.00 (4) 0.00 (5) 0.00 (6) 0.00 (7) 0.00
(8) 0.00 (9) 0.00 (10) 0.00 (11) 0.00 (12) 0.00 (13) 0.00 (14) 0.00

OUTPUT DATA

------- Biao Zhun Jie Mian Xin Xi --------

(1) 1, 300, 600, 6
(2) 1, 200, 450, 6
(3) 1, 150, 300, 6
(4) 1, 150, 350, 6
(5) 1, 350, 350, 6
(6) 1, 240, 240, 6

OUTPUT DATA

----- Zhu Ji Suan Chang Du(After consider steel) ------

(1) 1.00 (2) 1.00 (3) 1.00 (4) 1.00 (5) 1.00 (6) 1.00 (7) 1.00

OUTPUT DATA

---- Zhu Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----

(1) 5 3 0 (2) 5 3 0 (3) 5 3 0
(4) 6 3 0 (5) 5 3 0 (6) 5 3 0
(7) 5 3 0

---- Liang Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----
(1) 1 0 0 (2) 2 0 0 (3) 3 0 0
(4) 3 0 0 (5) 4 0 0
IIQQ= 66

STIF COMPUTE
DEAD COMPUTE
JOINT LOAD: JR XM XN
0

COLUMN LOAD: JC KL P X KX
0

BEAM LOAD: NE LI KL P X P1 X1
KL P X P1 X1
1 3 1 4.50 0.00
6 9.00 1.50
6 12.60 2.10
1 3 1 2.30 0.00
6 9.00 1.50
6 12.60 2.10
1 2 1 1.10 0.00
6 18.00 1.50
1 2 1 1.10 0.00
6 18.00 1.50
1 2 1 1.30 0.00
6 25.20 2.10

DEAD LOAD

STIF COMPUTE
LIVE COMPUTE
JOINT LOAD: JR XM XN
0

COLUMN LOAD: JC KL P X KX
0

BEAM LOAD: NE LI KL P X P1 X1
KL P X P1 X1
1 2 6 1.00 1.50
6 1.50 2.10
1 2 6 1.00 1.50
6 1.50 2.10
1 1 6 2.10 1.50
1 1 6 2.10 1.50
1 1 6 2.90 2.10

COMBI COMPUTE

COMBINATION AND REINFORCEMENT

Concrete COLUMN 1(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 12 As= 0. M= -0.04 N= 59.42 NO 6

As= 0. M= -0.07 N= -59.42
GG= 245.

Concrete COLUMN 2(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 2 As= 0. M= 0.02 N= 147.15 NO 2
As= 0. M= 0.03 N= -147.15
GG= 245.

Concrete COLUMN 3(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 8 As= 0. M= 0.02 N= 25.73 NO 8
As= 0. M= 0.03 N= -25.73
GG= 245.

Concrete COLUMN 4(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 240, H= 240

NO 6 As= 0. M= -0.02 N= 12.16 NO 6
As= 0. M= -0.04 N= -12.16
GG= 115.

Concrete COLUMN 5(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 12 As= 0. M= 0.01 N= 26.76 NO 12
As= 0. M= 0.02 N= -26.76
GG= 245.

Concrete COLUMN 6(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 12 As= 0. M= -0.03 N= 54.09 NO 12
As= 0. M= -0.06 N= -54.09
GG= 245.

Concrete COLUMN 7(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)
Section property: B= 350, H= 350

NO 8 As= 0. M= 0.04 N= 23.56 NO 8
As= 0. M= 0.09 N= -23.56
GG= 245.

Concrete BEAM 1(SECTION TYPE= 1 ANG= 0, L= 7.14)
Section property: B= 300, H= 600
BOTTOM

SECTION	1	2	3	4	5	6	7	8
9	10	11	12	13				
M=	0.00	-47.58	-89.89	-123.41	-145.58	-155.44	-152.95	-138.13
-110.95	-71.48	-20.64	0.00	0.00				
As(1)=	270.	277.	532.	742.	884.	948.	932.	836.
663.	420.	119.	0.	270.				
As(2)=	270.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	270.				

TOP

SECTION	1	2	3	4	5	6	7	8
9	10	11	12	13				

M= 0.08 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 45.94 110.44
As(1)= 270. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 267. 660.
As(2)= 270. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 660.

Vl= 81.01 NO 1 Vr= 114.32 NO 3 Asv/s= 0.00 As(3)=
270. Umaxb= 0.005 Umaxt= 0.004

Concrete BEAM 2(SECTION TYPE= 1 ANG= 0, L= 5.34)
Section property: B= 200, H= 450
BOTTOM
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.00 0.00 0.00 0.00 -14.55 -32.88 -44.87 -50.47 -
49.73 -43.14 -31.70 -16.82 0.00
As(1)= 135. 0. 0. 0. 115. 265. 367. 416.
410. 353. 255. 133. 135.
As(2)= 135. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 135.
TOP
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 110.40 72.27 42.46 15.74 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.05
As(1)= 995. 614. 347. 125. 0. 0. 0. 0.
0. 0. 0. 0. 135.
As(2)= 1087. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 135.

Vl= 81.71 NO 1 Vr= 36.83 NO 3 Asv/s= 0.07 As(3)=
135. Umaxb= 0.005 Umaxt= 0.011

Concrete BEAM 3(SECTION TYPE= 1 ANG= 0, L= 3.00)
Section property: B= 150, H= 300
BOTTOM
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.00 -4.19 -8.10 -11.42 -13.88 -15.25 -15.25 -13.72 -
10.83 -6.83 -1.99 0.00 0.00
As(1)= 68. 52. 102. 145. 178. 197. 197. 176.
137. 85. 24. 0. 68.
As(2)= 68. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 68.
TOP
SECTION 1 2 3 4 5 6 7 8
9 10 11 12 13
M= 0.06 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 4.32 10.58
As(1)= 68. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 53. 134.
As(2)= 68. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 134.

Vl= 16.99 NO 1 Vr= 24.28 NO 3 Asv/s= 0.00 As(3)=
68. Umaxb= 0.004 Umaxt= 0.003

Concrete BEAM 4(SECTION TYPE= 1 ANG= 0, L= 3.00)

Section property: B= 150, H= 300

BOTTOM

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.00	0.00	0.00	-0.33	-2.16	-2.96	-2.41	-0.50	0.00	0.00	0.00	0.00	0.00
As(1)=	68.	0.	0.	4.	26.	36.	30.	6.	0.	0.	0.	0.	68.
As(2)=	68.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	68.

TOP

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	10.55	6.21	3.52	1.36	0.14	0.00	0.50	2.49	5.85	10.19	15.28	20.91	27.90
As(1)=	134.	77.	43.	17.	2.	0.	6.	31.	73.	129.	197.	277.	382.
As(2)=	134.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	382.

Vl= 14.98 NO 1 Vr= 27.41 NO 3 Asv/s= 0.00 As(3)= 68. Umaxb= 0.002 Umaxt= 0.008

Concrete BEAM 5(SECTION TYPE= 1 ANG= 0, L= 4.20)

Section property: B= 150, H= 350

BOTTOM

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.00	0.00	-3.73	-17.03	-28.02	-36.03	-40.34	-40.50	-36.96	-30.43	-21.61	-11.19	0.00
As(1)=	79.	0.	39.	182.	310.	410.	466.	468.	422.	340.	235.	118.	79.
As(2)=	79.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	79.

TOP

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	27.97	11.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
As(1)=	310.	119.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	79.
As(2)=	310.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	79.

Vl= 46.66 NO 1 Vr= 32.20 NO 3 Asv/s= 0.05 As(3)= 79. Umaxb= 0.009 Umaxt= 0.006

PK1 COMPUTE END

Calculation Book

I. Name of Project: Shanghai Pudong Airport Oil Depot Oil-bear wastewater Treatment Shop

II. Seismic intensity: 7

III. Frame seismic grade: 3

IV. Structure importance parameter: Ro=1.0

V. Site soil type: IV

VI. Soil endurance: R=110KPa

VII. Foundation load-bearing layer elevation:

VIII. Materials: column -- C25 beam board -- C25

wall: clay brick 240mm (5.40KN/m2)

I. Load:

1. Living load: roof 0.7KN/m2

2. Static load: roof ceiling 0.50KN/m2

structure layer (100mm) 2.50KN/m2

roof (roof 1) 2.46KN/m2

total 5.48KN/m2

3. Wind load: 0.55 KN/m2

X. Selection of main members

1. Main beam (L=5000mm)

bxh=250x500mm

2. Board thickness

h=100mm

XI. Design basis

1. Current national architecture & structure standards and codes;
2. Shanghai City's << Base Foundation Design Codes >> DBJ08--11--89;
3. Shanghai City's << Base Treatment Technical Codes >> DBJ08--40--94;
4. Shanghai City's << Building Anti-seismic Design Standards >> DBJ08--09--92;

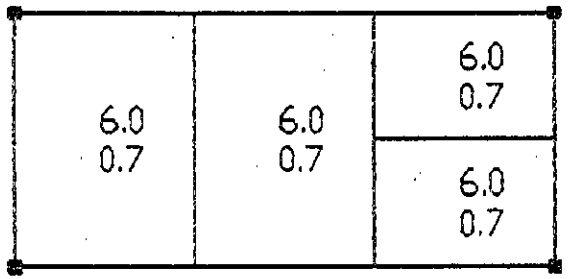
XII. Computer programs

China Building Science Research Institue CAD Engineering Department

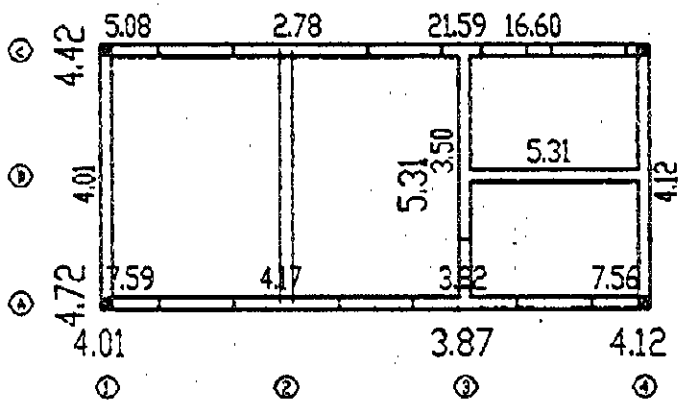
PMCAD	August, 1996
PK	August, 1996
JCCAD	August, 1996

XIII. Conclusion:

It is concluded from calculation above, the integral strength and deformation of structure meet the design requirements, the geometric dimensions also meet the requirements of strength and deformation regulated by Codes. The primary data of structural model, major calculation results, combining results of main internal forces of each member, structural layout, internal force drawing, reinforcing results of major members refer the next page, based on which construction drawings are made.



floor load

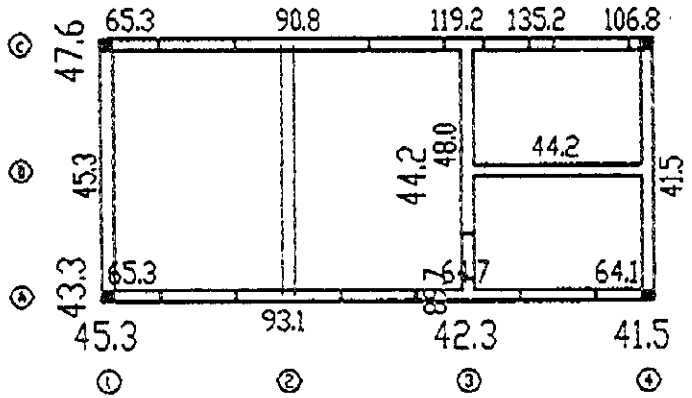


G1=1044.6 F1=83.5 V1=83.5

LD=7.0 GD=2.0 M =5.0

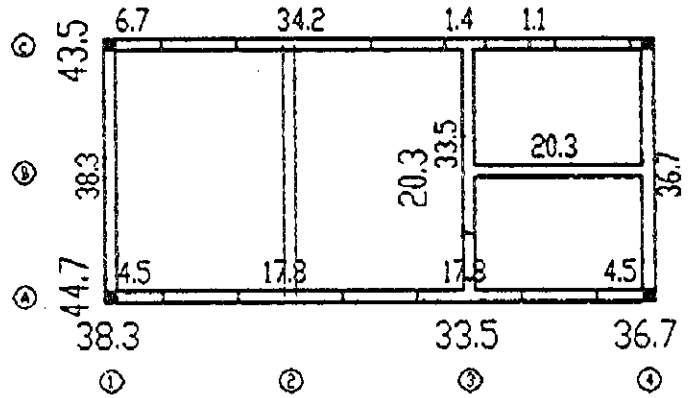
Aseismic calculation result

(ratio between resistance and affection)



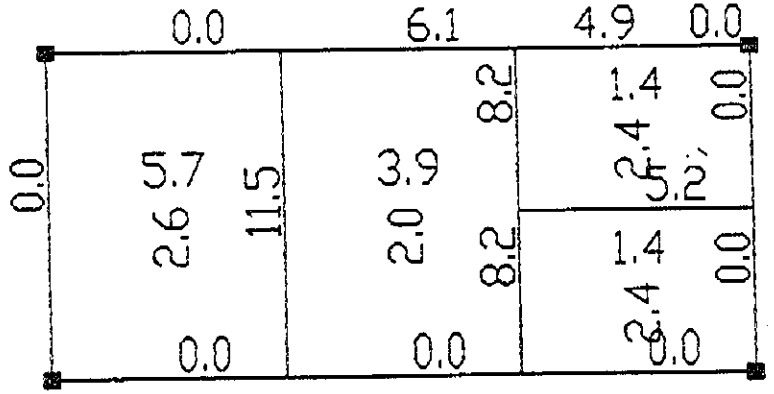
Wall axial force design value drawing

(kN/M)

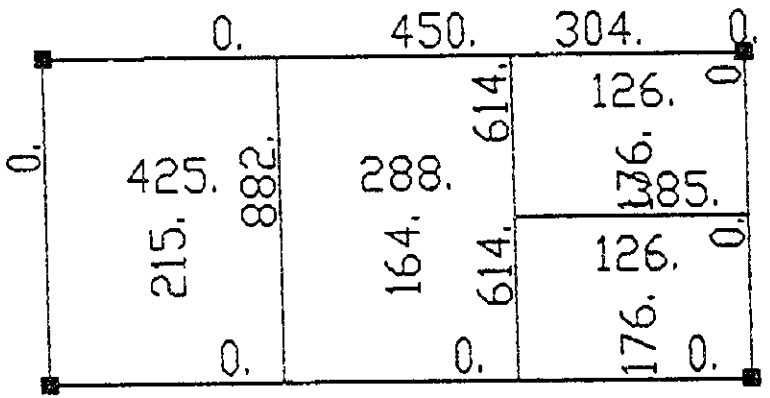


Earthquake shear force design value drawing

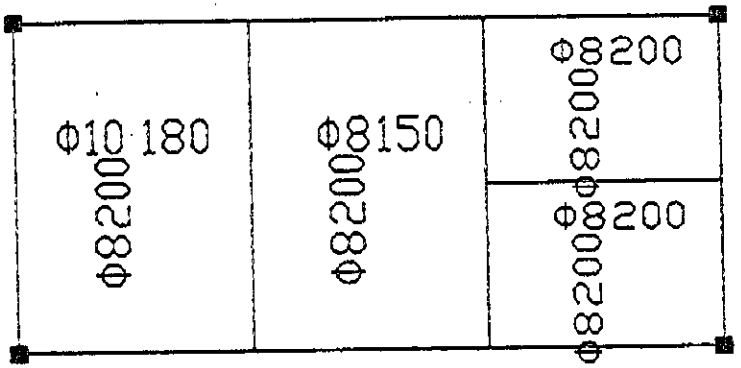
(kN)



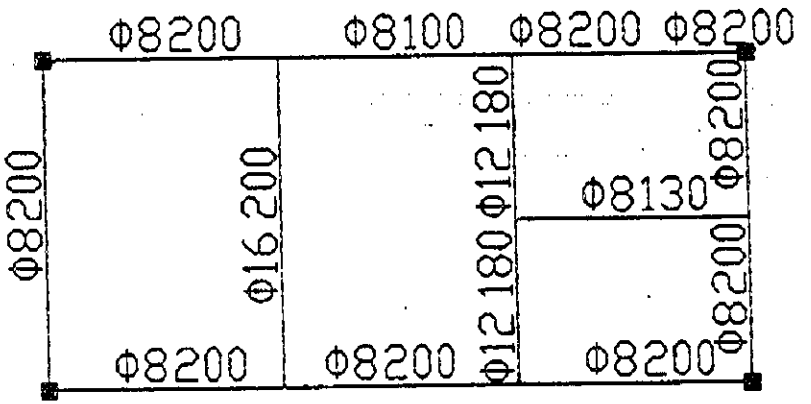
Cast-in-board bending moment drawing
(kN.M)



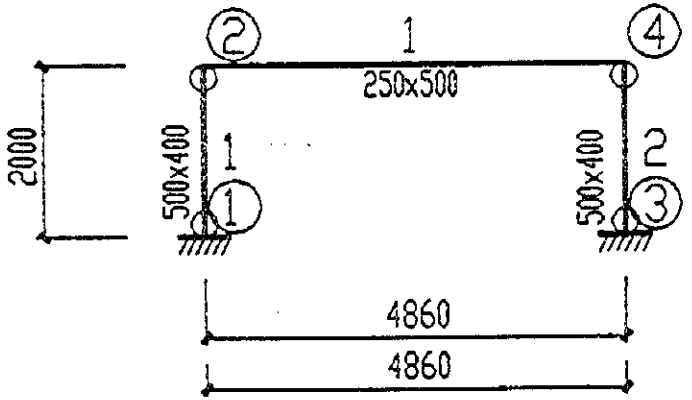
Cast-in-situ board calculation rein-situfordement



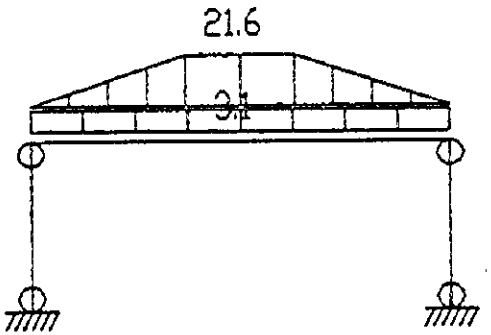
board in-span reinforcement drawing



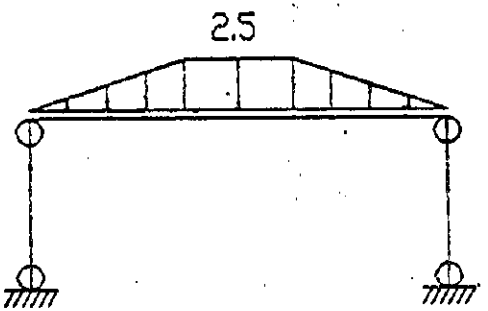
cast-in-situ board abutment reinforcement drawing



Frame Elevation Drawing



Constant load drawing



Living load drawing

LL-1 Drawing

****** LL-1 CALCULATION RESULT ******

OUTPUT DATA

---- Zhong xin xi ------

4 2 1 0 2 2 1 0 5 25 25 2 0 0

0.90 1.00

0

OUTPUT DATA

------- Jiao Dian Zuo Biao --------

(1) 0.00 -2.00 (2) 0.00 0.00 (3) 4.86 -2.00 (4) 4.86 0.00

OUTPUT DATA

------- Zhu Guan Lian Hao --------

(1) 1 2 (2) 3 4

------- Liang Guan Lian Hao --------

(1) 2 4

OUTPUT DATA

------- Zhi Zuo Yue Shu Xin Xi --------

(1) 1111 (2) 3111

OUTPUT DATA

------- Shang Xia Zhu Jian Dian Pian Xin --------

(1) 0.00 (2) 0.00 (3) 0.00 (4) 0.00

OUTPUT DATA

------- Biao Zhun Jie Mian Xin Xi --------

(1) 1, 250, 500, 6

(2) 1, 500, 480, 6

OUTPUT DATA

(1) 1.00 (2) 1.00

OUTPUT DATA

---- Zhu Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----

(1) 2 3 0 (2) 2 3 0

---- Liang Bu Zhi(Hao)Jie Mian Hao,Jiao Jie,Jiao Du -----

(1) 1 0 0

IIQQ= 15

STIF COMPUTE

DEAD COMPUTE

JOINT LOAD: JR XM XN

0

COLUMN LOAD: JC KL P X KX

0

BEAM LOAD: NE LI KL P X P1 X1

KL P X P1 X1

1 2 1 3.10 0.00 6

21.60 1.80

DEAD LOAD

STIF COMPUTE

LIVE COMPUTE

JOINT LOAD: JR XM XN

0

COLUMN LOAD: JC KL P X KX

0

BEAM LOAD: NE LI KL P X P1 X1

KL P X P1 X1

1 1 6 2.50 1.80

COMBI COMPUTE

Concrete COLUMN 1(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 500, H= 480

NO 2 As= 0. M= -0.03 N= 40.58 NO 2 As= 0. M= -0.05 N= -40.58

GG= 480.

Concrete COLUMN 2(SECTION TYPE= 1, ANG= 0, Lx= 2.00, Ly= 2.00)

Section property: B= 500, H= 480

NO 2 As= 0. M= 0.03 N= 40.58 NO 2 As= 0. M= 0.05 N= -40.58

GG= 480.

Concrete BEAM 1(SECTION TYPE= 1 ANG= 0, L= 4.86)

Section property: B= 250, H= 500

BOTTOM

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.00	-21.34	-41.05	-57.98	-71.04	-79.18	-81.90	-79.18	-71.04	-57.98	-41.05	-21.34	0.00
As(1)=	188.	150.	293.	420.	519.	583.	604.	583.	519.	420.	293.	150.	188.
As(2)=	188.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	188.

TOP

SECTION	1	2	3	4	5	6	7	8	9	10	11	12	13
M=	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
As(1)=	188.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	188.
As(2)=	188.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	188.

Vl= 54.05 NO 1 Vr= 54.05 NO 3 Asv/s= 0.00 As(3)= 188

空调计算书

（负荷计算）

工程名称	s2 project name
建筑物所在地区代码	09.2 Area code of the building
建筑物名称	hg Building name
建筑物总层数	2 Total storeys 2
室外采暖计算温度 ℃	-2.0 Calculated temprature of outdoor heating ℃
建筑物总负荷W(kcal/h)	97431.9 (83791.4) Total loads of the building W(kcal/h)
建筑物热指标W/m2(kcal/(h*m2))	69.9 (60.1) Target heat of the building W/m² (kcal/(h·m²))

各房间设计负荷 Design load of the room

房间编号 Room Numbe	设计室内温度 ℃ Design Indoor temprature	设计采暖负荷W(kcal/h) Design Heating Load
101	18.0	2133.7 (1835.0)
东北外墙	Northeast exterior wall	534.5 (459.6)
西北外墙	Northwest	684.2 (588.4)
东北外窗	Northens exterior window	501.1 (430.9)
地 面	floor	189.3 (162.8)
邻 室	adjacent room	224.7 (193.2)
102	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
103	15.0	1161.8 (999.1)
东北外墙		434.5 (373.7)
东北外窗		425.9 (366.3)
地 面		160.9 (138.4)
邻 室		140.4 (120.8)
104	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
105	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
106	16.0	1250.0 (1075.0)
东北外墙		460.1 (395.7)
东北外窗		450.9 (387.8)
地 面		170.4 (146.5)
邻 室		168.5 (144.9)
107	16.0	1250.0 (1075.0)
东北外墙		460.1 (395.7)
东北外窗		450.9 (387.8)
地 面		170.4 (146.5)
邻 室		168.5 (144.9)
108	18.0	2852.6 (2453.2)
东北外墙		1022.4 (879.3)

东北外窗		1002.1 (861.8)
地 面		378.7 (325.7)
邻 室		449.3 (386.4)
109	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
110	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
111	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
112	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
113	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
114	18.0	1426.3 (1226.6)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
115	18.0	2031.1 (1746.7)
东北外墙		534.5 (459.6)
东南外墙		581.6 (500.2)
东北外窗		501.1 (430.9)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
116	18.0	1836.6 (1579.5)
西南外墙		441.5 (379.7)
东南外墙		581.6 (500.2)
西南外窗		399.5 (343.6)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
117	18.0	1231.8 (1059.4)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)

外墙：exterior wall
外窗：exterior window
东北：Northeast
东南：southeast
西南：southwest

地 面		189.3 (162.8)
邻 室		224.7 (193.2)
118	18.0	1231.8 (1059.4)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
119	18.0	1562.6 (1343.8)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)
120	18.0	1908.8 (1641.6)
西南外墙		418.3 (359.7)
西南外窗		745.7 (641.3)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)
121	18.0	1952.5 (1679.1)
西南外墙		418.3 (359.7)
西南外窗		745.7 (641.3)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
邻 室		374.5 (322.0)
122	16.0	3276.7 (2817.9)
西南外墙		752.9 (647.5)
西南外窗		468.8 (403.2)
西南外门		1315.4 (1131.3)
地 面		402.5 (346.2)
邻 室		337.0 (289.8)
123	18.0	1952.5 (1679.1)
西南外墙		418.3 (359.7)
西南外窗		745.7 (641.3)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
邻 室		374.5 (322.0)
124	18.0	1908.8 (1641.6)
西南外墙		418.3 (359.7)
西南外窗		745.7 (641.3)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)
125	18.0	1562.6 (1343.8)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)

西南：southwest
外墙：exterior wall
外窗：exterior window
地面：floor
邻室：adjacent room

126	18.0	1231.8 (1059.4)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
127	18.0	1231.8 (1059.4)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
128	18.0	1939.3 (1667.8)
西南外墙		441.5 (379.7)
西北外墙		684.2 (588.4)
西南外窗		399.5 (343.6)
地 面		189.3 (162.8)
邻 室		224.7 (193.2)
201	18.0	2447.5 (2104.9)
东北外墙		534.5 (459.6)
东北外窗		501.1 (430.9)
西北外墙		819.8 (705.0)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
202	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
203	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
204	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
205	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
206	16.0	1410.4 (1212.9)
东北外墙		460.1 (395.7)
东北外窗		450.9 (387.8)
屋 顶		330.8 (284.5)
邻 室		168.5 (144.9)
207	16.0	1410.4 (1212.9)

西南：southwest
西北：Northwest
东、北：Northeast
屋顶：roof
外墙：exterior wall
外窗：exterior window
邻室：adjacent room

东北外墙		460.1 (395.7)
东北外窗		450.9 (387.8)
屋 顶		330.8 (284.5)
邻 室		168.5 (144.9)
208	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
209	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
210	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
211	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
212	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
213	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
214	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
215	18.0	1604.5 (1379.9)
东北外墙		511.2 (439.6)
东北外窗		501.1 (430.9)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
216	18.0	2324.6 (1999.1)
东北外墙		534.5 (459.6)
东北外窗		501.1 (430.9)

东北：Northeast
外墙：exterior wall
外窗：exterior window
屋顶：roof
邻室：adjacent room

东南外墙		696.8 (599.2)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
217	18.0	2130.1 (1831.9)
西南外墙		441.5 (379.7)
西南外窗		399.5 (343.6)
东南外墙		696.8 (599.2)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
218	18.0	1410.1 (1212.7)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
219	18.0	1410.1 (1212.7)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
220	18.0	1740.8 (1497.1)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)
221	18.0	2133.5 (1834.8)
西南外墙		464.7 (399.7)
西南外窗		745.7 (641.3)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)
222	16.0	6469.3 (5563.6)
西南外墙		1505.8 (1295.0)
西南外窗		2757.8 (2371.7)
屋 顶		1531.7 (1317.3)
邻 室		674.0 (579.7)
223	18.0	2133.5 (1834.8)
西南外墙		464.7 (399.7)
西南外窗		745.7 (641.3)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)
224	18.0	1740.8 (1497.1)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
邻 室		330.8 (284.5)
225	18.0	1410.1 (1212.7)

东南：Southeast
西南：Southwest
外墙：exterior wall
外窗 exterior window
屋顶：roof
邻室：adjacent room

西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
226	18.0	1410.1 (1212.7)
西南外墙		418.3 (359.7)
西南外窗		399.5 (343.6)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)
227	18.0	2253.1 (1937.6)
西南外墙		441.5 (379.7)
西南外窗		399.5 (343.6)
西北外墙		819.8 (705.0)
屋 顶		367.6 (316.1)
邻 室		224.7 (193.2)

数量計算書

267701 [illegible] = 269547 [illegible]

Q235

金属总重：217000公斤 [illegible]

编号	名称	数量	材料规格		单重	总重	备注
					重量(公斤)		
19	罐壁(七)	1圈	6000×1600×18	A3		22127	
18	罐壁(六)	1圈	6000×1600×16	A3		19739	
17	罐壁(五)	1圈	6000×1600×14	A3		17254	
16	罐壁(四)	1圈	6000×1600×12	A3		14747	
15	罐壁(三)	1圈	6000×1600×10	A3		12306	
14	罐壁(二)	1圈	6000×1600×8	A3		9840	
13	罐壁(一)	3圈	6000×1600×7	A3		25804	62956×1.2=75547
12	罐底	1	组合件	A3		46721	(见[illegible]1-1)
11	加强筋板	123	钢板 δ=10	A3	1.8	221	
10	加强圈(二)	1	钢板 δ=14	。		1612	
9	加强圈(一)	1	钢板 δ=14	。		1600	
8	顶板(四)	18	钢板 δ=6	。	352	6336	
7	顶板(三)	18	钢板 δ=6	。	713	12834	
6	顶板(二)	18	钢板 δ=6	。	257	4626	
5	顶板(一)	18	钢板 δ=6	。	808	14544	
4	径向联接肋	360	□60×10	。			ℓ=130
3	加强肋	全部	□60×10	。		6510	
2	中心顶板加强肋	全部	□60×10	。			
1	中心顶板	1	钢板 δ=6	A3		179	

中国民用航空机场设计院				工程名称			
				设计名称	10000M³拱顶锥底油罐		
绘制	[illegible]	室主任工程师	[illegible]	10000M³拱顶锥底油罐 总图		设计号	
设计	[illegible]	总工程师				图别	油道
校核	[illegible]					图号	1-0
专业组长						日期	1989.11

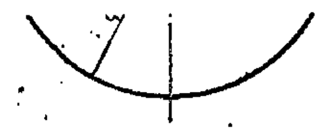
第 1 页

1678×1.1=1846

金属总重1678公斤

编号	名称	数量	材料规格		单重	总重	备注
					重量(公斤)		
20	踏步	57	花纹钢板 $\delta 4$	A3F	5.4	308	
19	连接板(三)	1	8×150×150	A3F		1.4	
18	内侧板	1	扁钢-6×150	A3F		143	
17	圈梁(二)	1	∠40×4	A3F		1.1	L=459
16	平台铺板	1	花纹钢板 $\delta 4$	A3F		75	
	圈梁(一)	1	∠40×4	A3F		2.1	L=878
14	加强筋	1	∠63×6	A3F		44	L=760
13	连接角钢	1	∠63×6	A3F		4.4	L=770
12	连接板(二)	10	钢板 $\delta 8$	A3F	0.7	7	
11	三角架(二)	2	∠63×6	A3F	19.3	38.6	
10	外侧板	1	扁钢-6×150	A3F		146	
9	连接板(一)	16	8×80×100	A3F	0.4	64	
8	三角架(一)	8	∠63×6	A3F	13	104	
7	立柱(四)	17	∠40×4	A3F	2.9	49.3	L=1200
6	踢脚板	1	扁钢-3×80	A3F		185.5	L=98.4M
5	护膛	1	扁钢-4×25	A3F		94	L=118M
	扶手	1	有缝钢管 ϕ33.5×3.25	A3F		290	L=119.8M
3	立柱(三)	2	∠40×4	A3F	2.6	5.2	L=1080
2	立柱(二)	4	∠40×4	A3F	8.4	13.6	L=1860
1	立柱(一)	79	∠40×4	A3F	2.5	198	L=1000

中国民用航空机场设计院				工程名称			
				设计名称	10000M³ 拱顶锥底油罐		
绘制	孔凡松	室主任工程师	黄龙生代	10000M³ 拱顶锥底油罐 梯等及平台总图		设计号	
设计	钱邵春夫	总工程师				图别	油通
校核	黄龙生					图号	1-8
专业组长						日期	1989.11



①展开图
δ=10 1块

⑦展开图
δ=6 34块

注：编号1中心排污孔为重庆第二工业设备安装公司机械制造厂产品。

金属总重 46721公斤 (62956)

编号	名称	数量	材料规格		单重	总重	备注
					重量(公斤)		
7	垫板	34	δ6	A3F (Q235)	3.52	120	
6	挡水板	34	∟50×6	A3F	6.59	224	
5	边缘板	34	δ12×1600×6000	A3F	406.5	13821	
4	中幅板	102	δ8(9)×1600×6000	A3F	205.61	20975	22469≥26×9=4870
3	中幅板	51	δ8(9)×1600×6000	A3F	191	9747	
2	中幅板	17	δ8(9)×1600×6000		102.89	1749	
1	中心排污板	1	δ10	A3F		87	

增加10T（编号2–4）

中国民用航空机场设计院				工程名称			
				设计名称	10000M³ 拱顶锥底油罐		
绘制	吕林公	室主任工程师	曹龙生代	10000M³ 拱顶锥底油罐 罐底		设计号	
设计	邵玉建	总工程师				图别	油通
校对	注生					图号	1-1
专业组长						日期	1989.11

使用的焊钢管用量

规格	泵房	取水	厂外	合计
Dg700 Φ760×10	53	220	10	283
Dg600 Φ630×10	85+20		130+15	250
Dg500 Φ529×9	64	631	40	735
Dg300 Φ323.9×7	62		318	380
Dg250 Φ273×8	33		22	55
Dg200 Φ219×7	319	231	200	750
Dg150 Φ159×6	200	11	197	408
Dg100 Φ108×5	53	153	54	260
Dg80 Φ89×4	119	230	135	484
Dg40 Φ48×3			140	140
Dg25 Φ34×2.5	80	22	68	170
Dg350 Φ377×8	10			10
Dg50 Φ60×3.5		50		50
Dg15 Φ22×2.5	60	60		60

闸门

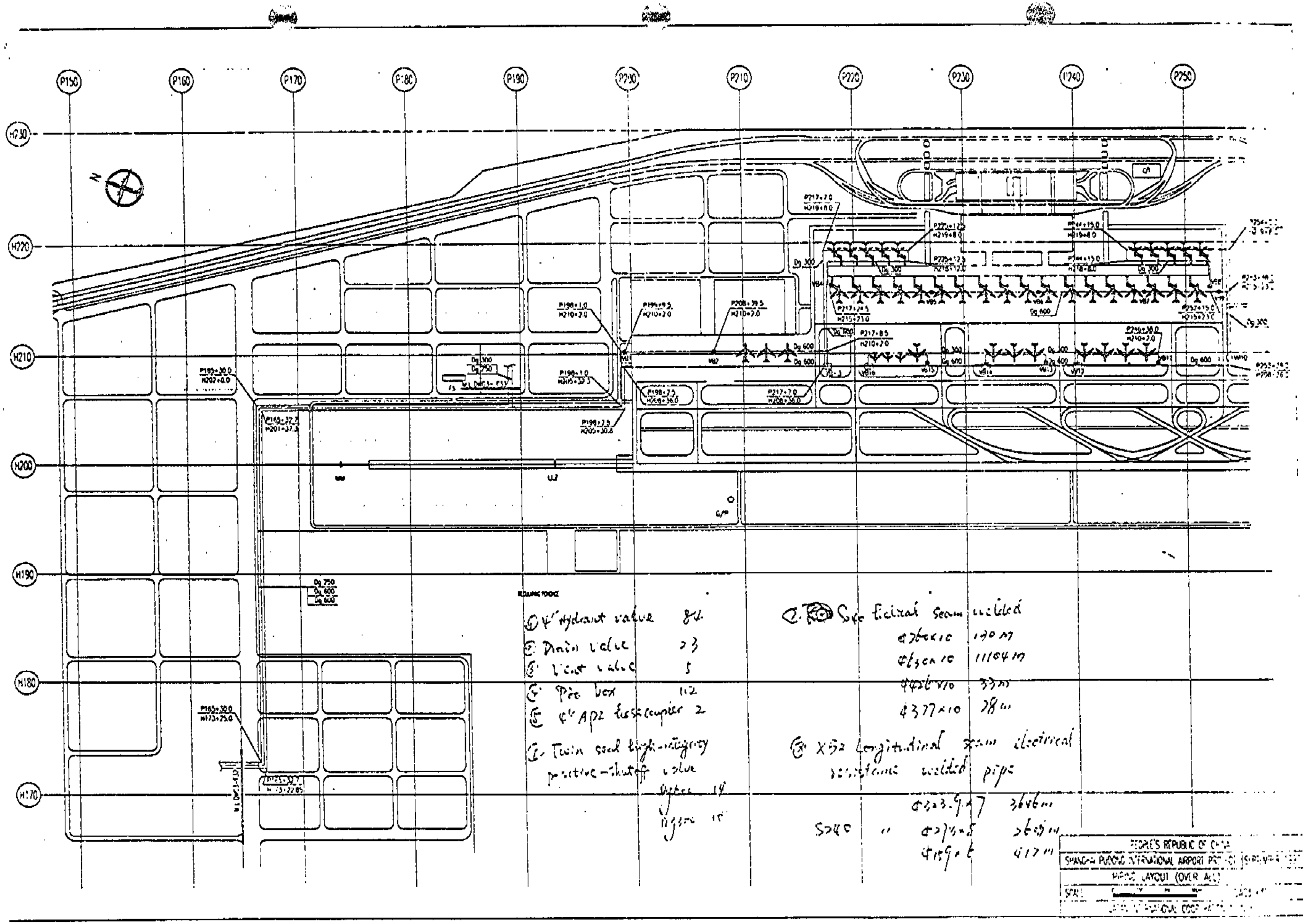
	名称		库房	就位	合计
1.	平板闸门	Pg16 Dg600	4 ✓		4
	〃	Dg500		18+2	20
	〃	Dg300	8 7 ✓		7
	〃	Dg200	42+2 ✓	2+2	48
	〃	Dg150	12+2 ✓	2+1	17
2.	拦污闸	〃 Dg100	7 ✓	16	25
		〃 Dg80		10	10
		〃 Dg50		6	11
		〃 Dg40		6	7
		〃 Dg25		12	12
3.	止回闸	〃 Dg200	10+1 ✓		11
		〃 Dg150	2 ✓		2
		〃 Dg100	2 ✓		2
		〃 Dg40		6+1	7
4.	球阀	〃 Dg600	2 ✓		2
		〃 Dg300	2 ✓		2
		〃 Dg200	10+1 ✓		11
		〃 Dg100	3 ✓		3
		〃 Dg80		4	4
		〃 Dg40		14	14
		〃 Dg25	35 ✓		35
5.	针阀	〃 Dg15	14+22 ✓		36
6.	安全阀	Pg25 Dg25		6	6
7.	直接闸阀	Pg64 Dg300	4 ✓		5
8.	截止阀	Pg64 Dg25	5 ✓		5

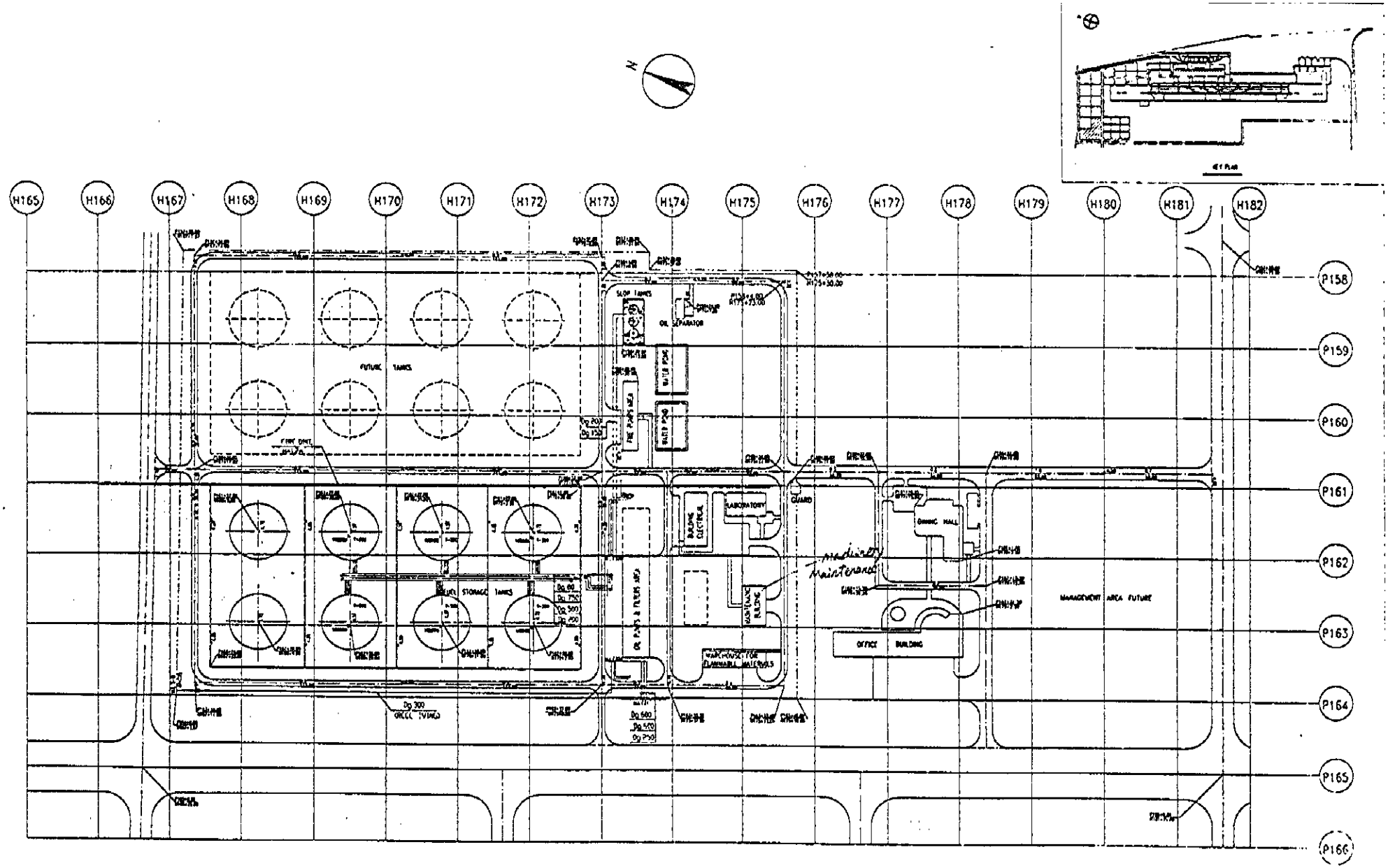
进口闸门

	名称		东庭	敬尼	合计
1.	进口电动双吴断流闸	Pg16 Dg200	2		2
		Dg500		18	18
	进口双吴断流闸 Pg16	Dg600	1		1
		Dg500	2		12
		Dg250	1		1

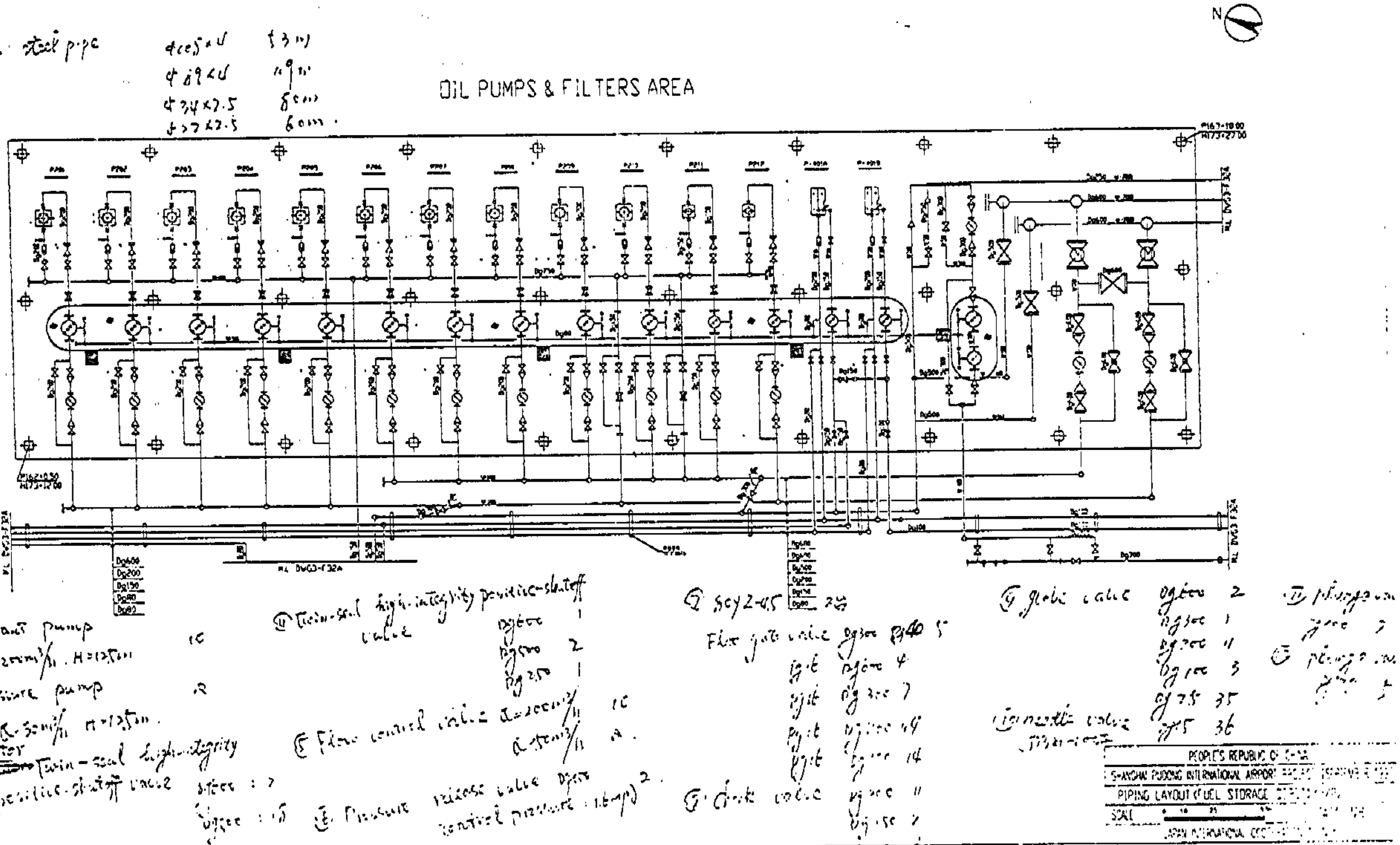
进口流量控制阀

1.	流量控制阀	Dg200	10		10
		Dg100	2		2


P150
P160
P170
P180
P190
P200
P210
P220
P230
P240
P250
H230
H220
H210
H200
H190
H180
H170
N
PEOPLE'S REPUBLIC OF CHINA
SHANGHAI PUDONG INTERNATIONAL AIRPORT
PIPING LAYOUT (OVER ALL)
SCALE



PEOPLE'S REPUBLIC OF CHINA
SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT
PIPING LAYOUT (FUEL STORAGE DEPOT)



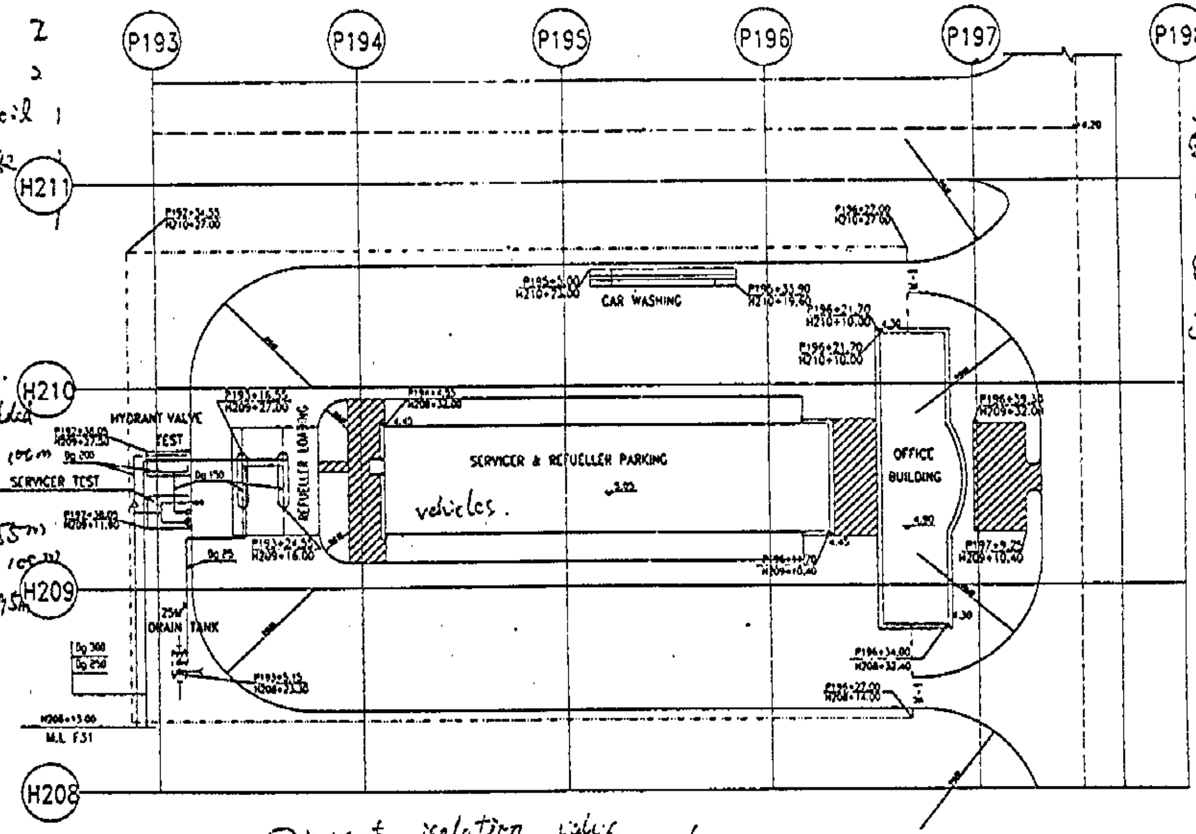
⑬ X42 Longitudinal seam electrical resistance welded pipe
φ377×8 10m
φ323.9×7 6m
φ273×7 33m
φ219×6 39m
φ159×5 53m

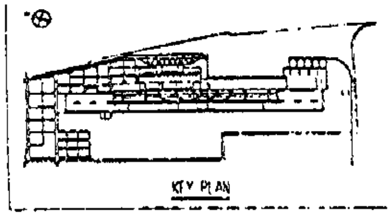
⑮ 20# seamless steel pipe
φ108×4 13m
φ89×4 49m
φ34×2.5 8m
φ27×2.5 6m

① Hydrant pump 10
② pressure pump 2
③ Filter
④ Twin-seal high-integrity positive-shutoff valve
⑤ Flow control valve 10
⑥ Pressure release valve
⑦ SCY2-4.5 2台
Flat gate valve
⑧ Check valve
⑨ Globe valve
⑩ Pneumatic valve

vehicles:
① chinese-built Service 6
② Refueller 47m³ 4
③ chinese-built Refueller (47m³) 3
④ Import 1000Gpm Servicer 6
⑤ Multipurpose vehicle 2
⑥ 10m³ Refuelling truck 2
⑦ Truck for pumping oil 1
⑧ 10m³ transport truck 1
⑨ cleaning vehicle. 1

pipe Material.
1) X52 Longitudinal Seam electrical resistance welded pipe ϕ323.9×7 100m
2) X42 " ϕ273×8 55m
ϕ219×7 100m
ϕ159×6 95m
. 20# seamless steel pipe
ϕ108×4 10m
ϕ89×4 45m
ϕ57×3 10m
ϕ34×2.5 85m
ϕ18×3 20m

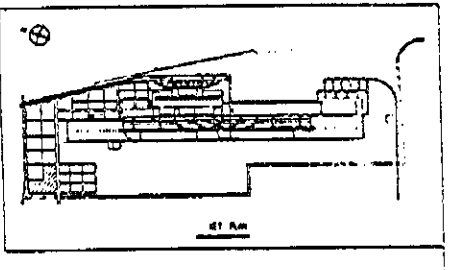


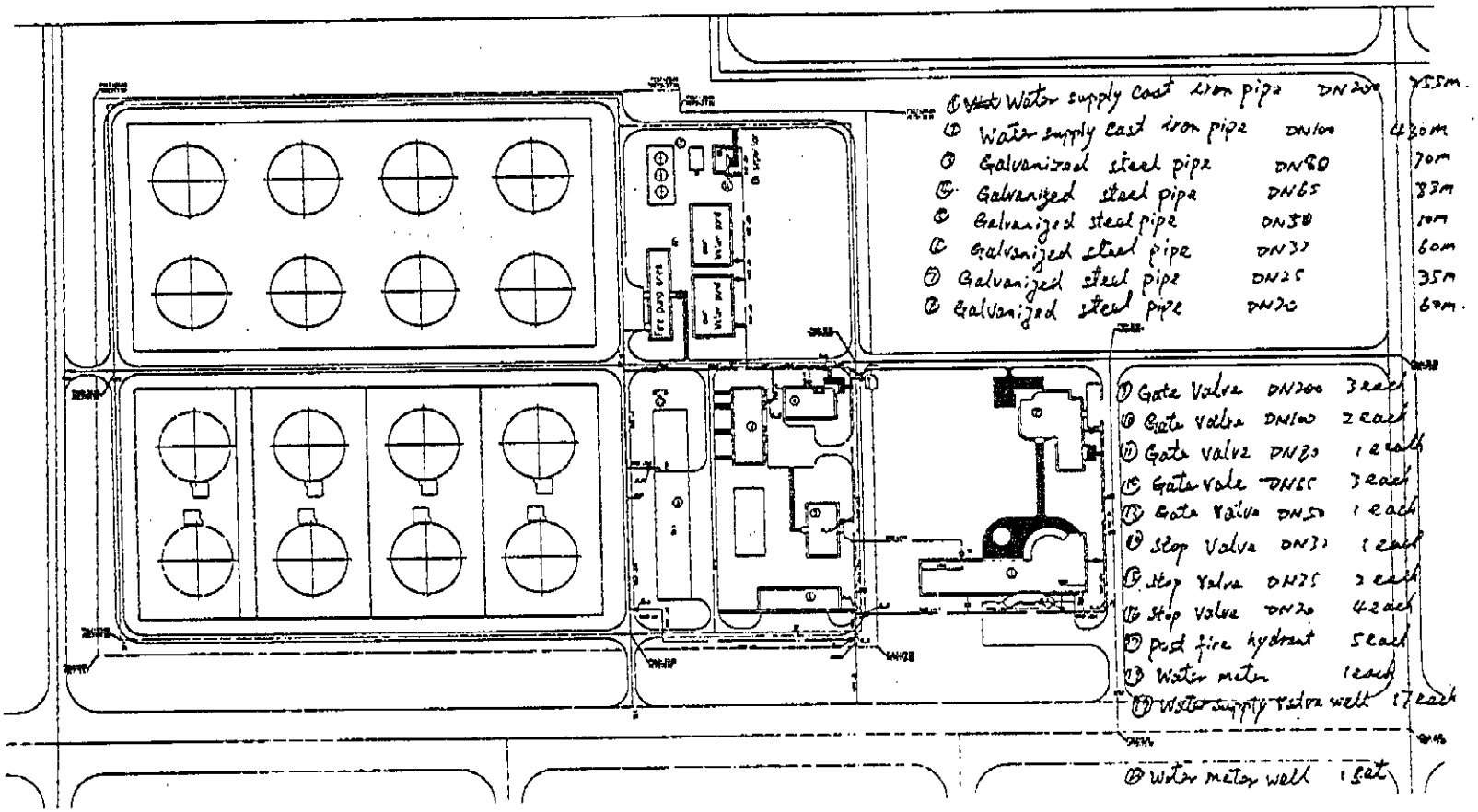


① 25m³ Drain Tank 1
② manhole Dg600 1
③ Y-type gauze cup pipe 1
④ Filter separator Q=120m³/h 2
⑤ Pre-filter Q=120m³/h 2
⑦ Valve (Flat gate) Dg300 7
Dg150 10
⑧ globe valve Dg200 8
Dg150 4
Dg100 1
Dg80 1
Dg25 8
⑧ check valve Dg200 4
⑨ needle valve
J13A-[illegible] Dg15 7
⑩ hose connection 2
⑪ Refuelling hose 4
⑫ union valve 4
⑬ pit box 1
⑭ hydrant pit valve 1

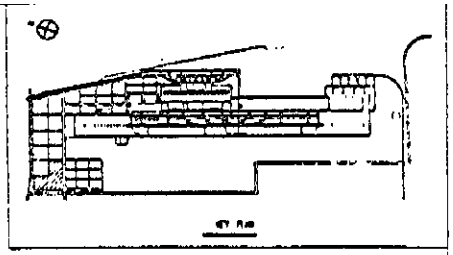
⑮ Hydrant isolation valve 1
⑯ 4" api hose coupler 1
⑰ 4" refuelling hose 1
⑱ hand pump 1
⑲ millipore sampler 2
⑳ surge absorber 1
㉑ pressure regulator 1

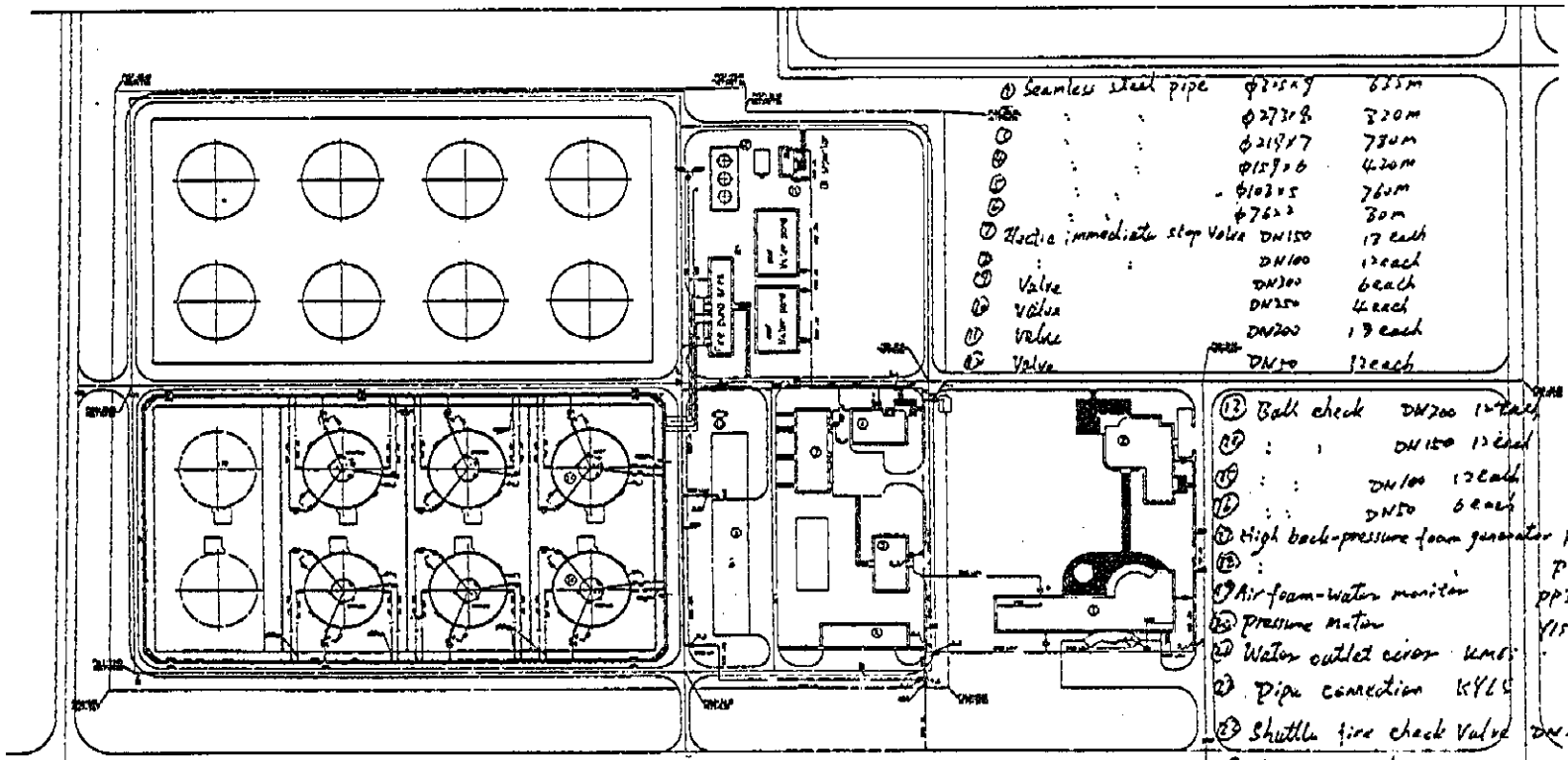
PEOPLE'S REPUBLIC OF CHINA
SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT [illegible]
PIPING LAYOUT (FUEL SUPPLY DEPOT)
JAPAN INTERNATIONAL COOPERATION AGENCY





PEOPLE'S REPUBLIC OF
SHISHOU JIUSONG INTERNATIONAL AIRPORT
PIPING LAYOUT WATER
SCALE 1 0 20
APPR. AUTHOR CHK. DR.



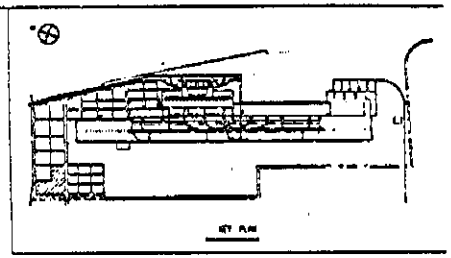


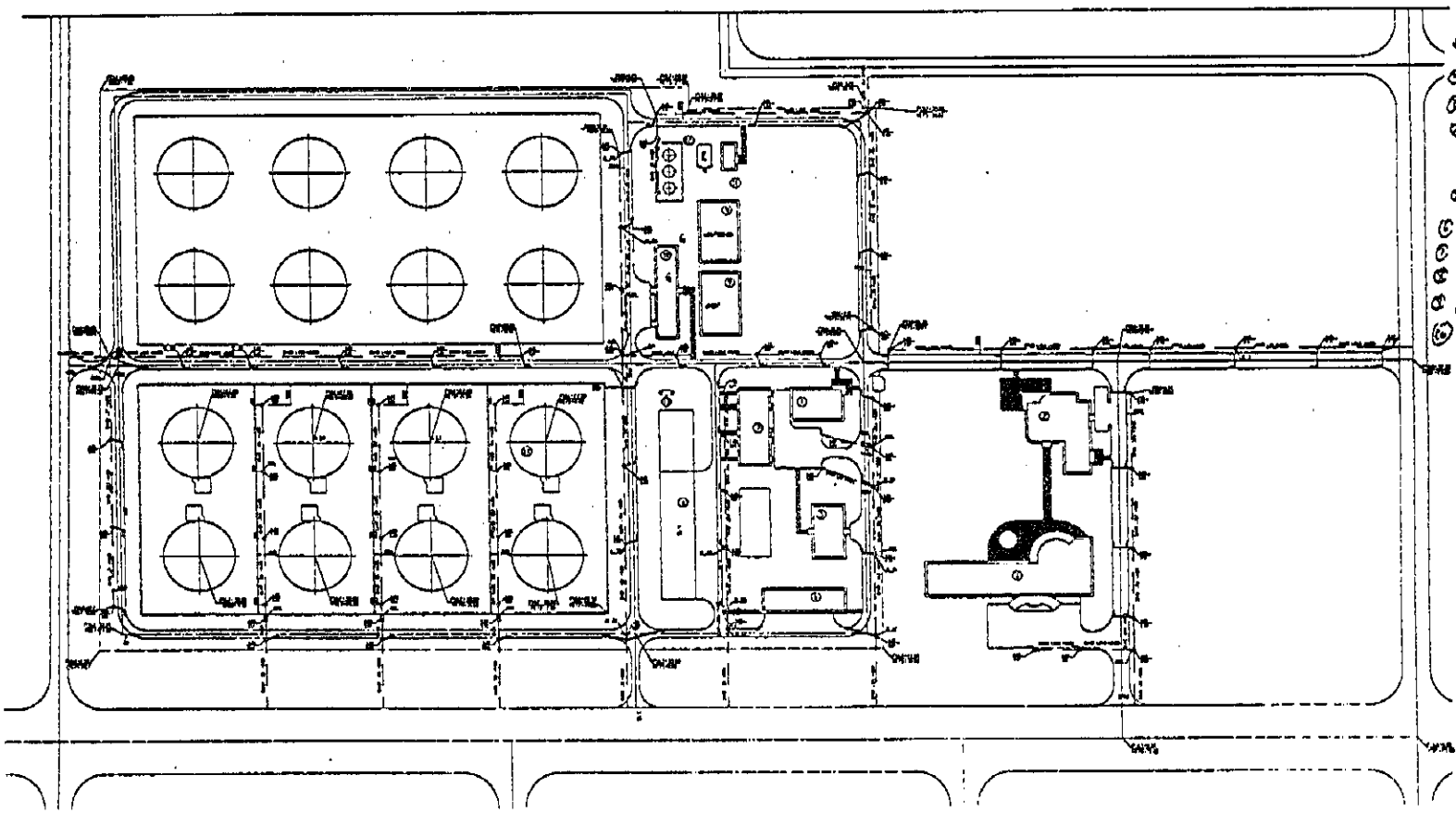
① Seamless steel pipe φ219×7 655m
φ273×8 320m
φ219×7 780m
φ159×6 420m
φ108×5 760m
φ76×3 30m
⑦ Electric immediate stop Valve DN150 17 each
DN100 12 each
⑨ Valve DN300 6 each
⑩ Valve DN250 4 each
⑪ Valve DN200 19 each
⑫ Valve DN50 12 each

⑬ Ball check DN200 12 each
⑭ : DN150 12 each
⑮ : DN100 12 each
⑯ : DN50 6 each
⑰ High back-pressure foam generator PCY12×G 12 each
⑱ : PCY13×G 12 each
⑲ Air-foam-water monitor PP32A 2 set
⑳ Pressure meter Y150 24 each
㉑ Water outlet orifice 12 each
㉒ Pipe connection KYL 32 each
㉓ Shuttle fire check Valve DN200 12 set
㉔ Foam branch PQ16 24 each
㉕ Switch straight flow water branch QZ19 24 each
㉖ Foam hook branch PQ16 24 each

㉗ Post fire hydrant SS150 20 set
㉘ Gunny hose φ65 200 set
㉙ Wheeled powder fire extinguisher 30 set
㉚ Wheeled foam fire extinguisher 30 set
㉛ ~~Portable powder fire extinguisher 40 set~~
㉜ Portable foam fire extinguisher 40 set
㉝ Vertical round valve well φ1m 6 each
㉞ Metal hose 12 set

PEOPLE'S REPUBLIC OF CHINA
SHANGHAI PUDONG INTERNATIONAL AIRPORT
FIRE FIGHTING
JAPAN INTERNATIONAL COOPERATION





Drainage concrete pipe

⑥ DN500	214m
⑤ DN400	170m
④ DN300	51.0m
③ DN200	127.5m

Valve.

⑥ SYZ400	4 set
⑥ outfall valve well	4 each
⑥ sewage drain manhole	62 ea.
⑥ Storm sewage drain manhole	62
⑤ Duplex storm inlet	32 each
⑤ Single storm inlet	2 each

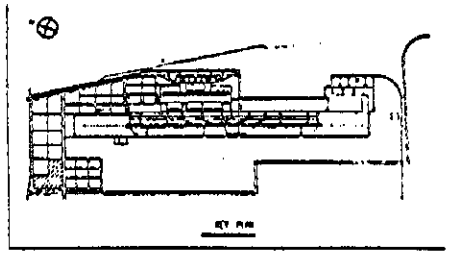
PEOPLE'S REPUBLIC OF CHINA

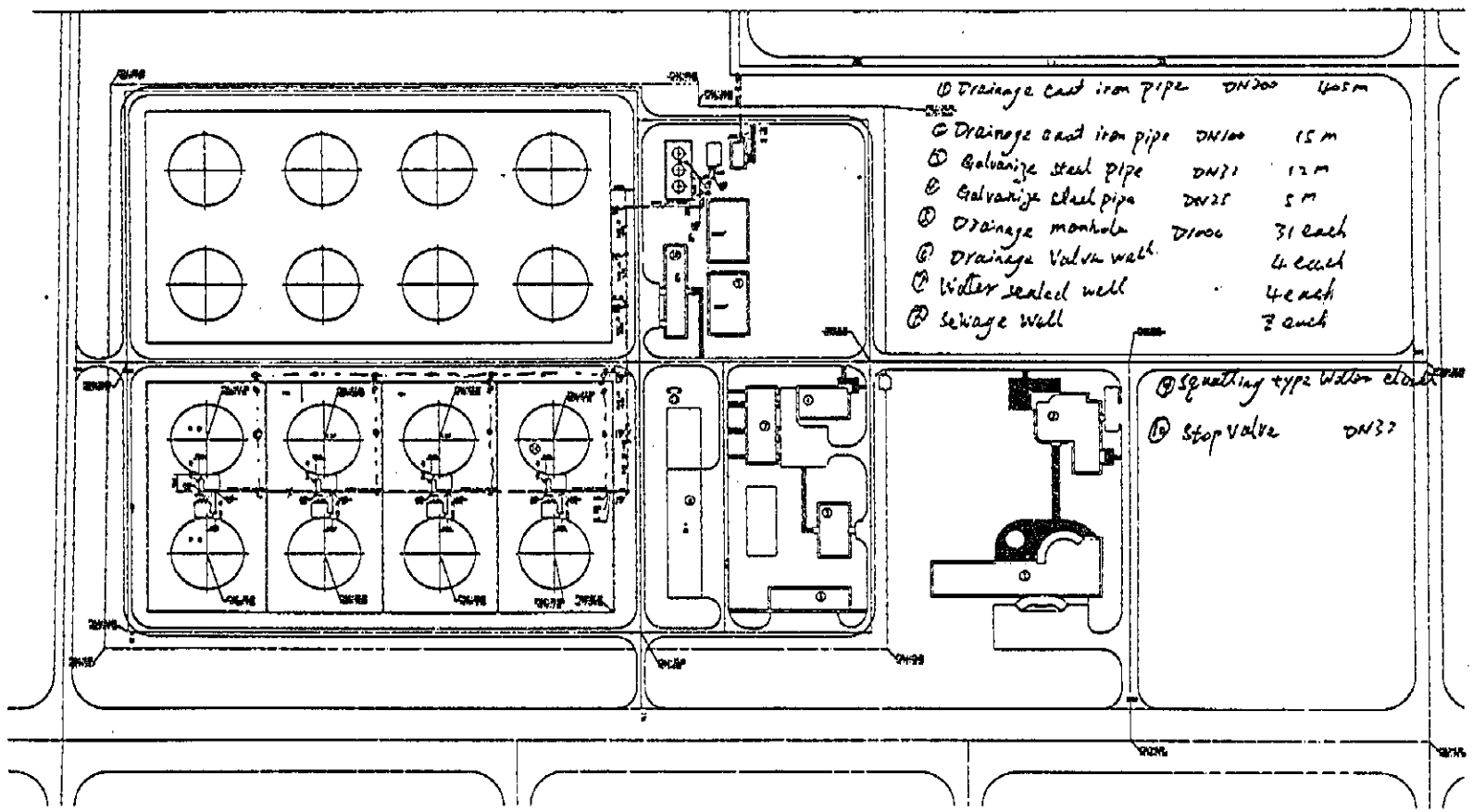
SHANGHAI PUDONG INTERNATIONAL AIRPORT

RAIN WATER DRAINAGE

SCALE

JAPAN INTERNATIONAL COOPERATION AGENCY





PEOPLE'S REPUBLIC OF CHINA
SHANGHAI PUDONG INTERNATIONAL AIRPORT
OILY WATER DRAINAGE
SCALE
JAPAN INTERNATIONAL COOPERATION

编号	名称	规格	电缆 米	钢管 米	路径
1	电力电缆	待定 G100	125	8	变电站高压间至纬三路高压电缆接头
2	电力电缆	待定 G100	125	8	变电站高压间至纬三路高压电缆接头
3	电力电缆	VV_{22}-1 3x95+2x50 G80	295	15	低压间至综合办公楼
4	电力电缆	VV_{22}-1 3x6+2x4 G40	45	4	仪器室至门卫
5	电力电缆	VV_{22}-1 3x70+2x35 G50	230	3	低压间至食堂
6	电力电缆	VV_{22}-1 3x35+2x16 G50	95	5	低压间至化验室
7	电力电缆	VV_{22}-1 3x35+2x16 G50	190	4	低压间至机修间
8	电力电缆	VV_{22}-1 3x16+2x10 G40	150	10	低压间至附属油料库
9	电力电缆	VV_{22}-1 3x4+2x2.5 G40	100	100	低压间至油泵棚(泵房)
10	电力电缆	VV_{22}-1 3x16+2x10 G40	105	105	低压间至消防泵房
11	电力电缆	VV_{22}-1 3x16+2x10 G40	145	3	低压间至含油污水处理间
12	电力电缆	VV_{22}-1 3x6+2x4 G40	170	4	低压间至罐区高杆投光灯T1
13	电力电缆	VV_{22}-1 3x6+2x4 G40	145	4	低压间至罐区高杆投光灯T2
14	电力电缆	VV_{22}-1 3x6+2x4 G40	470	25	低压间至生活区路灯SL1-SL12
15	电力电缆	VV_{22}-1 3x10+2x10 G40	700	46	低压间至工作区路灯SL13-SL35
16	电力电缆	VV_{22}-1 3x10+2x10 G40	930	50	低压间至库区路灯SL36-SL69
17	控制电缆	KVV_{22}-0.5 7x2.5 G40	150	4	低压间至门卫路灯控制按钮箱(三路共用)
18	电力电缆	VV_{22}-1 2(3X95+1X50(PE)) G100	100		低压间至消防泡沫起动柜A
19	电力电缆	VV_{22}-1 2(3X95+1X50(PE)) G100	100		低压间至消防泡沫起动柜B
20	电力电缆	VV_{22}-1 2(3X95+1X50(PE)) G100	100		低压间至消防泡沫起动柜C
21	电力电缆	VV_{22}-1 3x150+1x70(PE) G100	100		低压间至消防冷却水泵起动柜D
22	电力电缆	VV_{22}-1 3x150+1x70(PE) G100	100		低压间至消防冷却水泵起动柜E
23	电力电缆	VV_{22}-1 3x150+1x70(PE) G100	100		低压间至消防冷却水泵起动柜F
24	电力电缆	VV_{22}-1 3x150+1x70(PE) G100	100		低压间至消防冷却水泵起动柜G
25	电力电缆	VV_{22}-1 3x4+1x2.5(PE) G32	100		低压间至泡沫泵房照明箱
26	控制电缆	KVV_{22}-0.5 4x1.5 G32	100		低压间至泡沫泵房按钮
27	电力电缆	VV_{22}-1 3x4+1x2.5(PE) G32	100		低压间至消防泵房自动泵站室
28	控制电缆	KVV_{22}-0.5 7x1.5 G40	115		消防系统泵站控制屏柜至消防泵房低压柜A端子排
29	控制电缆	KVV_{22}-0.5 7x1.5 G40	115		消防系统泵站控制屏柜至消防泵房低压柜B端子排
30	控制电缆	KVV_{22}-0.5 7x1.5 G40	115		消防系统泵站控制屏柜至消防泵房低压柜C端子排
31	控制电缆	KVV_{22}-0.5 7x1.5 G40	115		消防系统泵站控制屏柜至消防泵房低压柜D端子排
32	控制电缆	KVV_{22}-0.5 7x1.5 G40	115		消防系统泵站控制屏柜至消防泵房低压柜E端子排
33	控制电缆	KVV_{22}-0.5 7x1.5 G40	115		消防系统泵站控制屏柜至消防泵房低压柜F端子排
34	控制电缆	KVV_{22}-0.5 7x1.5 G40	115		消防系统泵站控制屏柜至消防泵房低压柜G端子排
35	控制电缆	KVV_{22}-0.5 5x2.5 G32	115		消防系统泵站控制屏柜至消防1号泵出口泵阀控制箱
36	控制电缆	KVV_{22}-0.5 5x2.5 G32	115		消防系统泵站控制屏柜至消防2号泵出口泵阀控制箱
37	控制电缆	KVV_{22}-0.5 5x2.5 G32	115		消防系统泵站控制屏柜至消防3号泵出口泵阀控制箱
38	控制电缆	KVV_{22}-0.5 5x2.5 G32	115		消防系统泵站控制屏柜至消防4号泵出口泵阀控制箱
39	控制电缆	KVV_{22}-0.5 5x2.5 G32	115		消防系统泵站控制屏柜至消防5号泵出口泵阀控制箱
40	控制电缆	KVV_{22}-0.5 5x2.5 G32	115		消防系统泵站控制屏柜至消防6号泵出口泵阀控制箱
41	控制电缆	KVV_{22}-0.5 5x2.5 G32	115		消防系统泵站控制屏柜至消防7号泵出口泵阀控制箱
42	控制电缆	KVV_{22}-0.5 4x1.5 G32	150	3	消防系统监控盘至油罐区消防报警按钮BAN1
43	控制电缆	KVV_{22}-0.5 4x1.5 G32	205	3	消防系统监控盘至油罐区消防报警按钮BAN2
44	控制电缆	KVV_{22}-0.5 4x1.5 G32	260	3	消防系统监控盘至油罐区消防报警按钮BAN3
45	控制电缆	KVV_{22}-0.5 4x1.5 G32	510	3	消防系统监控盘至油罐区消防报警按钮BAN4
46	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	55		低压配电屏至变频柜1至油泵电机P201
47	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	55		低压配电屏至变频柜1至油泵电机P202
48	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	55		低压配电屏至变频柜1至油泵电机P203
49	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	50		低压配电屏至油泵P204电机
50	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	50		低压配电屏至油泵P205电机
51	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	50		低压配电屏至油泵P206电机
52	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	50		低压配电屏至油泵P207电机
53	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	55		低压配电屏至变频柜2至油泵电机P208
54	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	55		低压配电屏至变频柜2至油泵电机P209
55	电力电缆	VV_{22}-1 3x120+1x70(PE) G100	55		低压配电屏至变频柜2至油泵电机P210
56	电力电缆	VV_{22}-1 3x50+1x25(PE) G40	55		低压配电屏至油泵P211电机
57	电力电缆	VV_{22}-1 3x50+1x25(PE) G40	55		低压配电屏至油泵P212电机
58	电力电缆	VV_{22}-1 3x16+1x10(PE) G40	55		低压配电屏至油泵P213电机

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上海浦东国际机场 供油工程 油库

电缆表

[illegible]

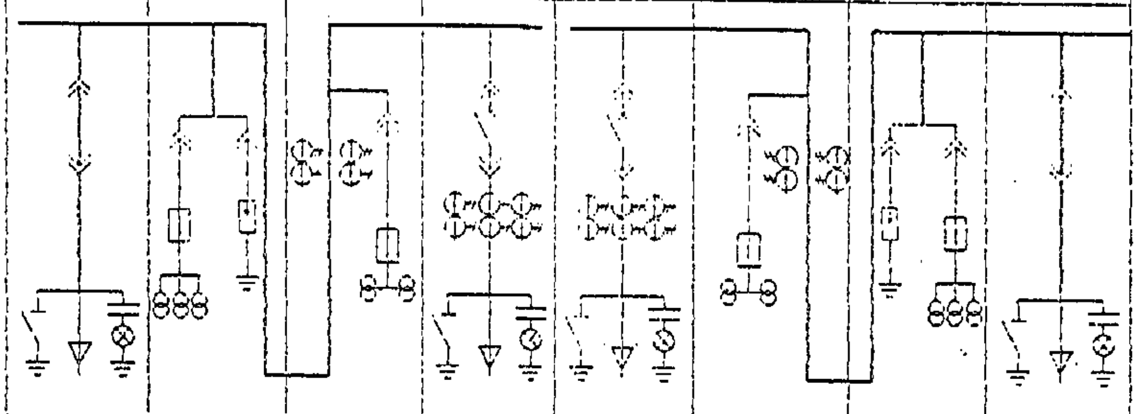
编号	名称	规格	电缆 米	预留 米	路径
59	电力电缆	VV_{22}-1 3x16+1x10(PE) G40	50		低压开关电屏至动泵P214电机
60	电力电缆	VV_{22}-1 3x6+1x4 G40	50		低压开关电屏至动泵增电动葫芦
61	控制电缆	KVV_{22}-0.5 6x1.5 G32	55		变频柜1至防爆按钮 AN1
62	控制电缆	KVV_{22}-0.5 6x1.5 G32	55		变频柜1至防爆按钮 AN2
63	控制电缆	KVV_{22}-0.5 6x1.5 G32	55		变频柜1至防爆按钮 AN3
64	控制电缆	KVV_{22}-0.5 6x1.5 G32	50		低压开关电屏至防爆按钮 AN4
65	控制电缆	KVV_{22}-0.5 6x1.5 G32	50		低压开关电屏至防爆按钮 AN5
66	控制电缆	KVV_{22}-0.5 6x1.5 G32	50		低压开关电屏至防爆按钮 AN6
67	控制电缆	KVV_{22}-0.5 6x1.5 G32	50		低压开关电屏至防爆按钮 AN7
68	控制电缆	KVV_{22}-0.5 6x1.5 G32	55		变频柜2至防爆按钮 AN8
69	控制电缆	KVV_{22}-0.5 6x1.5 G32	55		变频柜2至防爆按钮 AN9
70	控制电缆	KVV_{22}-0.5 6x1.5 G32	55		变频柜2至防爆按钮 AN10
71	控制电缆	KVV_{22}-0.5 4x1.5 G32	50		低压开关电屏至防爆按钮 AN11
72	控制电缆	KVV_{22}-0.5 4x1.5 G32	50		低压开关电屏至防爆按钮 AN12
73	控制电缆	KVV_{22}-0.5 4x1.5 G32	50		低压开关电屏至防爆按钮 AN13
74	控制电缆	KVV_{22}-0.5 4x1.5 G32	50		低压开关电屏至防爆按钮 AN14
75	电力电缆	VV_{22}-1 3x4+1x2.5 G32	110		低压开关电屏至控制室阀控柜至加油总管电动阀ESV201
76	电力电缆	VV_{22}-1 3x4+1x2.5 G32	110		低压开关电屏至控制室阀控柜至加油总管电动阀ESV202
77	控制电缆	KVV_{22}-0.5 14x1.5 G32	80		控制室阀控柜至加油总管电动阀ESV201
78	控制电缆	KVV_{22}-0.5 14x1.5 G32	80		控制室阀控柜至加油总管电动阀ESV202
79	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT201
80	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT202
81	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT203
82	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT204
83	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT205
84	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT206
85	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT207
86	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT208
87	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT209
88	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT210
89	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT211
90	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT212
91	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT213
92	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT214
93	控制电缆	DJYVP$_{22}$-0.5 2X2X1mm^2 G32	80		控制室至流量变送器FT215
94	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至温度变送器TT201
95	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至温度变送器TT202
96	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至温度变送器TT203
97	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT201
98	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT202
99	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT203
100	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT204
101	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT205
102	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT206
103	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT207
104	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT208
105	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT209
106	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT210
107	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT211
108	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT212
109	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT213
110	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT214
111	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	80		控制室至压力变送器PT215
112	控制电缆	DJYVP$_{22}$-0.5 1X2X1mm^2 G32	220	10	控制室至罐区现场防爆按钮盒(需进液计共用)
113	电力电缆	VV_{22}-1 3x4+1x2.5 G32	220	10	控制室至罐区现场防爆电源开关箱(需进液计共用)
114	电力电缆	VV_{22}-1 3x4+1x2.5 G32	215	5	低压开关电屏至软起动柜1201的入口电动阀KZ01
115	电力电缆	VV_{22}-1 3x4+1x2.5 G32	215	5	低压开关电屏至软起动柜1201的出口电动阀KZ01A
116	电力电缆	VV_{22}-1 3x4+1x2.5 G32	215	5	低压开关电屏至软起动柜1201的出口电动阀KZ01B

编号	名称	规格	电缆长	留备长	路径
117	控制电缆	KVV22-0.5 14X1.5 G32	245	5	控制室至磁控使用螺T201的入口电动阀K201
118	控制电缆	KVV22-0.5 14X1.5 G32	245	5	控制室至磁控使用螺T201的出口电动阀K201A
119	控制电缆	KVV22-0.5 14x1.5 G32	245	5	控制室至磁控使用螺T201的出口电动阀K201B
120	电力电缆	VV22-1 3x4+1x2.5 G32	265	5	低压阀控电屏至磁控使用螺T202的入口电动阀K202
121	电力电缆	VV22-1 3x4+1x2.5 G32	265	5	低压阀控电屏至磁控使用螺T202的出口电动阀K202A
122	电力电缆	VV22-1 3x4+1x2.5 G32	265	5	低压阀控电屏至磁控使用螺T202的出口电动阀K202B
123	控制电缆	KVV22-0.5 14x1.5 G32	296	5	控制室至磁控 磁控使用螺T202的入口电动阀K202
124	控制电缆	KVV22-0.5 14x1.5 G32	296	5	控制室至磁控 磁控使用螺T202的出口电动阀K202A
125	控制电缆	KVV22-0.5 14x1.5 G32	296	5	控制室至磁控 磁控使用螺T202的出口电动阀K202B
126	电力电缆	VV22-1 3x4+1x2.5 G32	315	5	低压阀控电屏至磁控使用螺T203的入口电动阀K203
127	电力电缆	VV22-1 3x4+1x2.5 G32	315	5	低压阀控电屏至磁控使用螺T203的出口电动阀K203A
128	电力电缆	VV22-1 3x4+1x2.5 G32	315	5	低压阀控电屏至磁控使用螺T203的出口电动阀K203B
129	控制电缆	KVV22-0.5 14x1.5 G32	345	5	控制室至磁控 磁控使用螺T203的入口电动阀K203
130	控制电缆	KVV22-0.5 14x1.5 G32	345	5	控制室至磁控 磁控使用螺T203的出口电动阀 K203A
131	控制电缆	KVV22-0.5 14x1.5 G32	345	5	控制室至磁控 磁控使用螺T203的出口电动阀K203B
132	电力电缆	VV22-1 3x4+1x2.5 G32	225	5	低压阀控电屏至磁控使用螺T204的入口电动阀K204
133	电力电缆	VV22-1 3x4+1x2.5 G32	225	5	低压阀控电屏至磁控使用螺T204的出口电动阀K204A
134	电力电缆	VV22-1 3x4+1x2.5 G32	225	5	低压阀控电屏至磁控使用螺T204的出口电动阀K204B
135	控制电缆	KVV22-0.5 14x1.5 G32	255	5	控制室至磁控 磁控使用螺T204的入口电动阀K204
136	控制电缆	KVV22-0.5 14x1.5 G32	255	5	控制室至磁控 磁控使用螺T204的出口电动阀K204A
137	控制电缆	KVV22-0.5 14x1.5 G32	255	5	控制室至磁控 磁控使用螺T204的出口电动阀K204B
138	电力电缆	VV22-1 3x4+1x2.5 G32	275	5	低压阀控电屏至磁控使用螺T205的入口电动阀K205
139	电力电缆	VV22-1 3x4+1x2.5 G32	275	5	低压阀控电屏至磁控使用螺T205的出口电动阀K205A
140	电力电缆	VV22-1 3x4+1x2.5 G32	275	5	低压阀控电屏至磁控使用螺T205的出口电动阀K205B
141	控制电缆	KVV22-0.5 14x1.5 G32	305	5	控制室至磁控 磁控使用螺T205的入口电动阀K205
142	控制电缆	KVV22-0.5 14x1.5 G32	305	5	控制室至磁控 磁控使用螺T205的出口电动阀K205A
143	控制电缆	KVV22-0.5 14x1.5 G32	305	5	控制室至磁控 磁控使用螺T205的出口电动阀K205B
144	电力电缆	VV22-1 3x4+1x2.5 G32	325	5	低压阀控电屏至磁控使用螺T206的入口电动阀K206
145	电力电缆	VV22-1 3x4+1x2.5 G32	325	5	低压阀控电屏至磁控使用螺T206的出口电动阀K206A
146	电力电缆	VV22-1 3x4+1x2.5 G32	325	5	低压阀控电屏至磁控使用螺T206的出口电动阀K206B
147	控制电缆	KVV22-0.5 14x1.5 G32	355	5	控制室至磁控 磁控使用螺T206的入口电动阀K206
148	控制电缆	KVV22-0.5 14x1.5 G32	355	5	控制室至磁控 磁控使用螺T206的出口电动阀K206A
149	控制电缆	KVV22-0.5 14x1.5 G32	355	5	控制室至磁控 磁控使用螺T206的出口电动阀K206B
150	电力电缆	VV22-1 3x4+1x2.5 G32	130	30	低压阀控电屏至 网控柜至螺 T201的消防泡沫电动阀P1-1
151	电力电缆	VV22-1 3x4+1x2.5 G32	173	13	低压阀控电屏至 网控柜至螺T201的消防泡沫电动阀P1-2
152	电力电缆	VV22-1 3x4+1x2.5 G32	175	15	低压阀控电屏至 网控柜至螺T201的消防泡沫电动阀P1-3
153	电力电缆	VV22-1 3x4+1x2.5 G32	130	30	低压阀控电屏至 网控柜至螺T201的冷却水电动阀 S1-1
154	电力电缆	VV22-1 3x4+1x2.5 G32	166	6	低压阀控电屏至 网控柜至螺T201的冷却水电动阀 S1-2
155	控制电缆	KVV22-0.5 14x1.5 G32	160	30	网控柜至螺T201的消防泡沫电动阀P1-1
156	控制电缆	KVV22-0.5 14x1.5 G32	203	13	网控柜至螺T201的消防泡沫电动阀P1-2
157	控制电缆	KVV22-0.5 14x1.5 G32	205	15	网控柜至螺T201的消防泡沫电动阀P1-3
158	控制电缆	KVV22-0.5 14x1.5 G32	160	30	网控柜至螺T201的冷却水电动阀 S1-1
159	控制电缆	KVV22-0.5 14x1.5 G32	196	6	网控柜至螺T201的冷却水电动阀 S1-2
160	电力电缆	VV22-1 3x4+1x2.5 G32	166	6	低压阀控电屏至 网控柜至螺T202的消防泡沫电动阀P2-1
161	电力电缆	VV22-1 3x4+1x2.5 G32	225	15	低压阀控电屏至 网控柜至螺T202的消防泡沫电动阀P2-2
162	电力电缆	VV22-1 3x4+1x2.5 G32	215	5	低压阀控电屏至 网控柜至螺T202的消防泡沫电动阀P2-3
163	电力电缆	VV22-1 3x4+1x2.5 G32	164	4	低压阀控电屏至 网控柜至螺T202的冷却水电动阀 S2-1
164	电力电缆	VV22-1 3x4+1x2.5 G32	215	5	低压阀控电屏至 网控柜至螺T202的冷却水电动阀 S2-2
165	控制电缆	KVV22-0.5 14x1.5 G32	195	6	网控柜至螺T202的消防泡沫电动阀P2-1
166	控制电缆	KVV22-0.5 14x1.5 G32	255	15	网控柜至螺T202的消防泡沫电动阀P2-2
167	控制电缆	KVV22-0.5 14x1.5 G32	245	5	网控柜至螺T202的消防泡沫电动阀P2-3
168	控制电缆	KVV22-0.5 14x1.5 G32	194	4	网控柜至螺T202的冷却水电动阀 S2-1
169	控制电缆	KVV22-0.5 14x1.5 G32	245	5	网控柜至螺T202的冷却水电动阀 S2-2
170	电力电缆	VV22-1 3x4+1x2.5 G32	219	9	低压阀控电屏至 网控柜至螺T203的消防泡沫电动阀P3-1
171	电力电缆	VV22-1 3x4+1x2.5 G32	281	6	低压阀控电屏至 网控柜至螺T203的消防泡沫电动阀P3-2
172	电力电缆	VV22-1 3x4+1x2.5 G32	263	8	低压阀控电屏至 网控柜至螺T203的消防泡沫电动阀P3-3
173	电力电缆	VV22-1 3x4+1x2.5 G32	216	6	低压阀控电屏至 网控柜至螺T203的冷却水电动阀 S3-1
174	电力电缆	VV22-1 3x4+1x2.5 G32	260	5	低压阀控电屏至 网控柜至螺T203的冷却水电动阀 S3-2

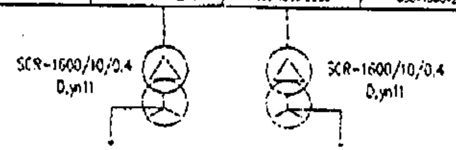
编号	名称	规格	电缆 米	钢管 米	路径
175	控制电缆	KVVR22-0.5 14x1.5 G32	249	9	阀控柜至罐T203的消防泡沫电动阀 P3-1
176	控制电缆	KVVR22-0.5 14x1.5 G32	291	6	阀控柜至罐T203的消防泡沫电动阀 P3-2
177	控制电缆	KVVR22-0.5 14x1.5 G32	293	8	阀控柜至罐T203的消防泡沫电动阀 P3-3
178	控制电缆	KVVR22-0.5 14x1.5 G32	246	6	阀控柜至罐T203的冷却水电动阀 S3-1
179	控制电缆	KVVR22-0.5 14x1.5 G32	290	5	阀控柜至罐T203的冷却水电动阀 S3-2
180	电力电缆	VV22-1 3x4+1x2.5 G32	168	8	低压阀配电屏至阀控柜至罐T204的消防泡沫电动阀 P4-1
181	电力电缆	VV22-1 3x4+1x2.5 G32	190	30	低压阀配电屏至阀控柜至罐T204的消防泡沫电动阀 P4-2
182	电力电缆	VV22-1 3x4+1x2.5 G32	285	15	低压阀配电屏至阀控柜至罐T204的消防泡沫电动阀 P4-3
183	电力电缆	VV22-1 3x4+1x2.5 G32	185	25	低压阀配电屏至阀控柜至罐T204的冷却水电动阀 S4-1
184	电力电缆	VV22-1 3x4+1x2.5 G32	275	5	低压阀配电屏至阀控柜至罐T204的冷却水电动阀 S4-2
185	控制电缆	KVVR22-0.5 14x1.5 G32	198	9	阀控柜至罐T204的消防泡沫电动阀 P4-1
186	控制电缆	KVVR22-0.5 14x1.5 G32	220	30	阀控柜至罐T204的消防泡沫电动阀 P4-2
187	控制电缆	KVVR22-0.5 14x1.5 G32	315	15	阀控柜至罐T204的消防泡沫电动阀 P4-3
188	控制电缆	KVVR22-0.5 14x1.5 G32	205	25	阀控柜至罐T204的冷却水电动阀 S4-1
189	控制电缆	KVVR22-0.5 14x1.5 G32	305	5	阀控柜至罐T204的冷却水电动阀 S4-2
190	电力电缆	VV22-1 3x4+1x2.5 G32	280	10	低压阀配电屏至阀控柜至罐T205的消防泡沫电动阀 P5-1
191	电力电缆	VV22-1 3x4+1x2.5 G32	335	15	低压阀配电屏至阀控柜至罐T205的消防泡沫电动阀 P5-2
192	电力电缆	VV22-1 3x4+1x2.5 G32	326	6	低压阀配电屏至阀控柜至罐T205的消防泡沫电动阀 P5-3
193	电力电缆	VV22-1 3x4+1x2.5 G32	276	6	低压阀配电屏至阀控柜至罐T205的冷却水电动阀 S5-1
194	电力电缆	VV22-1 3x4+1x2.5 G32	325	5	低压阀配电屏至阀控柜至罐T205的冷却水电动阀 S5-2
195	控制电缆	KVVR22-0.5 14x1.5 G32	310	10	阀控柜至罐T205的消防泡沫电动阀 P5-1
196	控制电缆	KVVR22-0.5 14x1.5 G32	365	15	阀控柜至罐T205的消防泡沫电动阀 P5-2
197	控制电缆	KVVR22-0.5 14x1.5 G32	356	6	阀控柜至罐T205的消防泡沫电动阀 P5-3
198	控制电缆	KVVR22-0.5 14x1.5 G32	306	6	阀控柜至罐T205的冷却水电动阀 S5-1
199	控制电缆	KVVR22-0.5 14x1.5 G32	355	5	阀控柜至罐T205的冷却水电动阀 S5-2
200	电力电缆	VV22-1 3x4+1x2.5 G32	328	8	低压阀配电屏至阀控柜至罐T206的消防泡沫电动阀 P6-1
201	电力电缆	VV22-1 3x4+1x2.5 G32	373	8	低压阀配电屏至阀控柜至罐T206的消防泡沫电动阀 P6-2
202	电力电缆	VV22-1 3x4+1x2.5 G32	373	8	低压阀配电屏至阀控柜至罐T206的消防泡沫电动阀 P6-3
203	电力电缆	VV22-1 3x4+1x2.5 G32	325	5	低压阀配电屏至阀控柜至罐T206的冷却水电动阀 S6-1
204	电力电缆	VV22-1 3x4+1x2.5 G32	370	5	低压阀配电屏至阀控柜至罐T206的冷却水电动阀 S6-2
205	控制电缆	KVVR22-0.5 14x1.5 G32	358	8	阀控柜至罐T206的消防泡沫电动阀 P6-1
206	控制电缆	KVVR22-0.5 14x1.5 G32	403	8	阀控柜至罐T206的消防泡沫电动阀 P6-2
207	控制电缆	KVVR22-0.5 14x1.5 G32	403	8	阀控柜至罐T206的消防泡沫电动阀 P6-3
208	控制电缆	KVVR22-0.5 14x1.5 G32	355	5	阀控柜至罐T206的冷却水电动阀 S6-1
209	控制电缆	KVVR22-0.5 14x1.5 G32	400	5	阀控柜至罐T206的冷却水电动阀 S6-2
210	控制电缆	KVVR22-0.5 4X1.5 G32	305	55	控制室至罐区软管使用罐T201的高、低液位控制器 LS201A LS201B
211	控制电缆	KVV -0.5 22 4X1.5 G32	355	55	控制室至罐区软管使用罐T202的高、低液位控制器 LS202A LS202B
212	控制电缆	KVVR22-0.5 4X1.5 G32	405	55	控制室至罐区软管使用罐T203的高、低液位控制器 LS203A LS203B
213	控制电缆	KVVR22-0.5 4X1.5 G32	265	50	控制室至罐区软管使用罐T204的高、低液位控制器 LS204A LS204B
214	控制电缆	KVVR22-0.5 4X1.5 G32	315	50	控制室至罐区软管使用罐T205的高、低液位控制器 LS205A LS205B
215	控制电缆	KVVR22-0.5 4X1.5 G32	365	50	控制室至罐区软管使用罐T206的高、低液位控制器 LS206A LS206B
216	控制电缆	KVVR22-0.5 4X1.5 G32	220	15	控制室至罐区软管污油罐T401的高液位控制器LS401
217	控制电缆	KVVR22-0.5 4X1.5 G32	220	15	控制室至罐区软管污油罐T402的高液位控制器LS402
218	电力电缆	VV22-1 2X2.5 G32	120		控制室至消防泵房稳压机S101 S102(两机共用电源线)
219	控制电缆	SYV-75-5-2 G32	120		控制室至消防泵房稳压机S101
220	控制电缆	RVVP-0.5 5X0.2 G32	120		控制室至消防泵房稳压机S101
221	控制电缆	RVVP-0.5 7X0.2 G32	120		控制室至消防泵房稳压机S101
222	控制电缆	SYV-75-5-2 G32	120		控制室至消防泵房稳压机S102
223	控制电缆	RVVP-0.5 5X0.2 G32	120		控制室至消防泵房稳压机S102
224	控制电缆	RVVP-0.5 7X0.2 G32	120		控制室至消防泵房稳压机S102
225	电力电缆	VV22-1 2X2.5 G32	80		控制室至油泵棚稳压机S201 S202(两机共用电源线)
226	控制电缆	SYV-75-5-2 G32	80		控制室至油泵棚稳压机S201
227	控制电缆	RVVP-0.5 5X0.2 G32	80		控制室至油泵棚稳压机S201
228	控制电缆	RVVP-0.5 7X0.2 G32	80		控制室至油泵棚稳压机S201
229	控制电缆	SYV-75-5-2 G32	80		控制室至油泵棚稳压机S202
230	控制电缆	RVVP-0.5 5X0.2 G32	80		控制室至油泵棚稳压机S202
231	控制电缆	RVVP-0.5 7X0.2 G32	80		控制室至油泵棚稳压机S202
232	电力电缆	VV22-1 2X2.5 G32	560	25	控制室至稳压机S301 S302 (两机共用电源线)

编号	名称	规格		电缆 米	钢管 米	路径
233	控制电缆	SYV-75-5-2	G32	190	25	控制室至罐区摄像机S301
234	控制电缆	RVVP-0.5 5X0.2	G32	190	25	控制室至罐区摄像机S301
235	控制电缆	RVVP-0.5 7X0.2	G32	190	25	控制室至罐区摄像机S301
236	控制电缆	SYV-75-5-2	G32	550	25	控制室至罐区摄像机S302
237	控制电缆	RVVP-0.5 5X0.2	G32	550	25	控制室至罐区摄像机S302
238	控制电缆	RVVP-0.5 7X0.2	G32	550	25	控制室至罐区摄像机S302
239	电力电缆	VV_{22}-1 2X1.5	G32	30	15	罐区现场防爆电源箱至罐T201雷达液位计LT201
240	电力电缆	VV_{22}-1 2X1.5	G32	85	15	罐区现场防爆电源箱至罐T202雷达液位计LT202
241	电力电缆	VV_{22}-1 2X1.5	G32	135	15	罐区现场防爆电源箱至罐T203雷达液位计LT203
242	电力电缆	VV_{22}-1 2X1.5	G32	45	15	罐区现场防爆电源箱至罐T204雷达液位计LT204
243	电力电缆	VV_{22}-1 2X1.5	G32	100	15	罐区现场防爆电源箱至罐T205雷达液位计LT205
244	电力电缆	VV_{22}-1 2X1.5	G32	150	15	罐区现场防爆电源箱至罐T206雷达液位计LT206
245	控制电缆	$DJYVP_{22}$ 1X2X1mm^2	G32	30	15	罐区现场防爆接线盒至罐T201雷达液位计LT201
246	控制电缆	$DJYVP_{22}$ 1X2X1mm^2	G32	85	15	罐区现场防爆接线盒至罐T202雷达液位计LT202
247	控制电缆	$DJYVP_{22}$ 1X2X1mm^2	G32	135	15	罐区现场防爆接线盒至罐T203雷达液位计LT203
248	控制电缆	$DJYVP_{22}$ 1X2X1mm^2	G32	45	15	罐区现场防爆接线盒至罐T204雷达液位计LT204
249	控制电缆	$DJYVP_{22}$ 1X2X1mm^2	G32	100	15	罐区现场防爆接线盒至罐T205雷达液位计LT205
250	控制电缆	$DJYVP_{22}$ 1X2X1mm^2	G32	150	15	罐区现场防爆接线盒至罐T205雷达液位计LT206
	照明灯塔			2 座		(含基础)
	庭院路灯	GDJ206-3X100 H=5.5m		60 个		
	消防按钮箱	JX2001(内设按钮LA5821-1)		4 个		安装 设在防火堤外
	接地极			2 套		设在罐区
	电缆人孔井	直通型		7 个		
	电缆人孔井	T字型		5 个		
	电缆人孔井	转角型		4 个		
	混凝土排管	6孔 ∅90		5500	米	
	水泥			5 吨		
	砖			10 吨		

开关柜编号	NO.01	NO.02	NO.03	NO.04	NO.05	NO.06	NO.07	NO.08
开关柜型号	ZS1-002	ZS1-026	ZS1-017	ZS1-007	ZS1-017	ZS1-026	ZS1-017	ZS1-002
一次接线图								

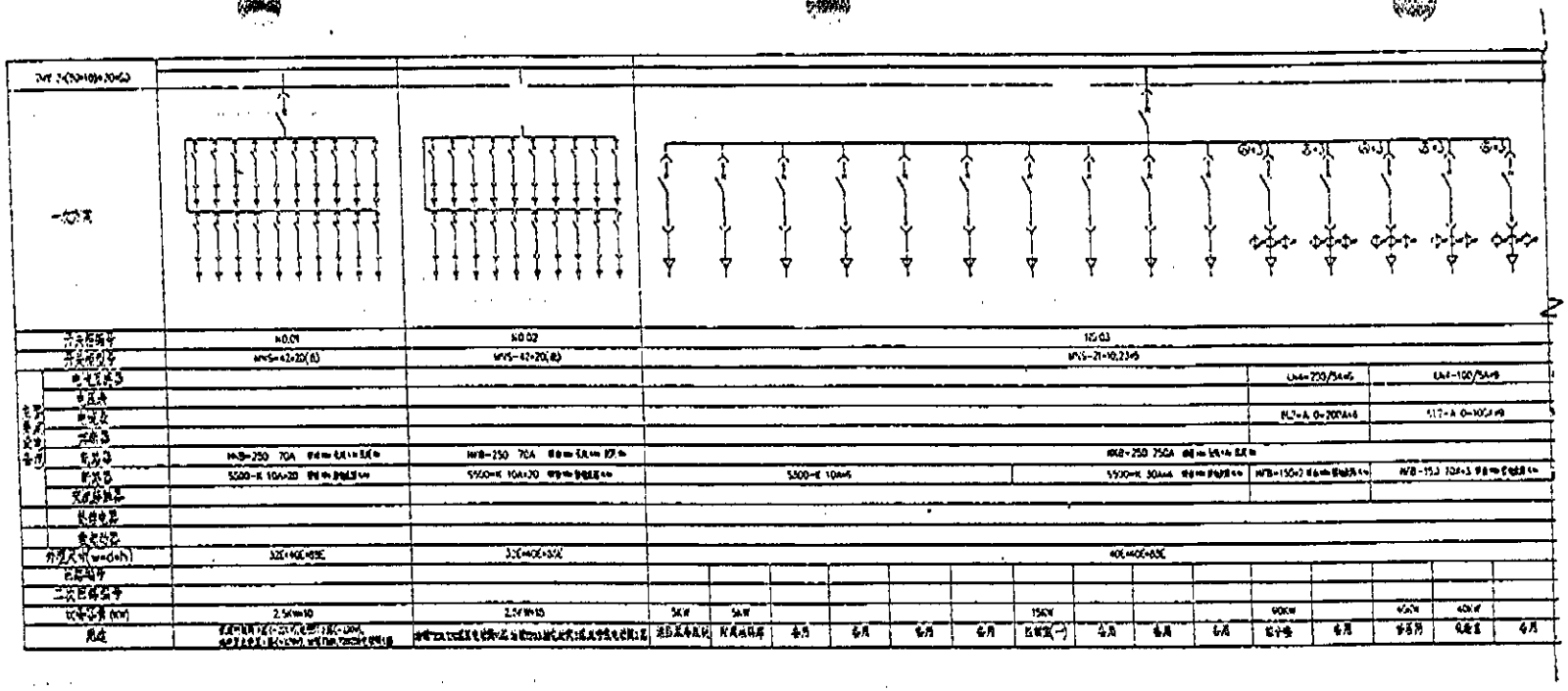


用途	电源进线(一)	电压互感器及避雷器	计量	本站变压器(一)	本站变压器(二)	计量	电压互感器及避雷器	电源进线(二)
柜内主要设备: 真空开关				VD4/1600A/25KA	VD4/1600A/25KA			
操作机构				CT19-114 ~220V,150W	CT19-114 ~220V,150W			
熔断器		SFA-12 6A×3	GEC-6A×3			GEC-6A×3	SFA-12 6A×3	
避雷器		WF-14×3					WF-14×3	
电压互感器(PT)		VES×3	VES×2			VES×2	VES×3	
电流互感器(CT)			WMB 150/5A×2	WMB 150/5A×3	WMB 150/5A×3	WMB 150/5A×2		
电压表		42L20-V 0-12kV×3	42L20-V 0-12kV×2			42L20-V 0-12kV×2	42L20-V 0-12kV×3	
电流表			42L20-A 0-150A×2	42L20-A 0-150A ×3	42L20-A 0-150A ×3	42L20-A 0-150A×2		
有功电度表			DS16 100V 5A			DS15 100V 5A		
无功电度表			DX8 100V 5A			DX8 100V 5A		
转换开关	D/S			D/S	D/S			D/S
带电显示器	GSN-10			GSN-10	GSN-10			GSN-10
中间变压器		1000VA,100V/220V					1000VA,100V/220V	
二次接线图图号		850270-60	850270-64	850270-31	850270-31	850270-64	850270-60	
外形尺寸(w×d×h)	650×1300×2200	650×1300×2200	650×1300×2200	650×1300×2200	650×1300×2200	650×1300×2200	650×1300×2200	650×1300×2200



说明

1. [illegible] 1、2L 接100A，3~5L 接50A.
2. [illegible] 850270-69, [illegible].
3. [illegible] 850270-71, [illegible].



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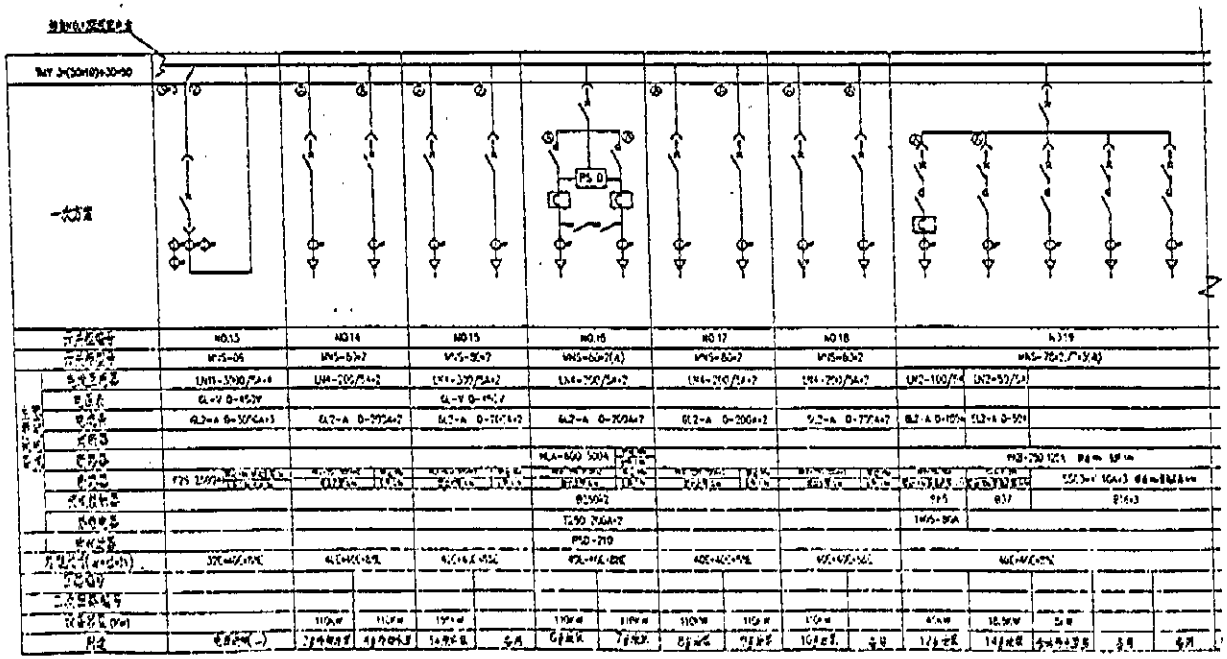

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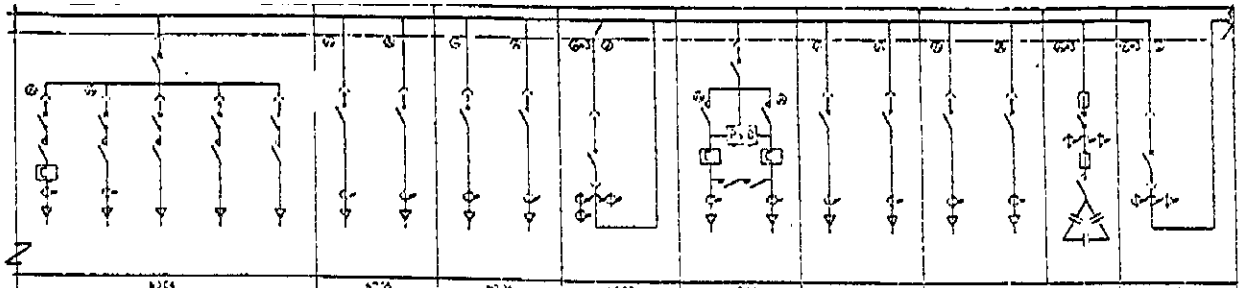
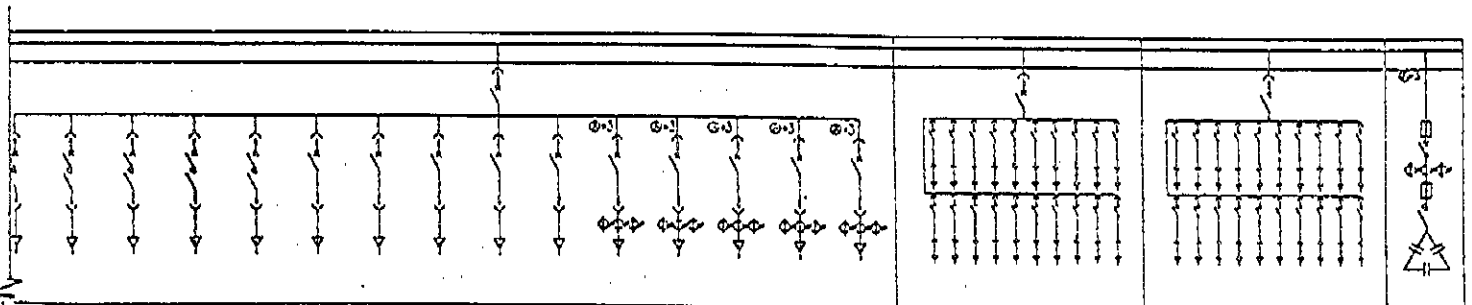


To be cont'd



fuel storage depot

1. Earthwork

1-1 buying earth 填方 43863m³ 挖方 5047m³ 沟渠处理 30272m³

独土 43863-5047+30272 = 69088 m³

1-2 transporting earth 2KM 69088×2.028 = 140153 m³

1-3 dig silt 挖淤泥 8200m³ 按勘察报告估算

1-4 filling with earth 77863m³

其中 外购 69088m³, 基槽余土 8775 m³

2. Road

2-1 C30 cement concrete 22Cm { 路 (59+65+64+90+112)×7+(108+121+(50+53)×2×3 +121+121+121+10+33+(111+115)×2+101+22+2(×3.5 = 9198m²

2-2 2Cm fine stone levelling 停车场 12900-9198 = 3702 m² 共 9198+3702 = 129(

14150 m²

2-3 15Cm second coal crushed stone 同上

2-4 同上

3. greenery patches 29000 m² 按四上号得

4. fence Wall 3900m²

5. gate 60 m²

Fuel Supply Depot:

1. Earthwork

1-1 dig silt: 按1:2000地形图小区范围内明沟计算, 淤泥厚及其断面尺寸参照使用油库油罐区勘测报告中明沟断面。

长504m. 504×7.5 = 378m³

1-2 filling with earth, 同上,

50.4×30.77 = 1551M³

2. Road

2-1 C30 cement Concrete: 9000 m² 按四上量得

2-2 C30 cement concrete 2cm, 同上

2-3 15Cm second coal crushed stone 9600m² 基层比面层宽 0.5m 

2-4 同上

3. Greenery patches: 按四上号得 3570 m²

4. gate 52m²

5. fence Wall (65×2+119+44+43.3)×2.2 = 1180

Foundation of Oil Tank.

Calculation of Quantity ($10000\ m^3$)

Mixed-in-Place Pile:

Per-Pile: $19\times(\pi\times\frac{0.7}{4}^2+0.5\times0.7)=13.97\ m^3$

Total: $13.97\times299=4176.24$.

Excavate Geosyncline:

$\frac{\pi}{4}\times35^2\times0.5=481\ m^3$.

Medium or Coarse Sand (Piles):

$\frac{\pi}{4}\times34^2\times0.4=363.17\ m^3$.

Rc Subbase plate:

$\pi\times16.4^2\times0.6=506.3\ m^3$.

Rc Ring Wall:

$30\times\pi\times0.35\times1.48=48.72m^3$.

Medium or Coarse Sand:

$\frac{\pi}{4}\times30^2\times0.99=701.55\ m^3$

Sand Asphalt:

$\frac{\pi}{4}\times30.5^2\times0.1\times1.07=78.2m^3$.

工事費積算書

Summary of Cost Estimates for Fuel Supply System

Shanghai Pudong International Airport Project Fuel Supply System

No.	Title	Quantities	Estimated Cost($x10^3$RMB)					Including Foreign Currency(10^3USD)	Remark
			Equipment	Installation	Building	Others	Total		
	Fuel Supply System								
1	Fuel Storage Depot		76,976	41,165	26,975		145,116	6,647	
2	Fuel Supply Depot		2,245	58,057	6,431		66,734	9,832	
3	Fuel Hydrant Facility		34,073	48,780			82,854	4,300	
	Grand-total		113,294	148,003	33,406		294,703	20,779	

Table of Combined Estimated Cost

Shanghai Pudong International Airport Project Fuel Supply System Unit: RMB Yuan

No.	Title	Quantities	Equipment cost	Installation cost	Building cost	Others	Total	Including Foreign Currency(USD)	Remark
	Fuel Storage Depot								
1	Equipment Engineering		27,244,303	32,351,525			59,595,828	1,250,000	
2	External Civil Engineering				9,377,770		9,377,770		
3	Buillding Engineering (1)+(12)				9,167,907		9,167,907		
(1)	Main Office Builting				3,758,893		3,758,893		
(2)	Oil Pumps Shed				474,191		474,191		
(3)	Fire Pumps House				360,867		360,867		
(4)	Electrical Building				711,360		711,360		
(5)	Dining Hall				881,731		881,731		
(6)	Laboratory				338,491		338,491		
(7)	Maintenand Building				253,979		253,979		
(8)	Warehouse For Flammable Material				407,809		407,809		
(9)	Guard				48,071		48,071		
(10)	Oil Separator				78,518		78,518		
(11)	2000M^3 water pond				1,245,246		1,245,246		
(12)	Fing Dike				608,751		608,751		
4	Oil Tank Foundation				8,429,069		8,429,069		

Table of Combined Estimated Cost

Shanghai Pudong International Airport Project Fuel Supply System Unit: RMB Yuan

No.	Title	Quantities	Equipment Cost	Installation cost	Building Cost	Others	Total	Including Foreign Currency(USD)	Remark
5	Loatersupply And Fire Fighting		2,336,643	4,927,560			7,264,203		
6	Air-Conditioner And ventilation		1,676,747	74,076			1,750,823		
7	Power Supply And Instrument		45,718,451	3,695,769			49,414,220	5,397,000	
8	Wire Communition			116,427			116,427		
	Grand-total		76,976,144	41,165,357	26,974,746		145,116,247	6,647,000	

Table of Combined Estimated Cost

Shanghai Pudong International Airport Project Fuel Supply System Unit: RMB Yuan

No.	Title	Scale or Quantities	Purchase of Equipment	Installation Engineering	Building Engineering	Others	Total	Including Foreign Currency(USD)	Remark
	Fuel Supply Depot			57,469,379					
1	Equipment Engineering		1,150,017	57,469,379			58,619,396	8,618,000	
2	External Civil Engineering				1,971,290		1,971,290		
3	Buillding Engineering (1)+(7)				4,459,974		4,459,974		
(1)	Main Office Builting				2,631,937		2,631,937		
(2)	Servicer & Refueller Parking				1,753,697		1,753,697		
(3)	Guard				48,072		48,072		
(4)	Car washhing				7,128		7,128		
(5)	Refueller loading				6,600		6,600		
(6)	Servicer Test				7,040		7,040		
(7)	Hydrant Valve				5,500		5,500		
4	Loatersupply And Fire Fighting		29,087	308,564			337,651		
5	Air-Conditioner And ventilation		169,950	71,477			241,427		
6	Power Supply And Instrument		895,834	148,084			1043918	1,214,000	
7	Wire Communition			59,922			59922		
	Grand-total		2,244,888	58,057,426	6,431,264	0	66,733,578	9,832,000	

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Table Of Combined Budget Cost

Shanghai Pudong International Airport Project Fuel Supply System Unit: RMB Yuan

No.	Title	Scale or Quantities	Purchase of Equipment	Installation Engineering	Building Engineering	Others	Total	Including Foreign Currency(USD)	Remark
	Fuel Hydrant Facility								
1	Equipment Engineering		33,931,236	48,774,310			82,705,546	4,300,000	
2	Control System of Apron		142,197	5,788			147,985		
	Grand-total		34,073,433	48,780,098			82,853,531	4,300,000	