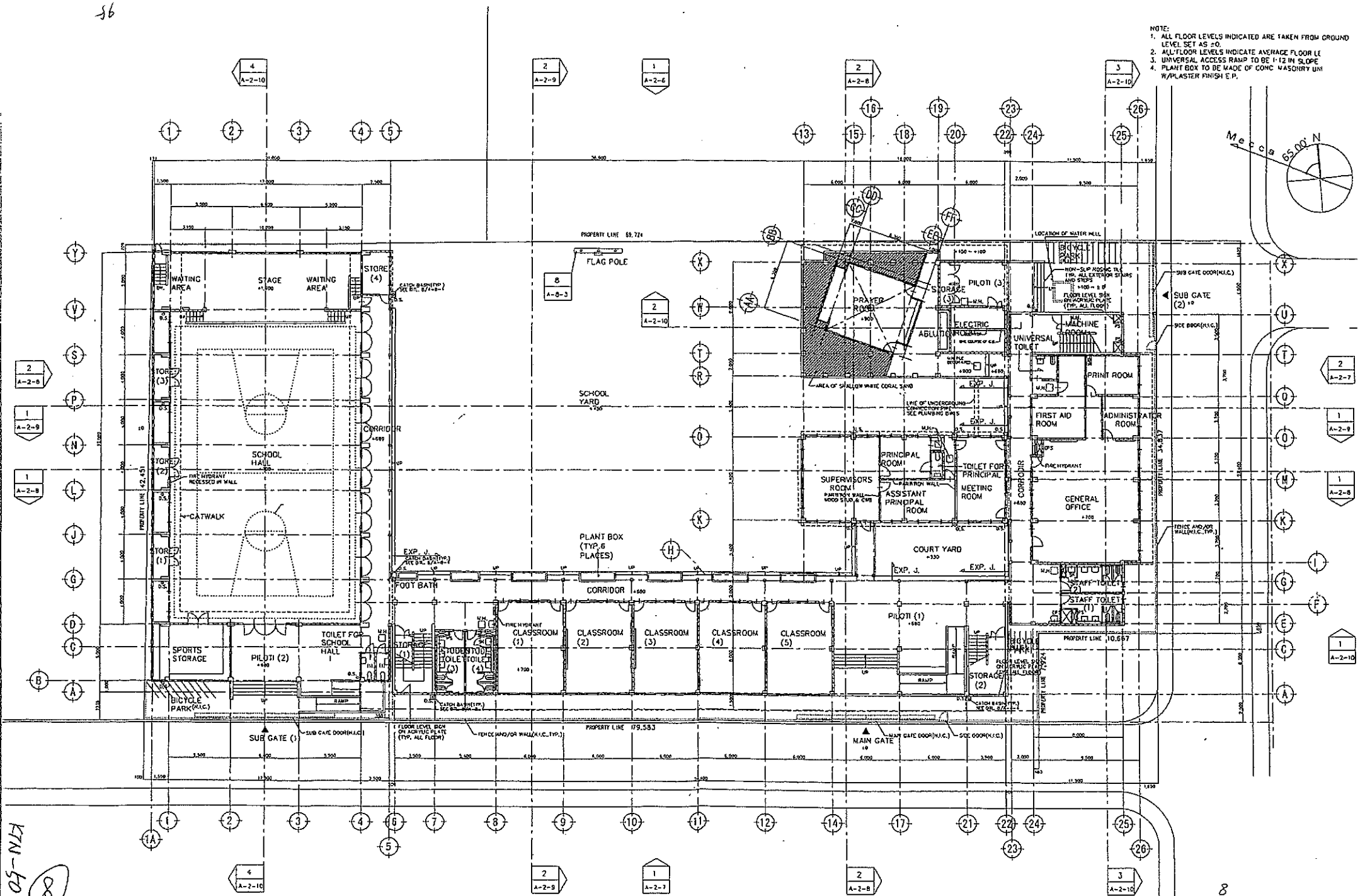
No. 8 Thaajuddeen School

As-Build DWG.

KTN-49



KTN-50 (8)

8

KTN-50

MOHRI ARCHITECT & ASSOCIATES, INC.

AS BUILT DRAWING

NO.

PROJECT NAME THE PROJECT FOR RECONSTRUCTION

DRAWING TITLE

SCALE 1:300

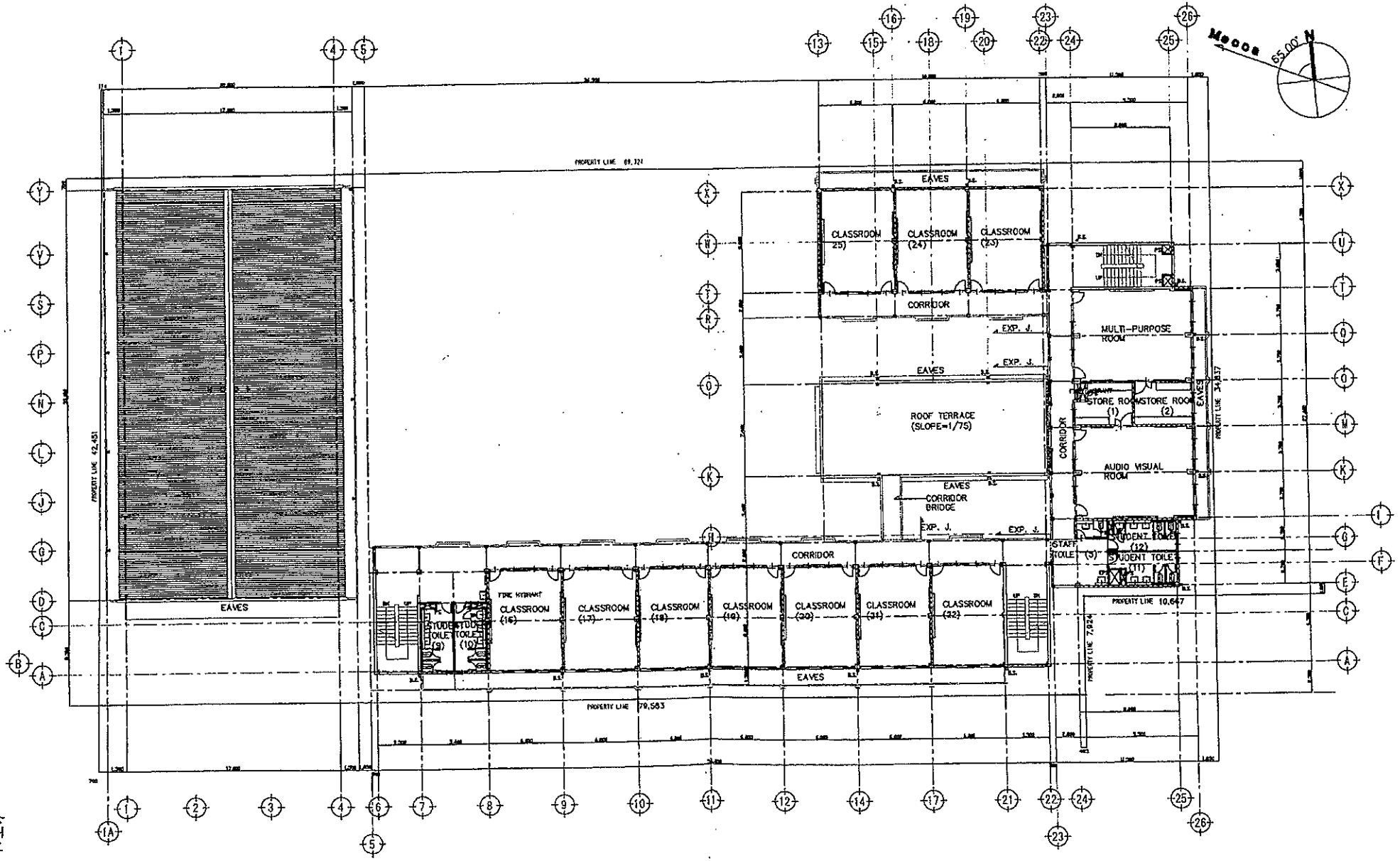
DATE

BY

KD

A-2-1

96



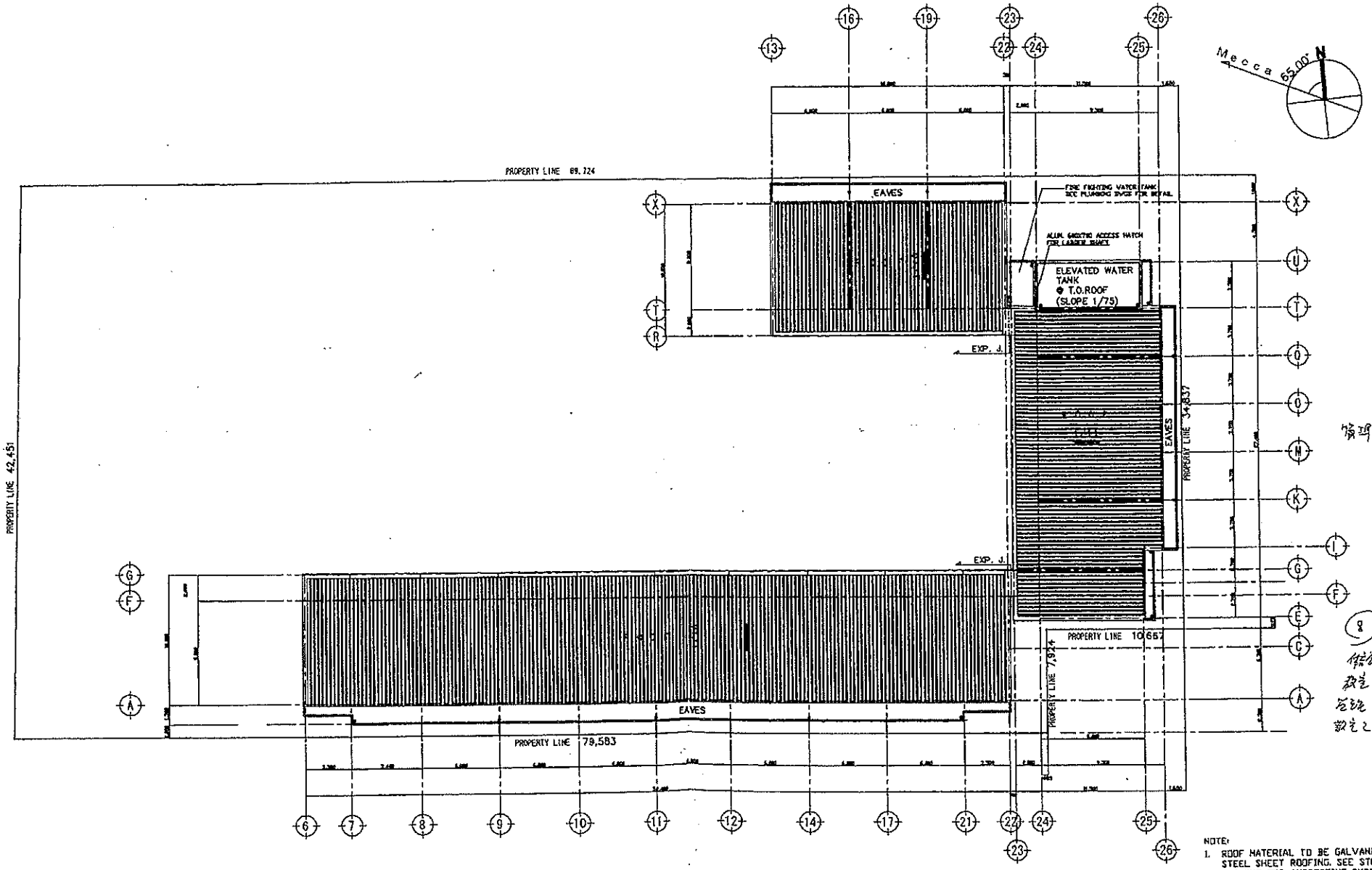
KTN-5-1

8

KTN-5-1

MOHRI ARCHITECT & ASSOCIATES, INC.	AS BUILT DRAWING		NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE'	DRAWING TITLE: 2ND FLOOR PLAN	SCALE 1 : 300	DATE / D.by	NO A-2-3

66



NOTE:
1. ROOF MATERIAL TO BE GALVANIZED CORRUGATED STEEL SHEET ROOFING. SEE STRUCTURAL DRAWING FOR SUPPORTING SYSTEM.
2. SEE PLUMBING DRAWING FOR ELEVATED WATER TANK DETAIL.

KTN-52

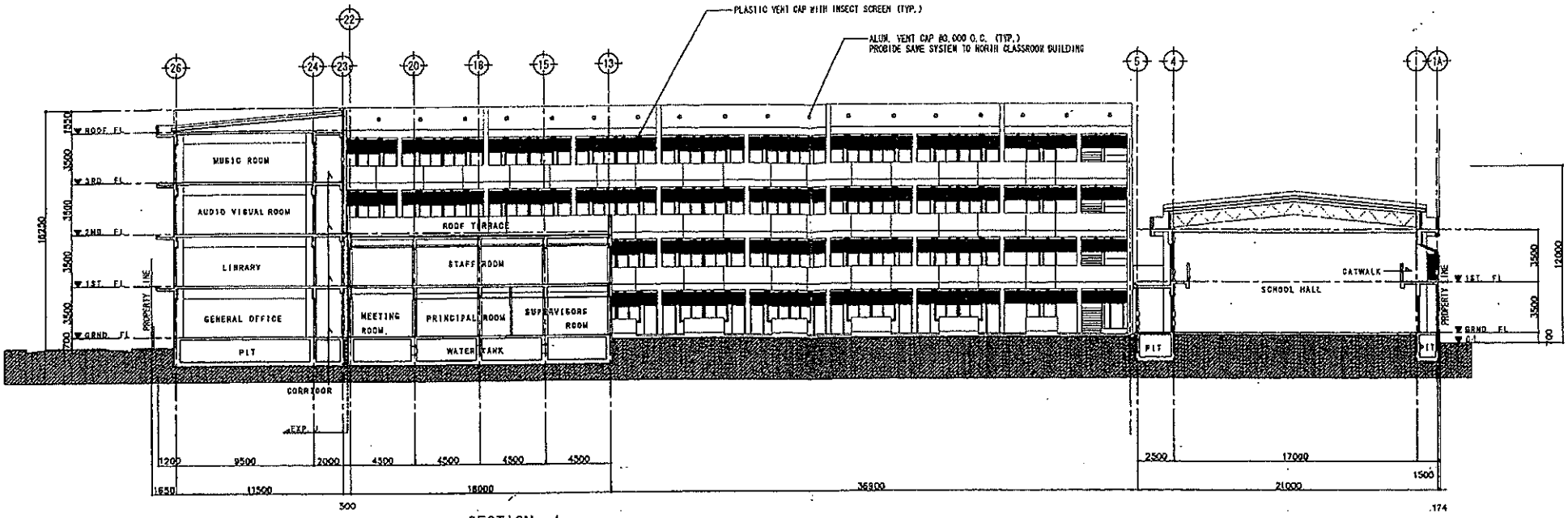
8

KTN-52

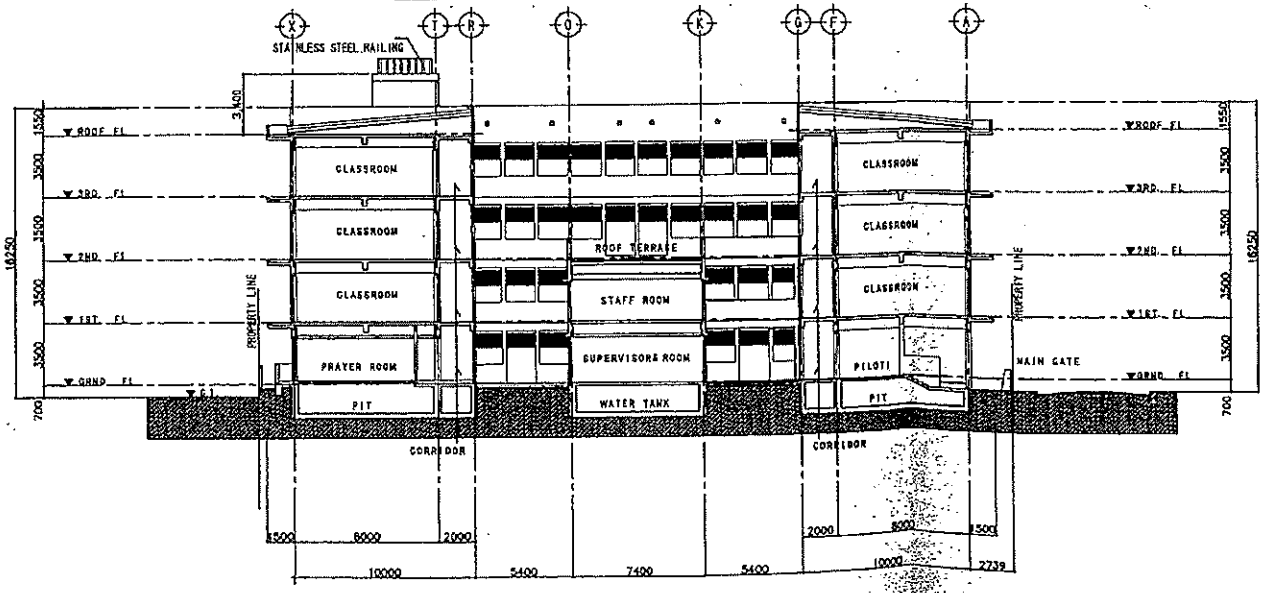
MOHRI ARCHITECT & ASSOCIATES, INC.

NO. | PROJECT NAME THE PROJECT FOR RECONSTRUCTION | DRAWING TITLE | SCALE 1 : 300 | DATE | NO.

86



SECTION A



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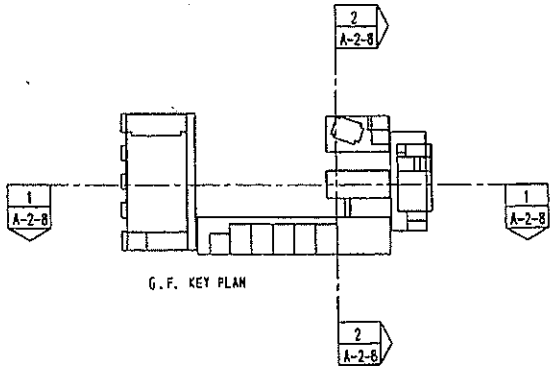
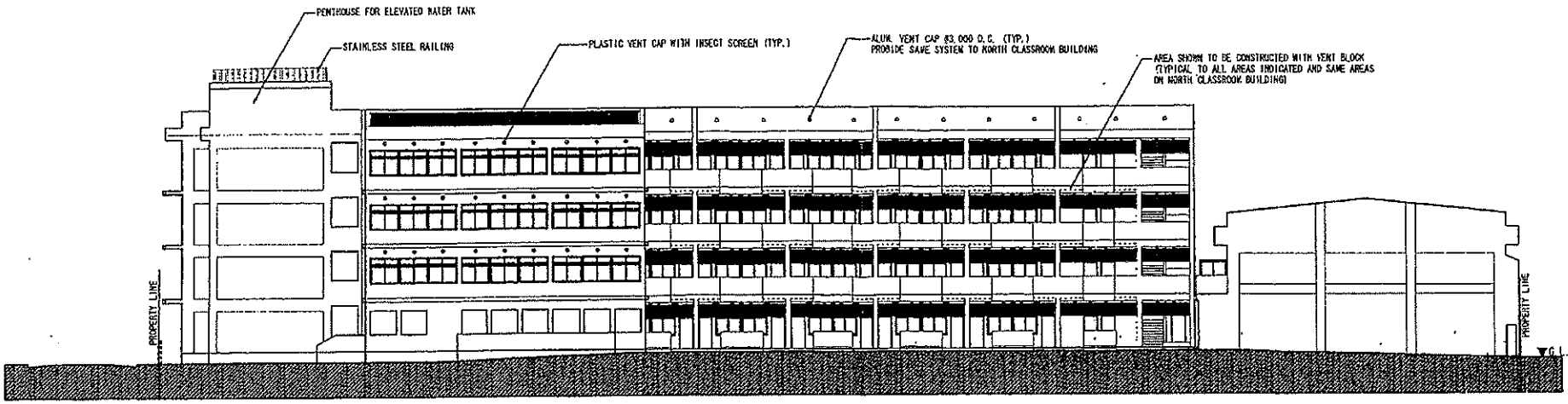


KTN-53

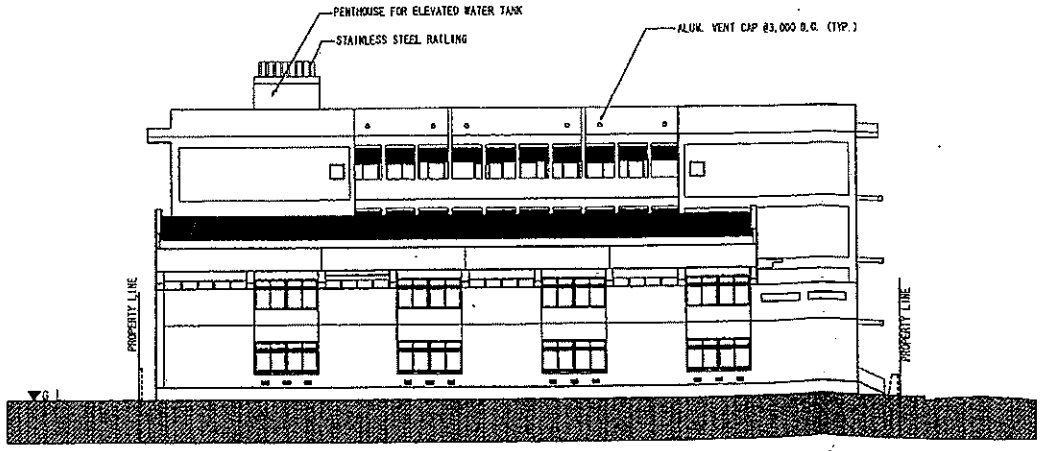
8 KTN-53

MOHRI ARCHITECT & ASSOCIATES, INC.	AS BUILT DRAWING	NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE'	DRAWING TITLE: SECTIONS & ELEVATIONS (1) SCALE 1 : 300	DATE / By / NO: A-2-8

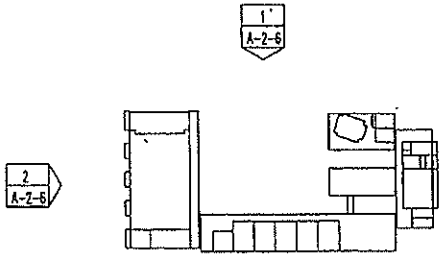
66



1 / A-2-6 NORTH ELEVATION



2 / A-2-6 WEST ELEVATION



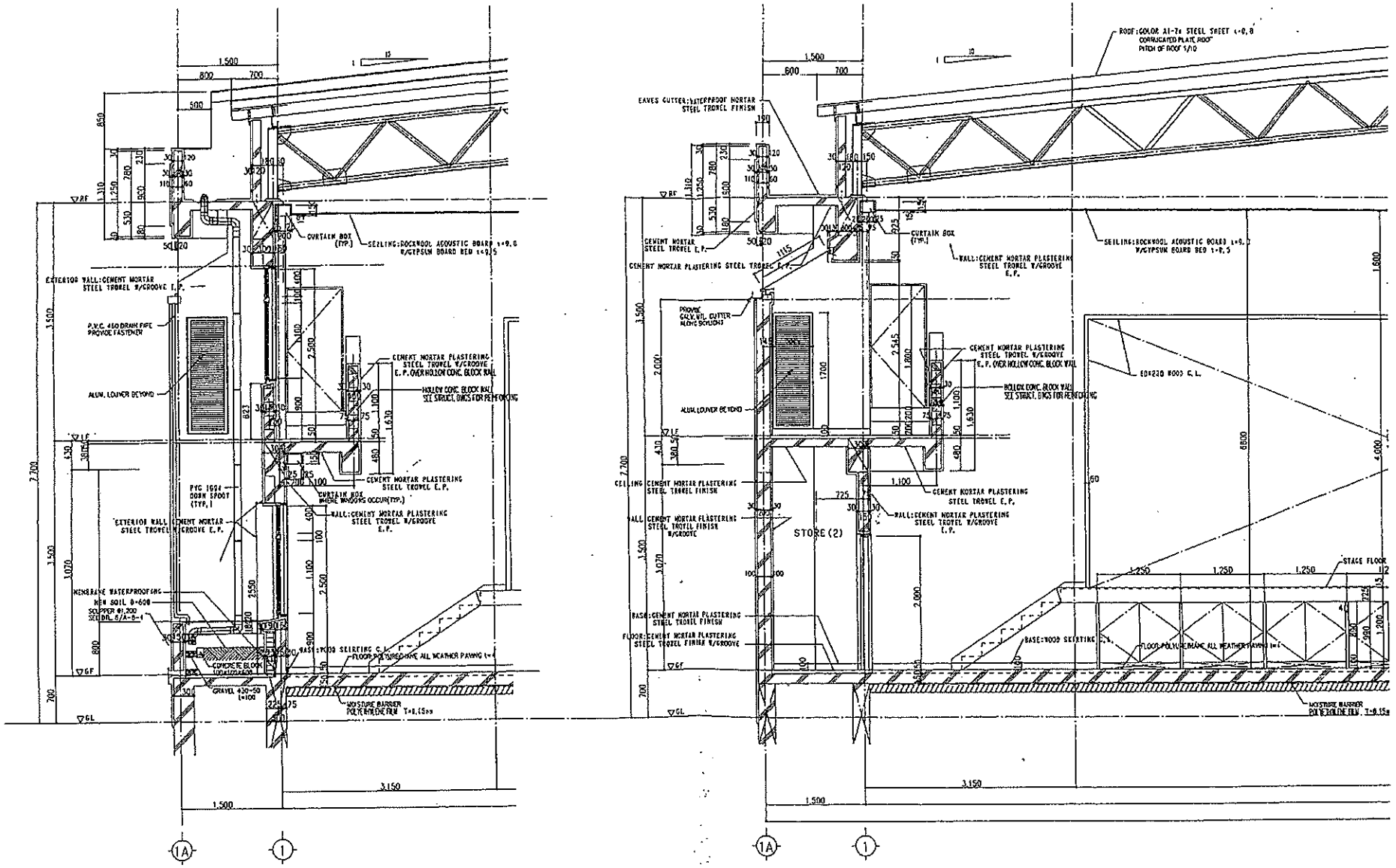
G.F. KEY PLAN

KTN-54

8

KTN-54

MOHRI ARCHITECT & ASSOCIATES, INC. 2-4-17 YASSU CHUOKU TOKYO JAPAN	AS BUILT DRAWING		NO.	PROJECT NAME THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE'	DRAWING TITLE BUILDING ELEVATIONS (1) SCALE 1 : 300	DATE D. by	NO. A-2-6



MOHRI ARCHITECT & ASSOCIATES, INC.

AS BUILT DRAWING

NO.

PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE'

DRAWING TITLE: SCHOOL HALL BUILDING

SCALE 1 : 60

DATE

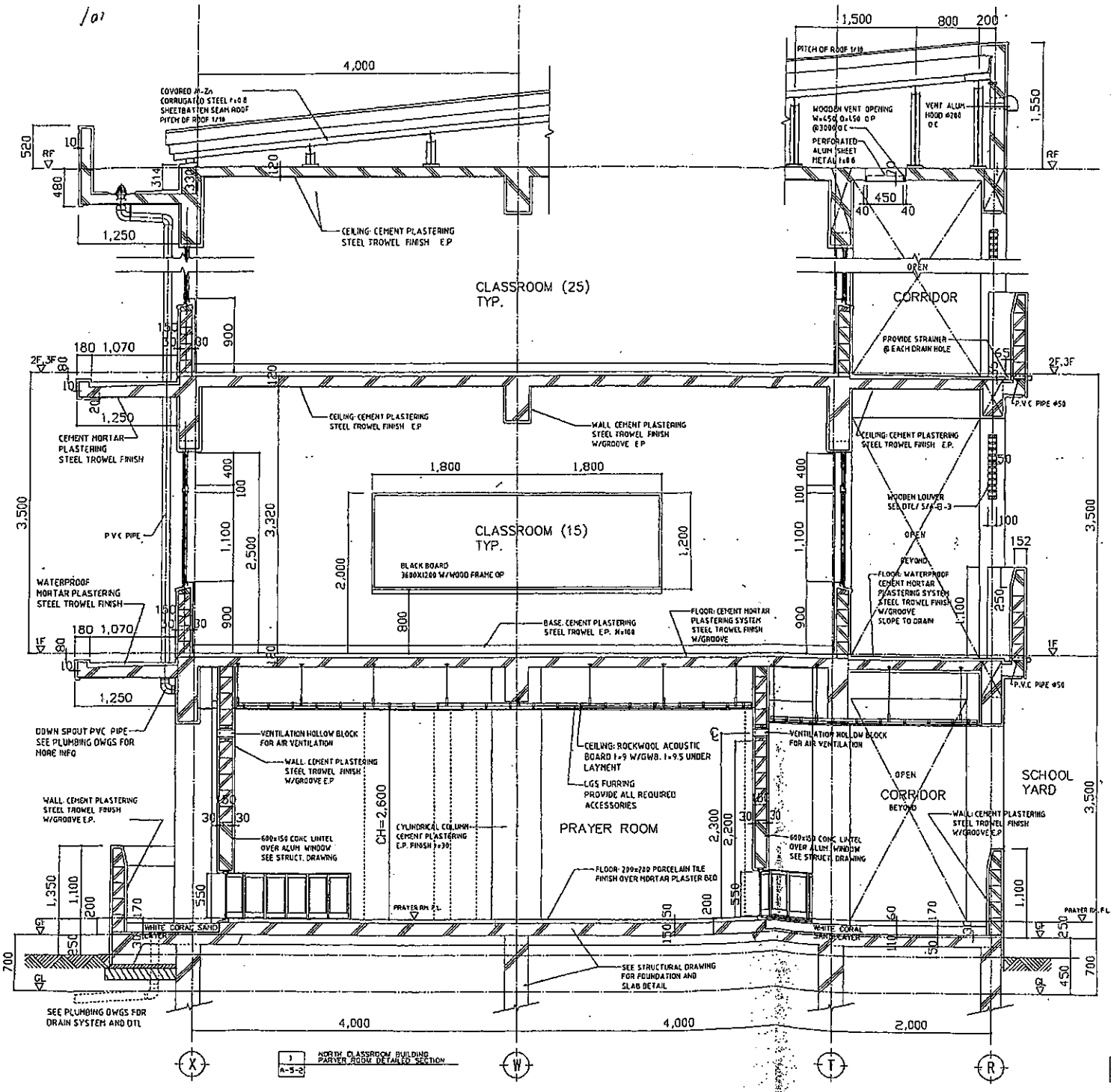
D.by

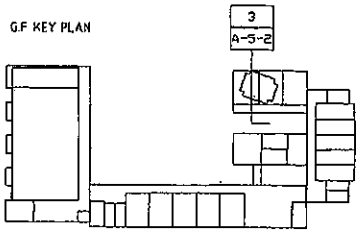
KTN-55

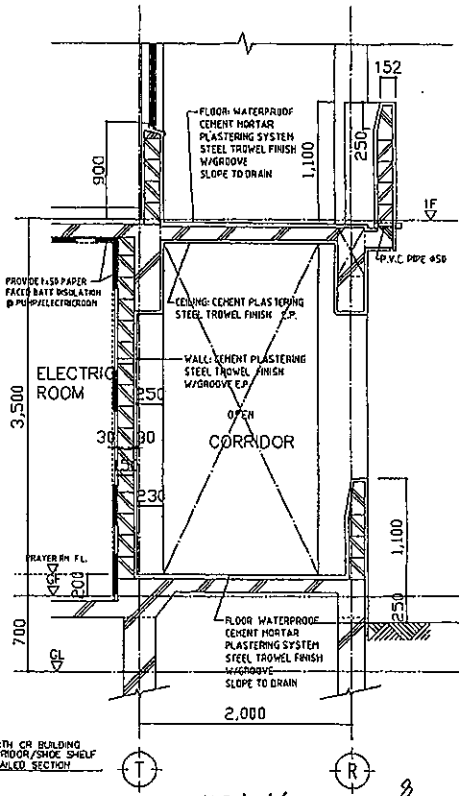
8

KTN-55

/01





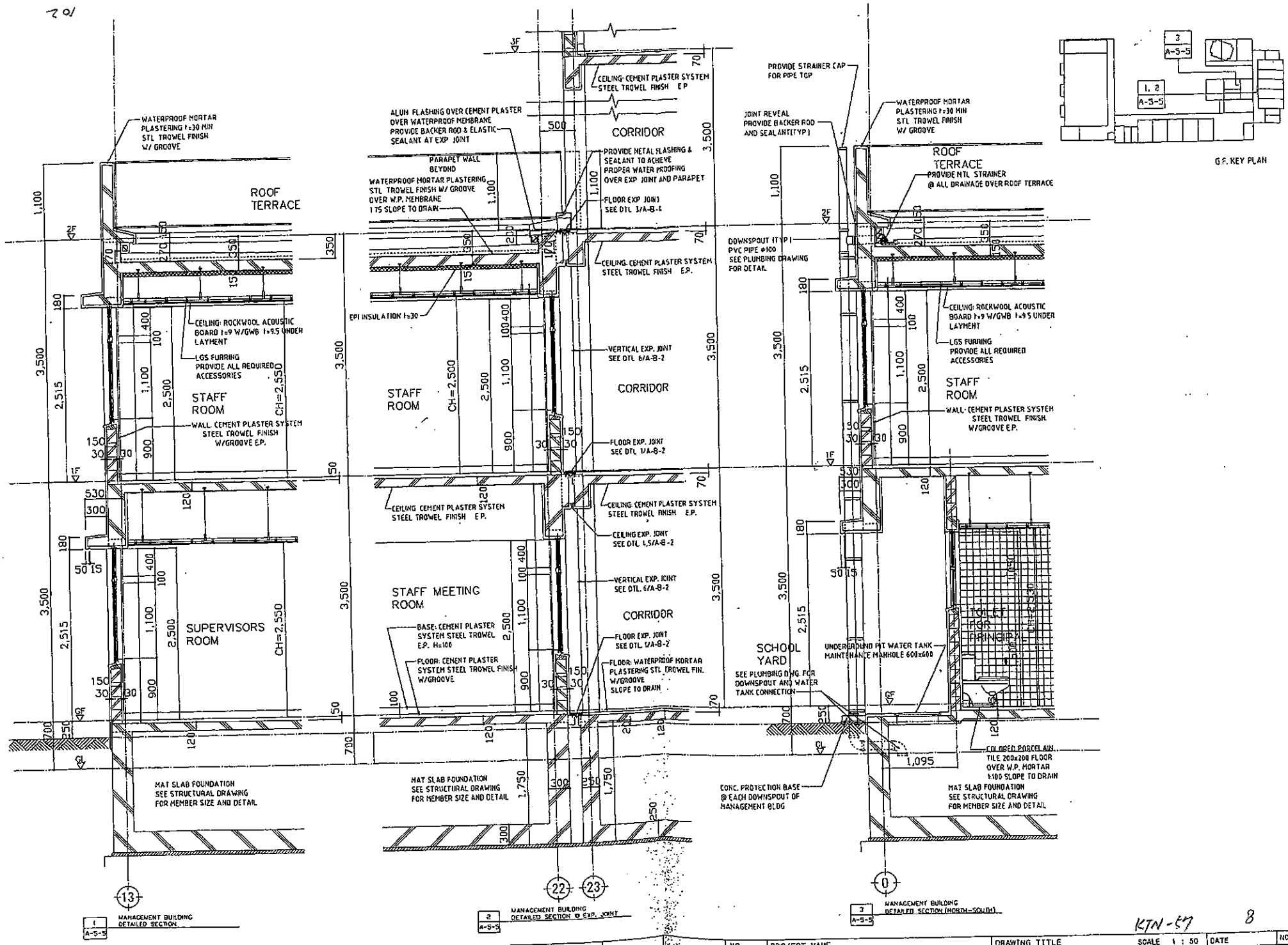


KTN-56

8

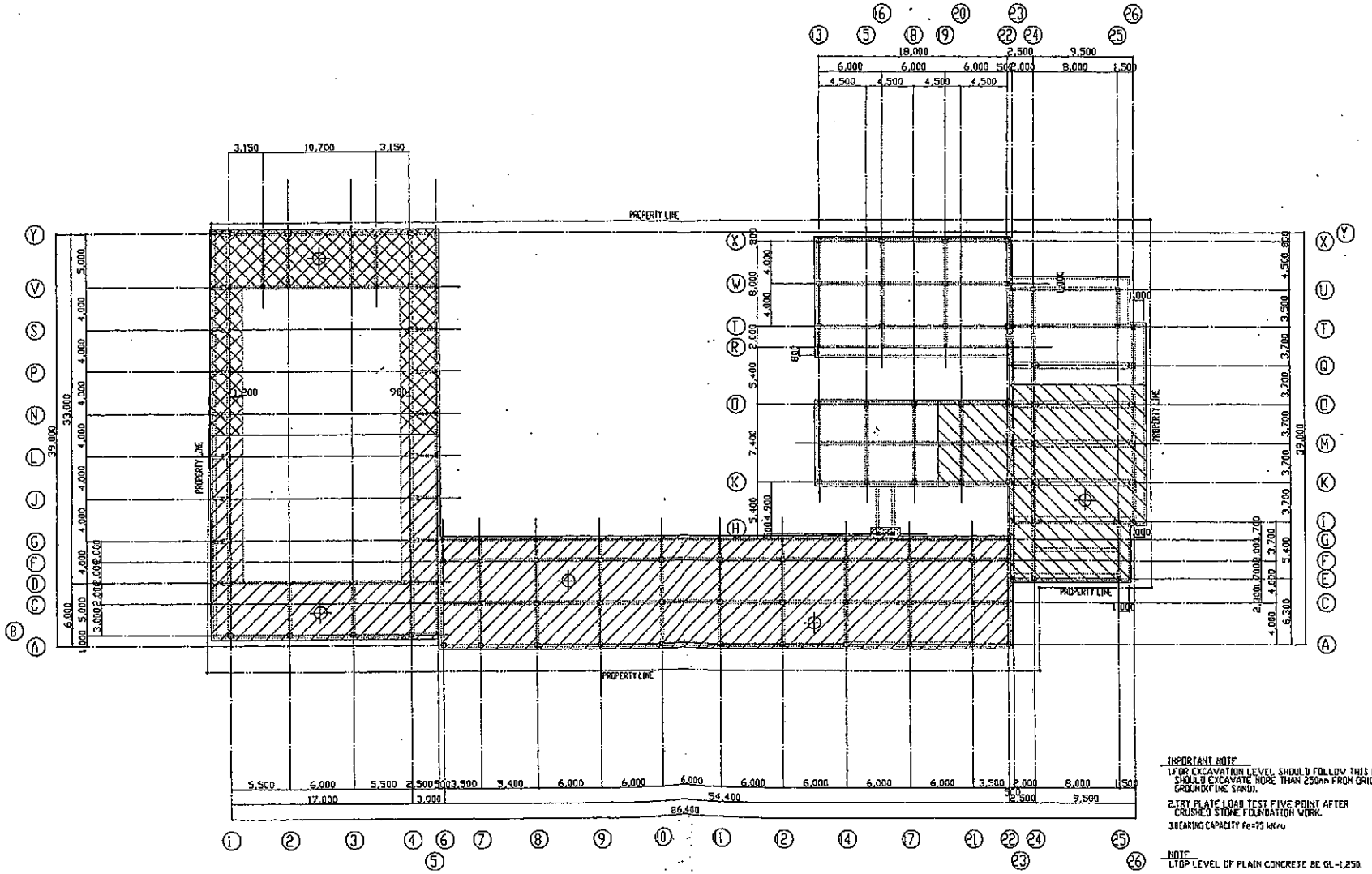
KTN-56

MOHRI ARCHITECT & ASSOCIATES, INC.	AS BUILT DRAWING	NO.	PROJECT NAME THE PROJECT FOR RECONSTRUCTION	DRAWING TITLE NORTH CLASSROOM BUILDING	SCALE 1 : 50 DATE NO.



KTN-57 8

MOHRI ARCHITECT & ASSOCIATES, INC.	AS BUILT DRAWING	NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE'	DRAWING TITLE: MANAGEMENT BUILDING DETAILED SECTIONS — SCALE 1 : 50 — D.by — C.by — DATE — NO. A-5-5



CRUSHED STONE FOUNDATION WORK
UNDER FOUNDATION PLAN 1/200

IMPORTANT NOTE
1.FOR EXCAVATION LEVEL SHOULD FOLLOW THIS DRAWING LEVEL AND SHOULD EXCAVATE MORE THAN 250mm FROM ORIGINAL GROUND(FINE SAND).
2.TRY PLATE LOAD TEST FIVE POINT AFTER CRUSHED STONE FOUNDATION WORK.
3.BEARING CAPACITY Fe=75 kN/㎡

NOTE
1.TOP LEVEL OF PLAIN CONCRETE BE GL-1,250.

LEGEND

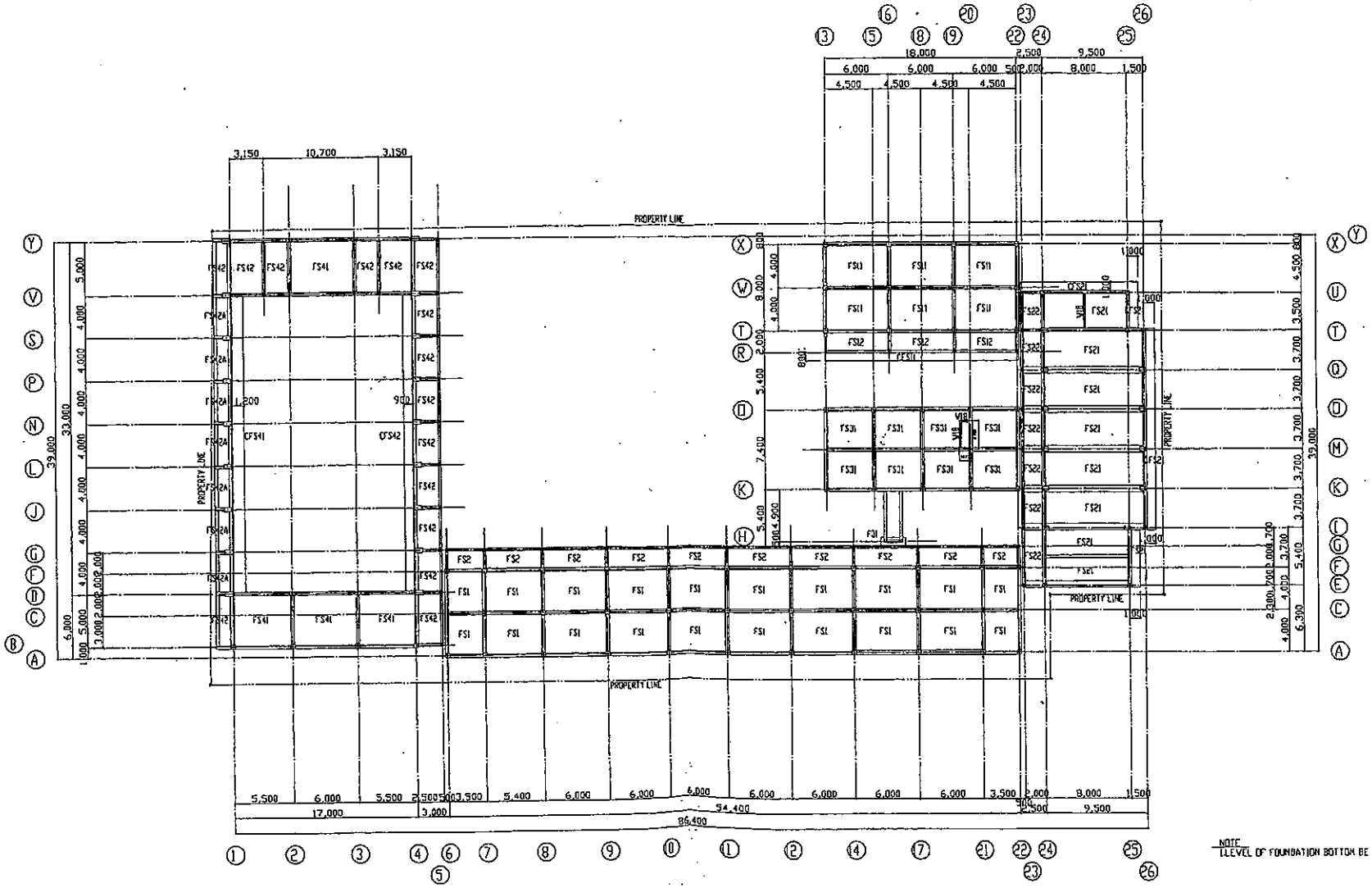
EXCAVATION BOTTOM LEVEL	CRUSHED STONE UNDER FOUNDATION
GL-1,500	200mm
GL-2,000	700mm
GL-2,500	1200mm
GL-2,750	1450mm

⊕ PLATE LOAD TEST POINT

KTN-58

8

MOHRI ARCHITECT & ASSOCIATES, INC. 2-1-13 TAESU, CHUO-KU, TOKYO, JAPAN	AS BUILT DRAWING	NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	DRAWING TITLE: CRUSHED STONE FOUNDATION WORK UNDER FOUNDATION PLAN	SCALE 1/200	DATE D.by C.by	NO. S- 4



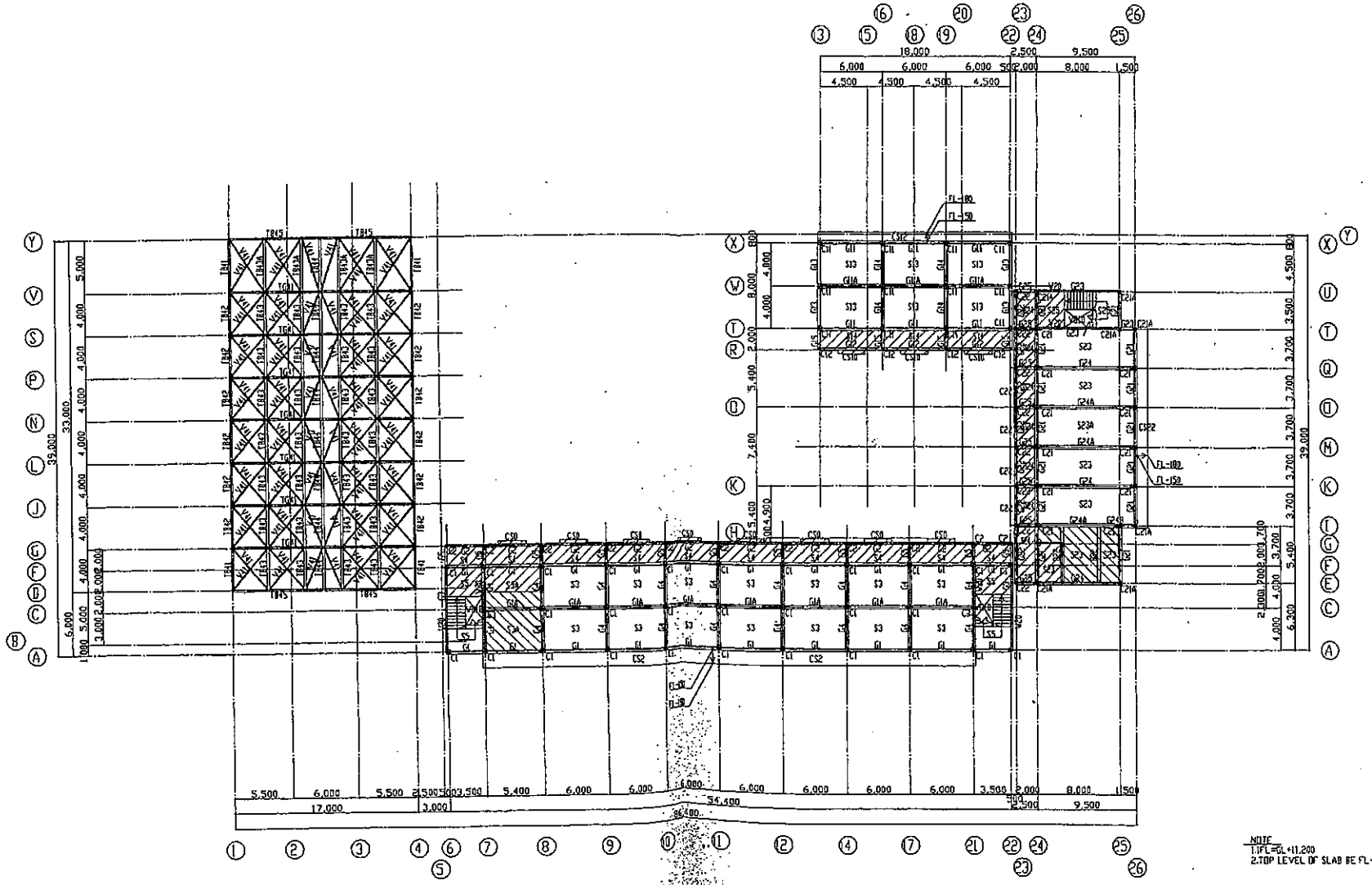
FOUNDATION PLAN

KTN-54

8

MOHRI ARCHITECT & ASSOCIATES, INC. 2-1-13 YAESU, CHUO-KU, TOKYO, JAPAN	AS BUILT DRAWING	NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	DRAWING TITLE: FOUNDATION PLAN	SCALE 1:200	DATE / Dby / Cby — NO. S-5

801

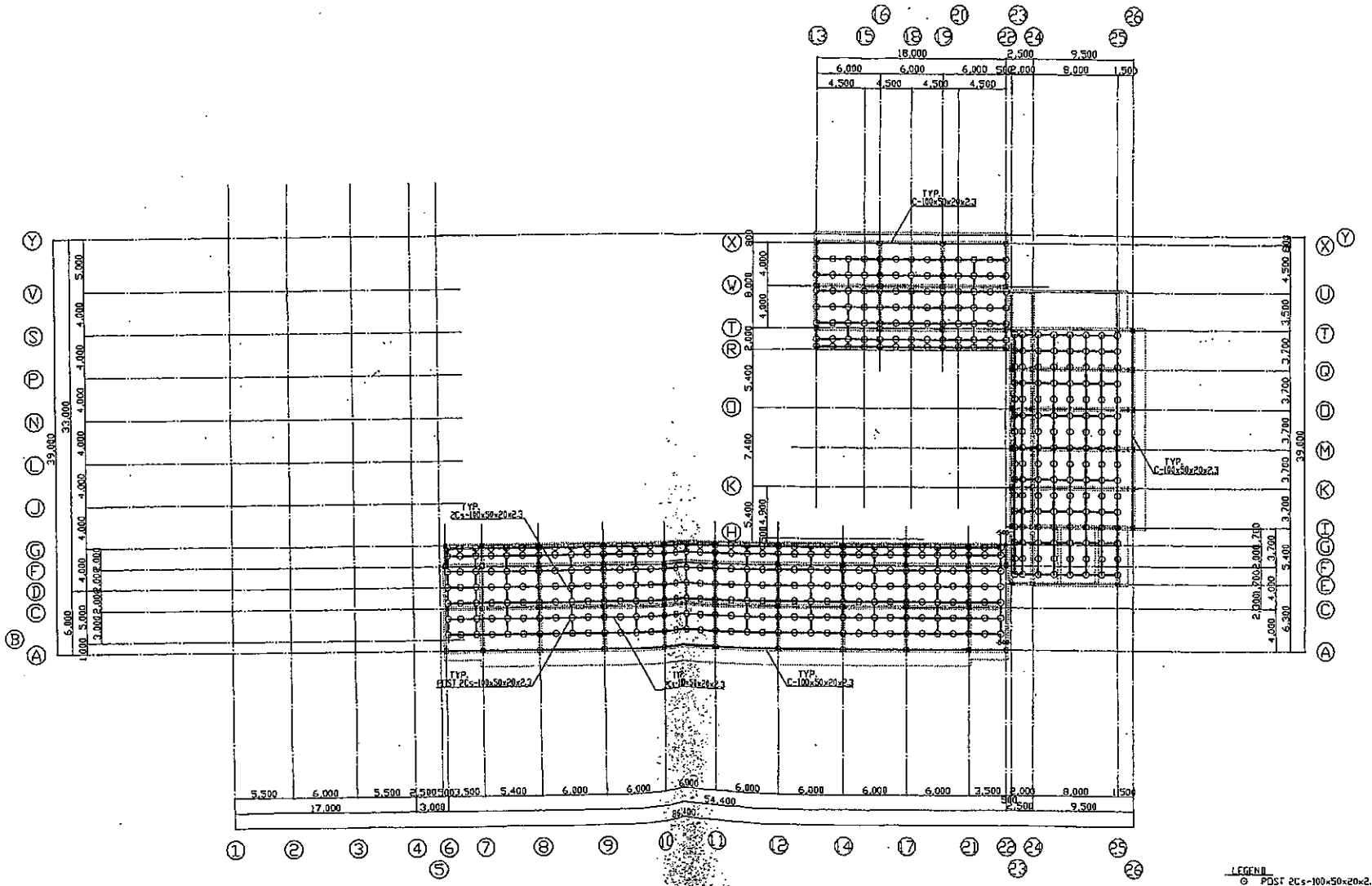


KTN-69

KTN-69 8

MOHRI ARCHITECT & ASSOCIATES, INC. 2-4-13 YAESU, CHUO-KU, TOKYO, JAPAN	AS BUILT DRAWING	NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	DRAWING TITLE: THIRD FLOOR PLAN	SCALE 1/200	DATE / D.by / C.by	NO. S- 9

90



ROOF BACK STEEL PLAN 1/200

KTN-61

KTN-61

8

MOHRI ARCHITECT & ASSOCIATES, INC. 2-4-13 YAESU, CHUO-KU, TOKYO, JAPAN	AS BUILT DRAWING	NO.	PROJECT NAME THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	DRAWING TITLE ROOF BACK STEEL PLAN	SCALE 1:200 D.by C.by	DATE NO. S- 11

6.1

MEMBER SCHEDULE

STRUCTURAL STEEL TO BE USED SHALL BE SS400UNLESS OTHERWISE SPECIFIED.

(1) STUB

MARK	MEMBER	BP &Bolt	GR H.T.B.	REMARK
SC41	H-150×150×7×10	BP-12×300×300 ABolts 2-M160 =640 DIA)		
SC42	H-100×100×6×8	BP-12×150×300 ABolts 2-M160 =640 DIA)		

(2) TRUSS AND BEAM

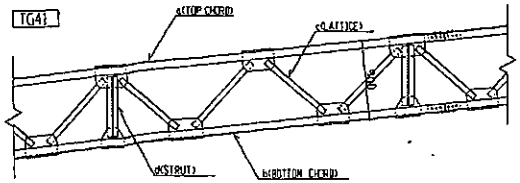
MARK	MEMBER	SP OR GP L FLANGE(OUT)	SP OR GP L FLANGE(IN)	SP OR GP L WEB	H.T.B. FLANGE	H.T.B. WEB	REMARK
TG41	a ∠-90×90×10	SP-9×200		L-75×75×9	4-M20	3-M20	SEE DETAIL-1
	b ∠-90×90×10	SP-9×200		L-75×75×9	4-M20	3-M20	SEE DETAIL-1
	c L-65×65×6			GP-6		2-M16	TO BE APPLIED FOR JOINTS AT SITE
	d ∠-65×65×6			GP-6			WELDED
TB41	a C-150×75×6.5×10					2-M16	
	b L-65×65×6			GP-6		2-M16	KNEE BRACE
TB42	a C-150×75×6.5×10			GP-6		2-M16	
	b C-100×50×20×2.3			GP-6		2-M16	
	c L-65×65×6			GP-6		2-M16	
	d L-M16			GP-6		L-M16	WITH TURNBUCKLE
TB43	a C-150×75×6.5×10			GP-6		2-M16	
	b L-65×65×6			GP-6		2-M16	KNEE BRACE
TB43A	a 2C150×75×6.5×10			GP-9		2-M16	
	b L-65×65×6			GP-6		2-M16	KNEE BRACE
TB44	a 2C-100×50×20×2.3			GP-6		2-M16	
	b 2C-100×50×20×2.3			GP-6		2-M16	
	c L-65×65×6			GP-6		2-M16	FOR JOINT AT SITE
TB45	C-150×75×6.5×10			GP-6		2-M16	
V41	L-65×65×6			GP-6		2-M16	

NOTE C:LIGHT GAGE STEEL CHANNEL(SSC400)
SP:SPLICE PLATE
GP:GUSSET PLATE

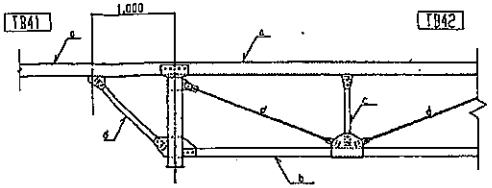
(3) BASE PLATES=1/20 NOTE) DN=DOUBLE NUTS

MARK	SC41	SC41	SC42		
DIMENSION	1 LINE 2-H19 60 180 60 300	4 LINE SLOT HOLE 2-H19×40 60 180 60 300	75 75 150 60 180 60 300		
BP ABolts	t-12 2-M16 Q=640 DIA)	t-12 2-M16 Q=640 DIA)	t-12 2-M16 Q=640 DIA)		

TG41



TB41 TB42



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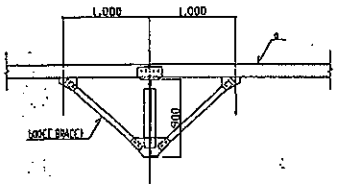

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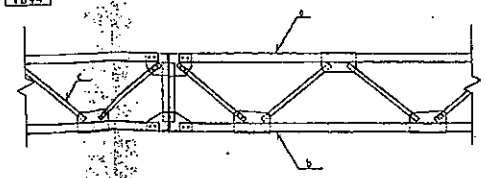
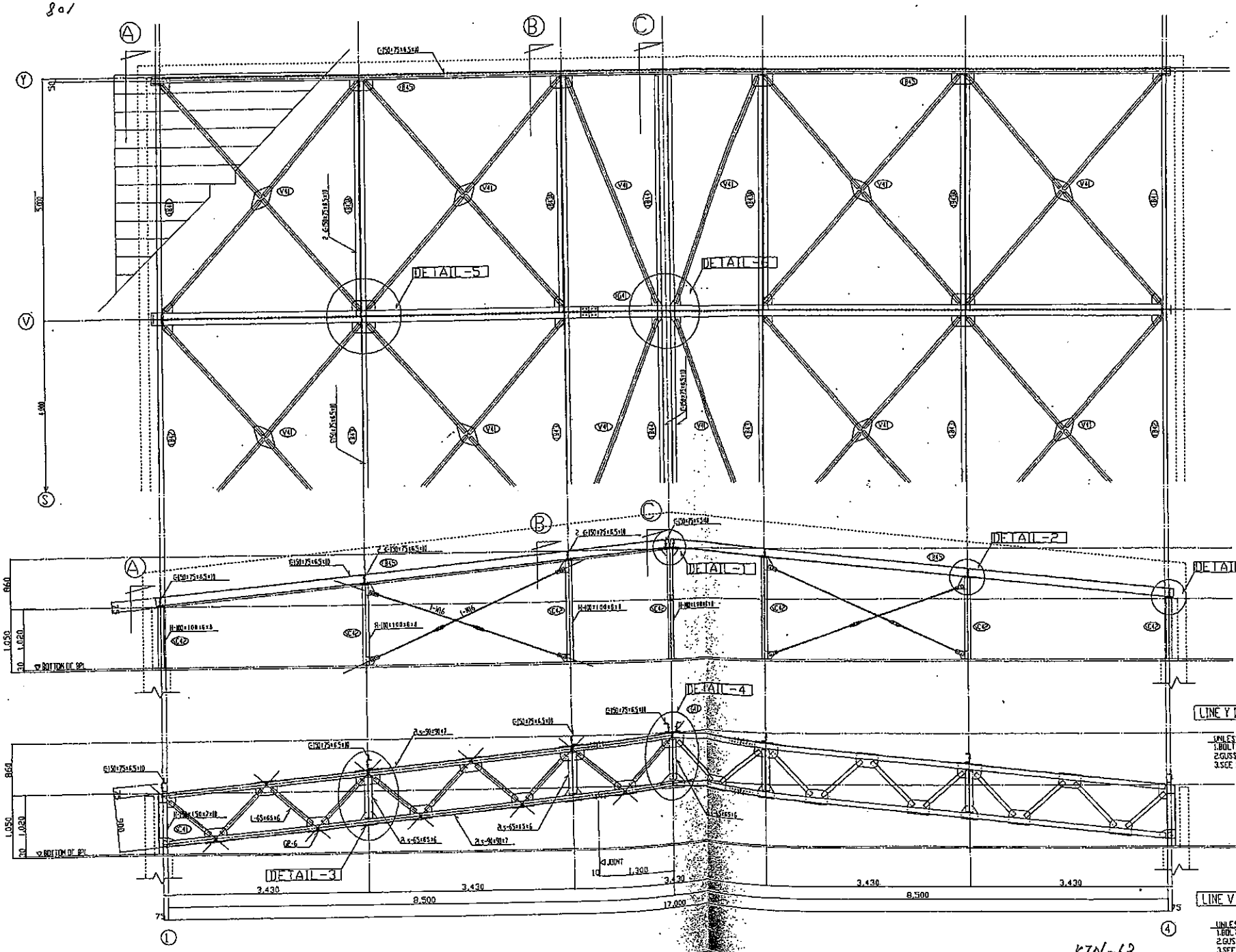


KTN-62

KTN-62 8

MOHRI ARCHITECT & ASSOCIATES, INC. 2-1-13 YAESU, CHUO-KU, TOKYO, JAPAN	AS BUILT DRAWING	NO.	PROJECT NAME THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	DRAWING TITLE STEEL ROOF MEMBER SCHEDULE (SCHOOL HALL)	SCALE 1/20 DATE Dby Cby	NO. S- 32



LINE Y DETAIL OF ROOF TRUSS 1/30

UNLESS OTHERWISE SPECIFIED
1.BOLTS SHALL BE M16 OF HIGHSTRENGTH BOLT.
2.GUSSET PLATE SHALL BE 6mm THICK.
3.SEE S-034 FOR DETAIL.

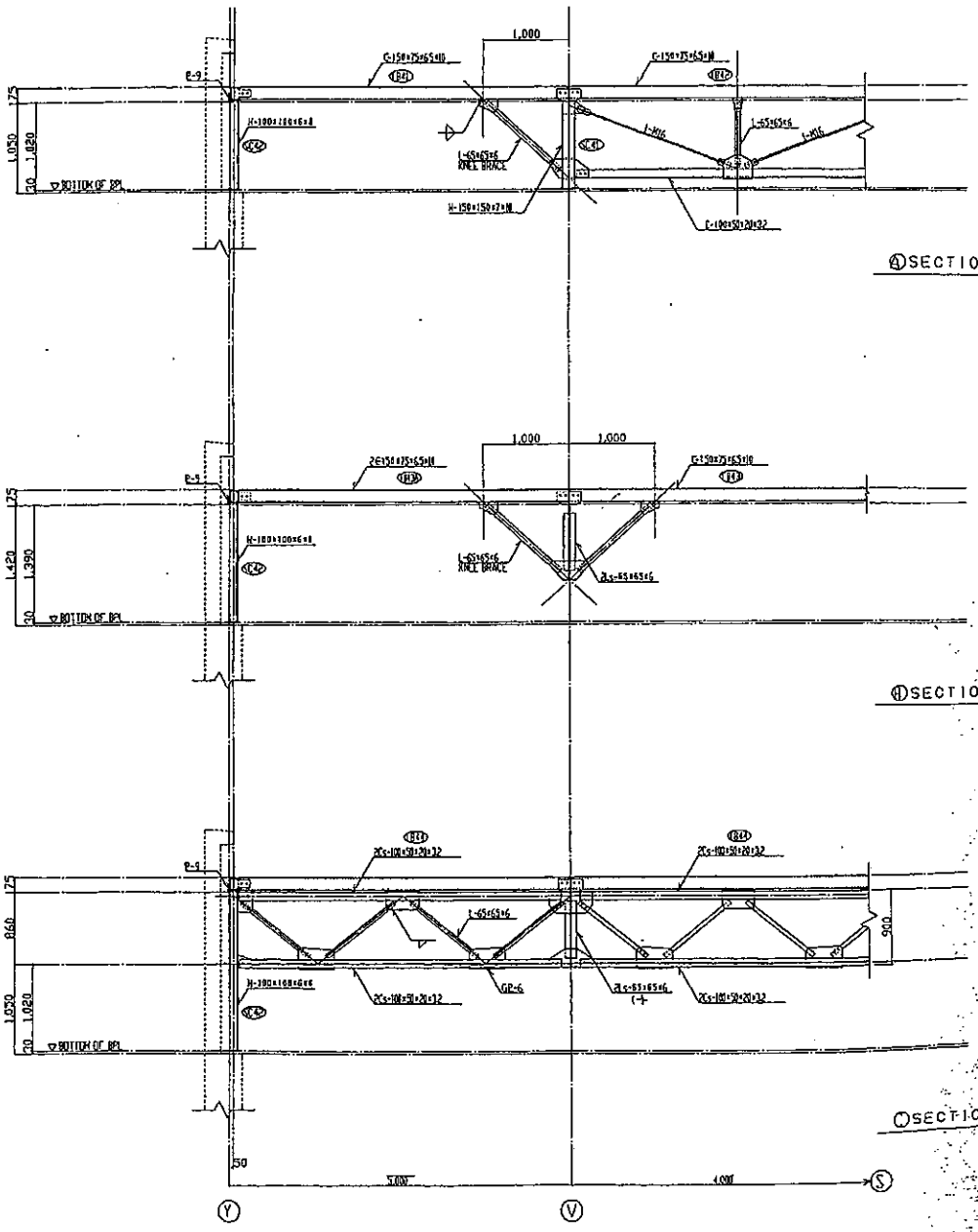
LINE V DETAIL OF ROOF TRUSS 1/30

UNLESS OTHERWISE SPECIFIED
1.BOLTS SHALL BE M16 OF HIGHSTRENGTH BOLT.
2.GUSSET PLATE SHALL BE 6mm THICK.
3.SEE S-034 FOR DETAIL.

K7N-63

MOHRI ARCHITECT & ASSOCIATES, INC. 2-4-13 YAESU, CHUO-KU, TOKYO, JAPAN	AS BUILT DRAWING	NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	DRAWING TITLE: STEEL ROOF TRUSS DETAIL-1 (SCHOOL HALL)	SCALE 1/30 DATE D.by C.by NO. S- 33

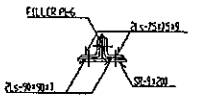
601



Ⓐ SECTION 1/30

Ⓑ SECTION 1/30

Ⓒ SECTION 1/30



Ⓓ SECTION 1/10

KTN-64

8

KTN-64

MOHRI ARCHITECT & ASSOCIATES, INC. 2-4-13 TAKESU, CHUO-KU, TOKYO, JAPAN	AS BUILT DRAWING	NO.	PROJECT NAME: THE PROJECT FOR RECONSTRUCTION OF THE THIRD PRIMARY SCHOOL IN NALE' IN THE REPUBLIC OF MALDIVES	DRAWING TITLE: STEEL ROOF TRUSS DETAIL-2 (SCHOOL HALL)	SCALE 1/10 1/30	DATE: D by / C by	NO. S- 34

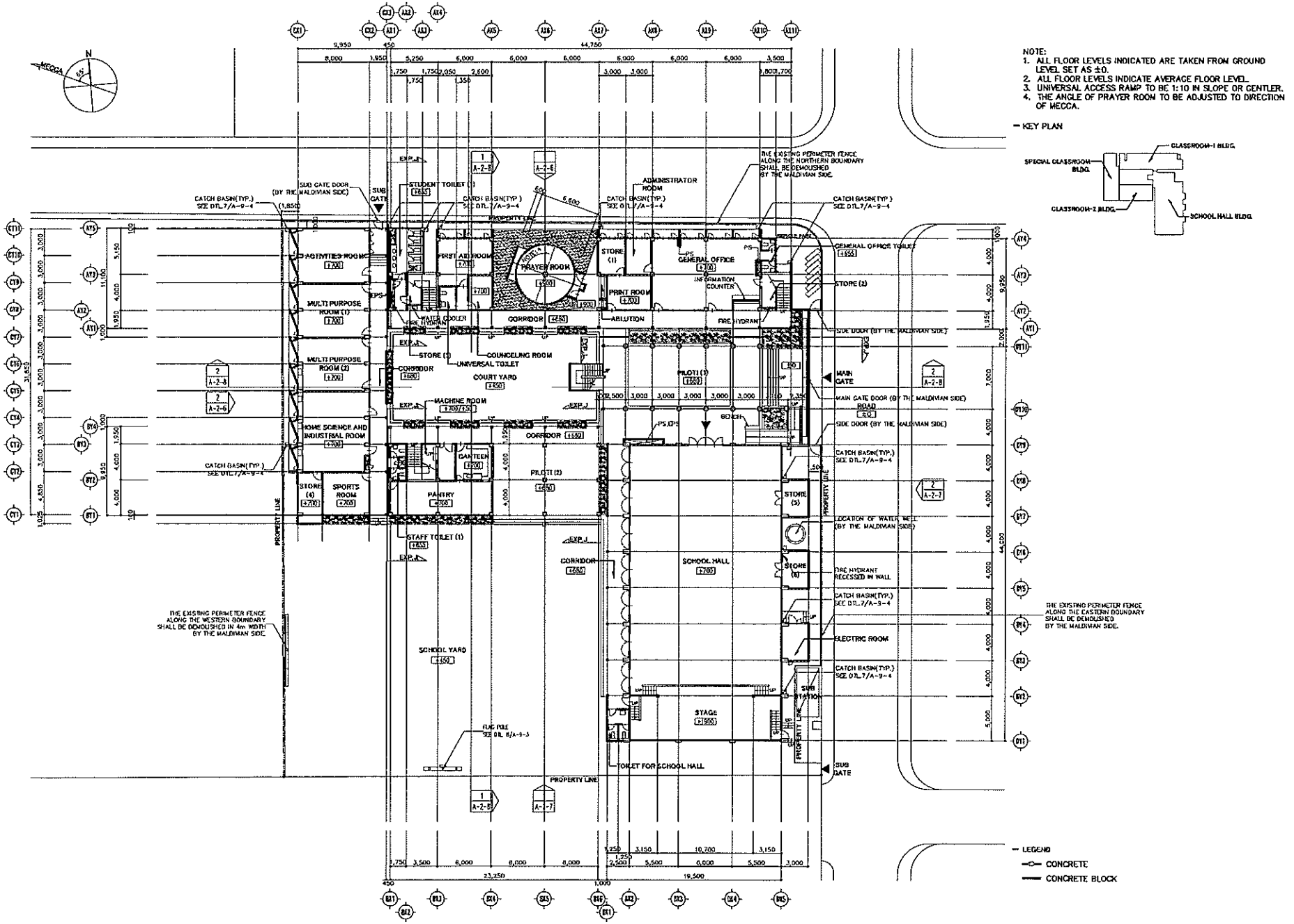
No. 9.

New Secondary School for Girls

As-Build DWG

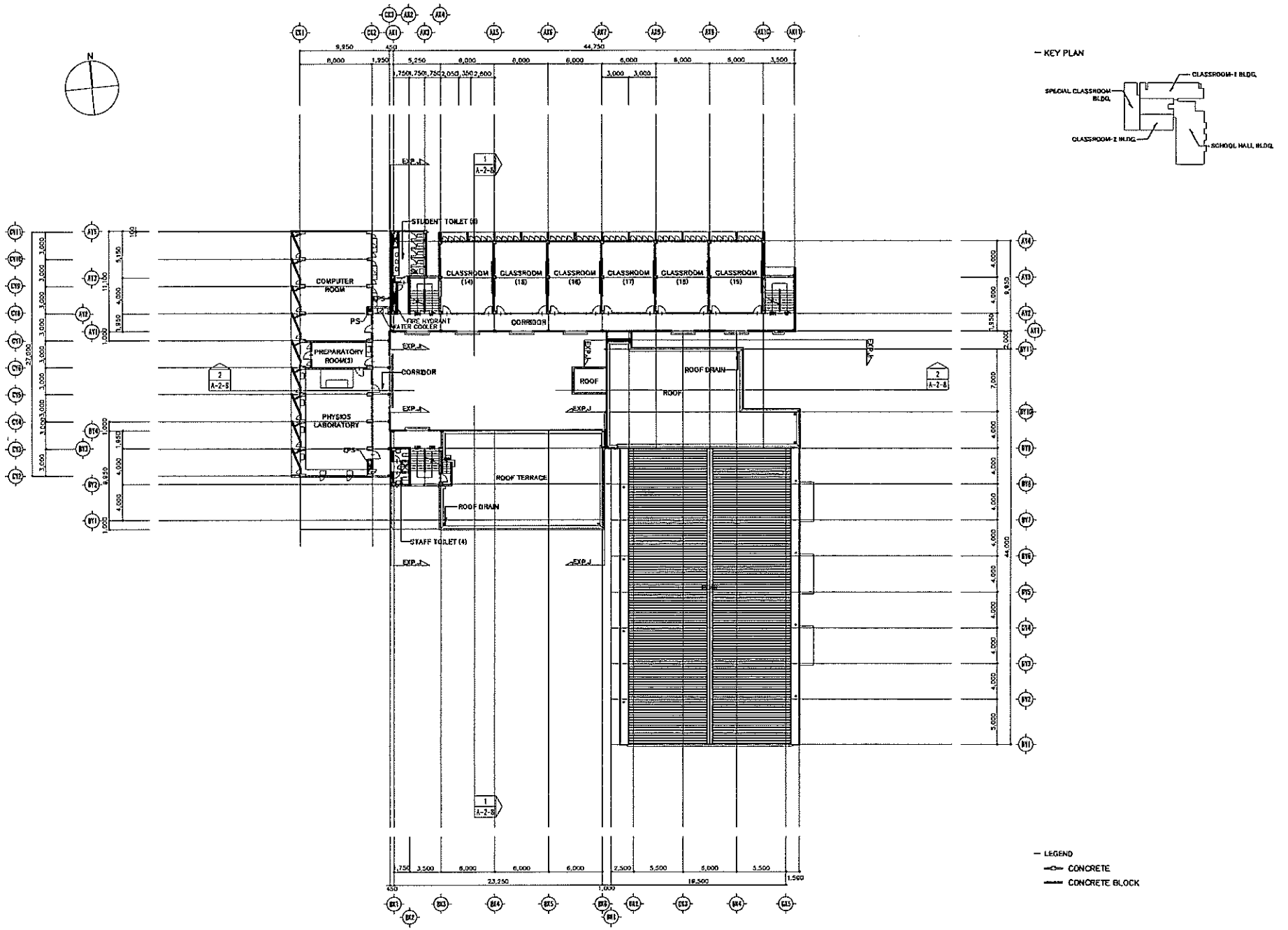
011

KTN-65



1 A-2-1 SITE & GROUND FLOOR PLAN

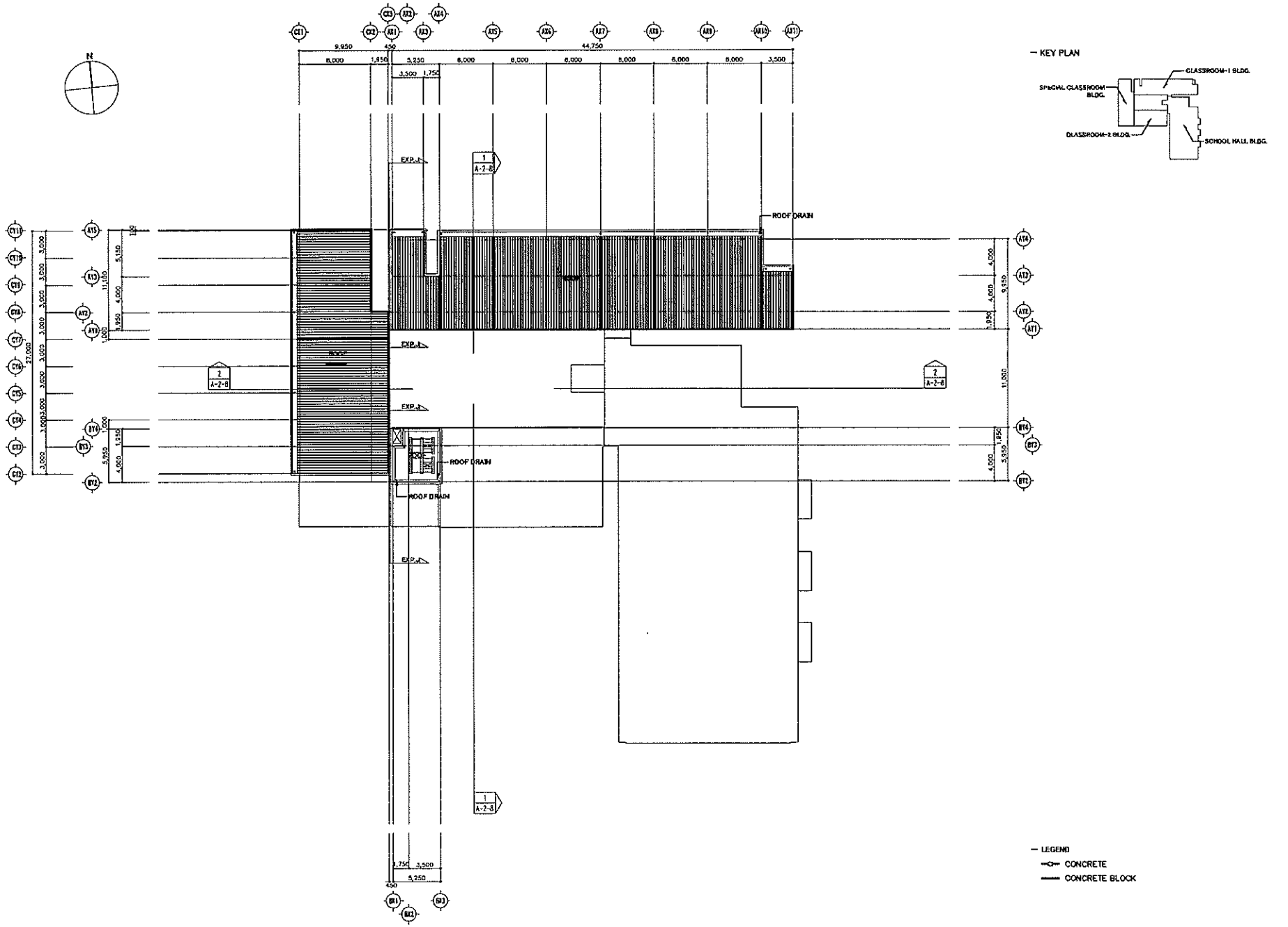
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:200 A3: 1:400	DRAWING TITLE: SITE AND GROUND FLOOR PLAN	DRAWN.by H.Fujii	DATE 08.02.07	NO. A-2-1
				CHECKED.by		
				APPROVED.by		



1 THIRD FLOOR PLAN
A-2-4

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:200 A3: 1:400	DRAWING TITLE: THIRD GROUND FLOOR PLAN	DRAWN by: H.Fujii	DATE: 08.02.07	NO.: A-2-4
				CHECKED by:		
				APPROVED by:		

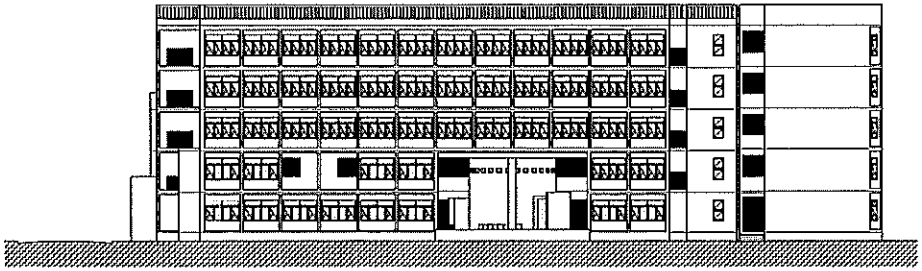
E11



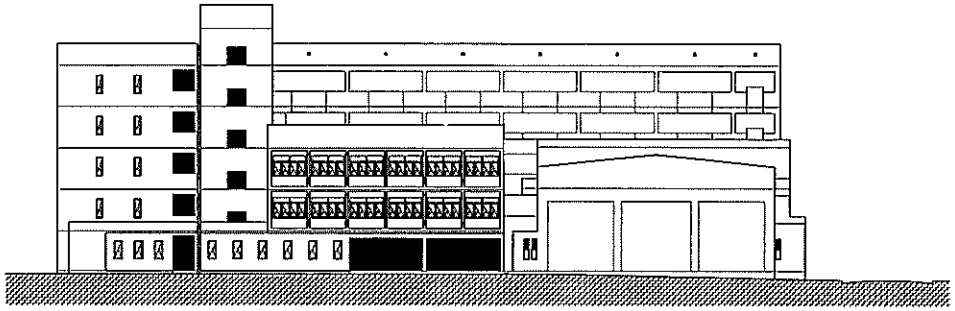
1 A-2-6 ROOF FLOOR PLAN

KTN-68

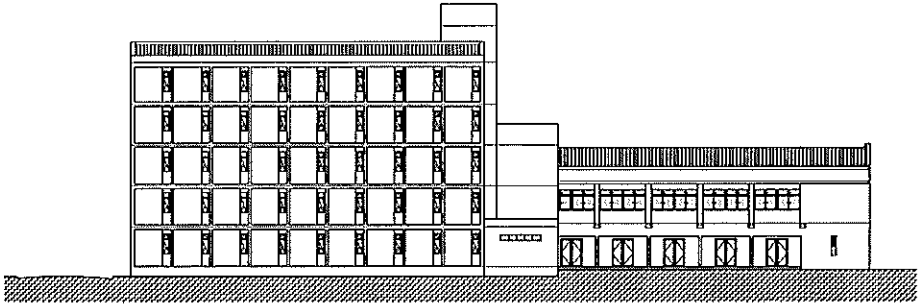
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:200 A3: 1:400	DRAWING TITLE: ROOF FLOOR PLAN	DRAWN by: H.Fujii	DATE: 08.02.07	NO. A-2-6
				CHECKED by:		
				APPROVED by:		



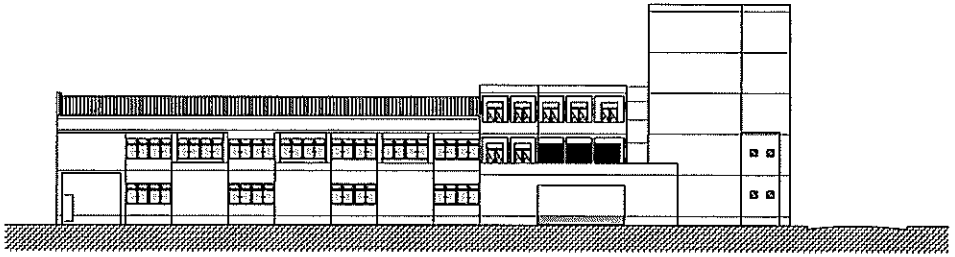
1 / A-2-7 NORTH ELEVATION



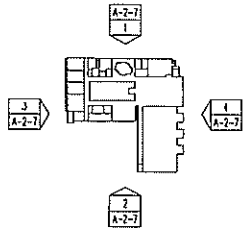
2 / A-2-7 SOUTH ELEVATION



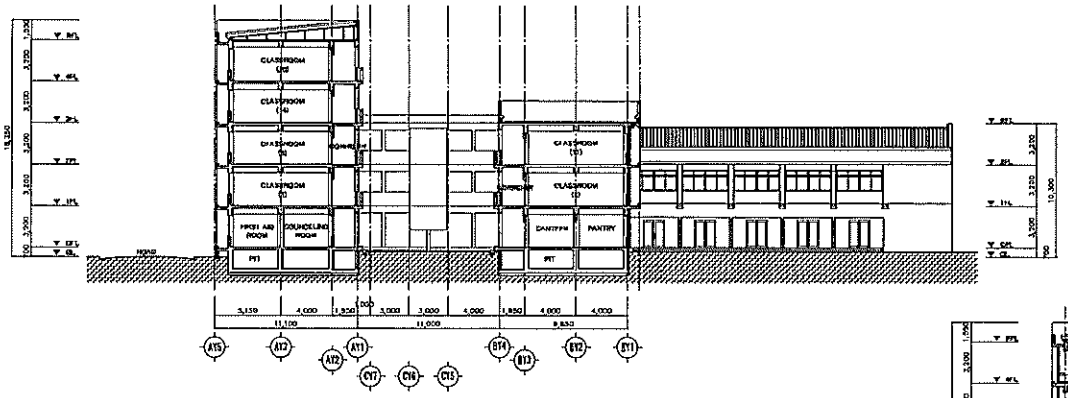
3 / A-2-7 WEST ELEVATION



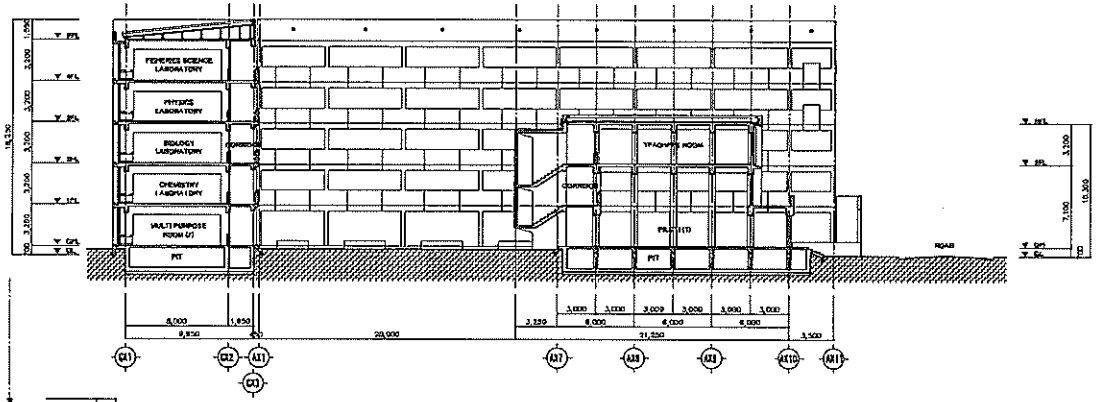
4 / A-2-7 EAST ELEVATION



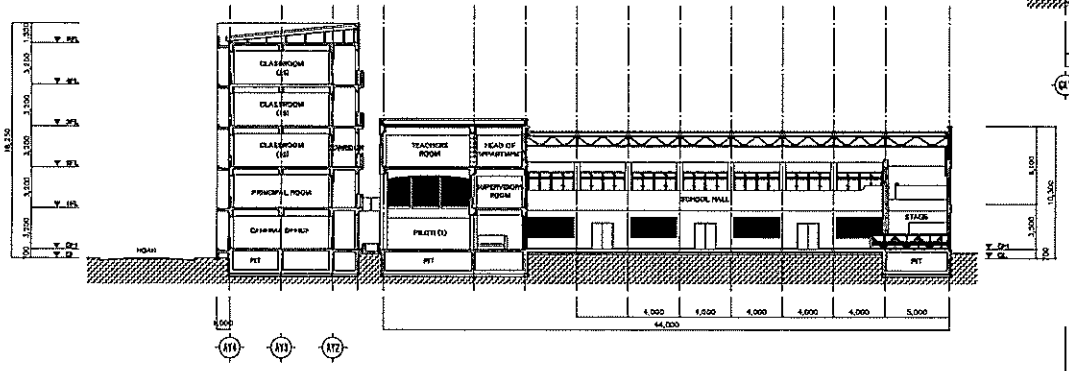
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1 : 200 / A3: 1 : 400	DRAWING TITLE: ELEVATIONS	DRAWN by: H.Fujii / CHECKED by: / APPROVED by:	DATE: 08.02.07 / NO.: A-2-7



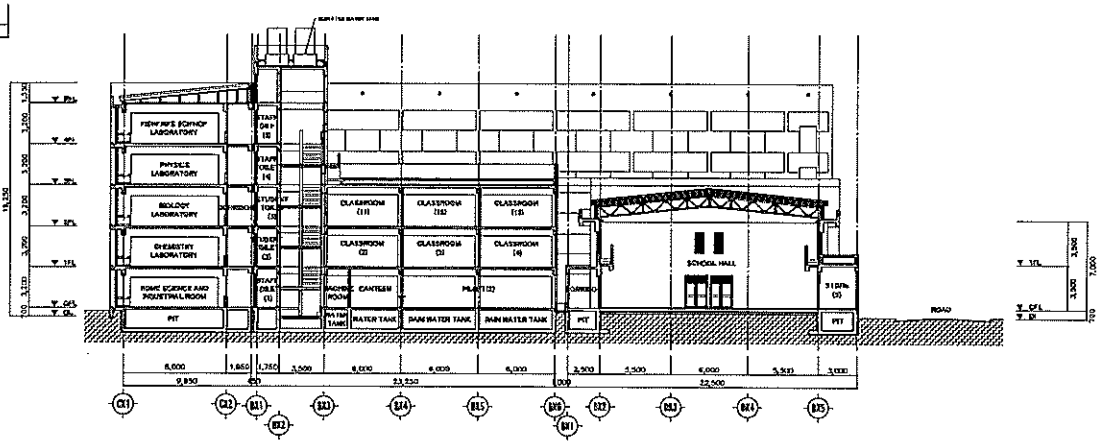
1 / A-2-8 SECTION-A



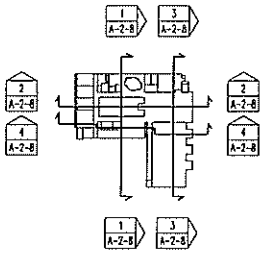
2 / A-2-8 SECTION-B



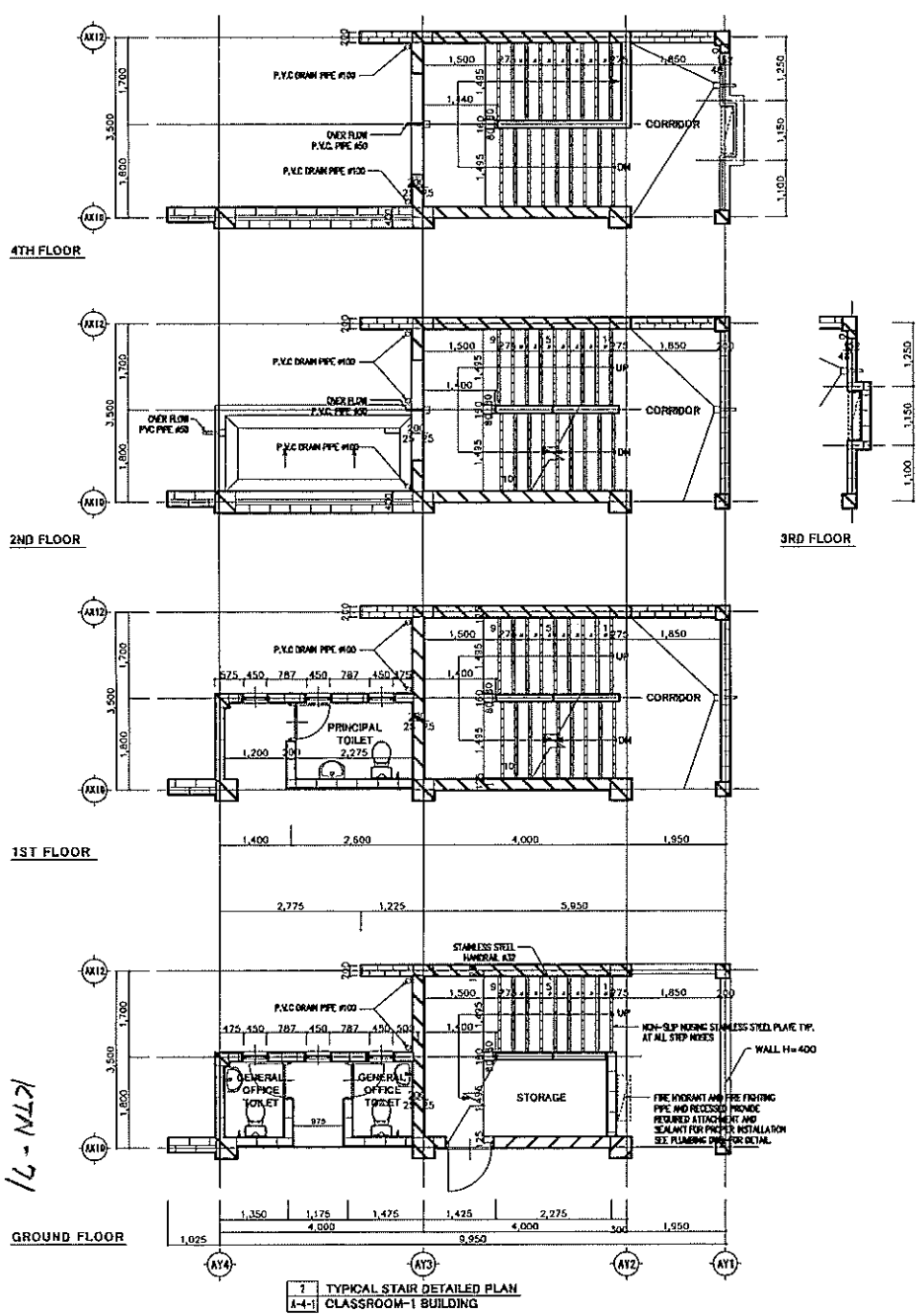
3 / A-2-8 SECTION-C



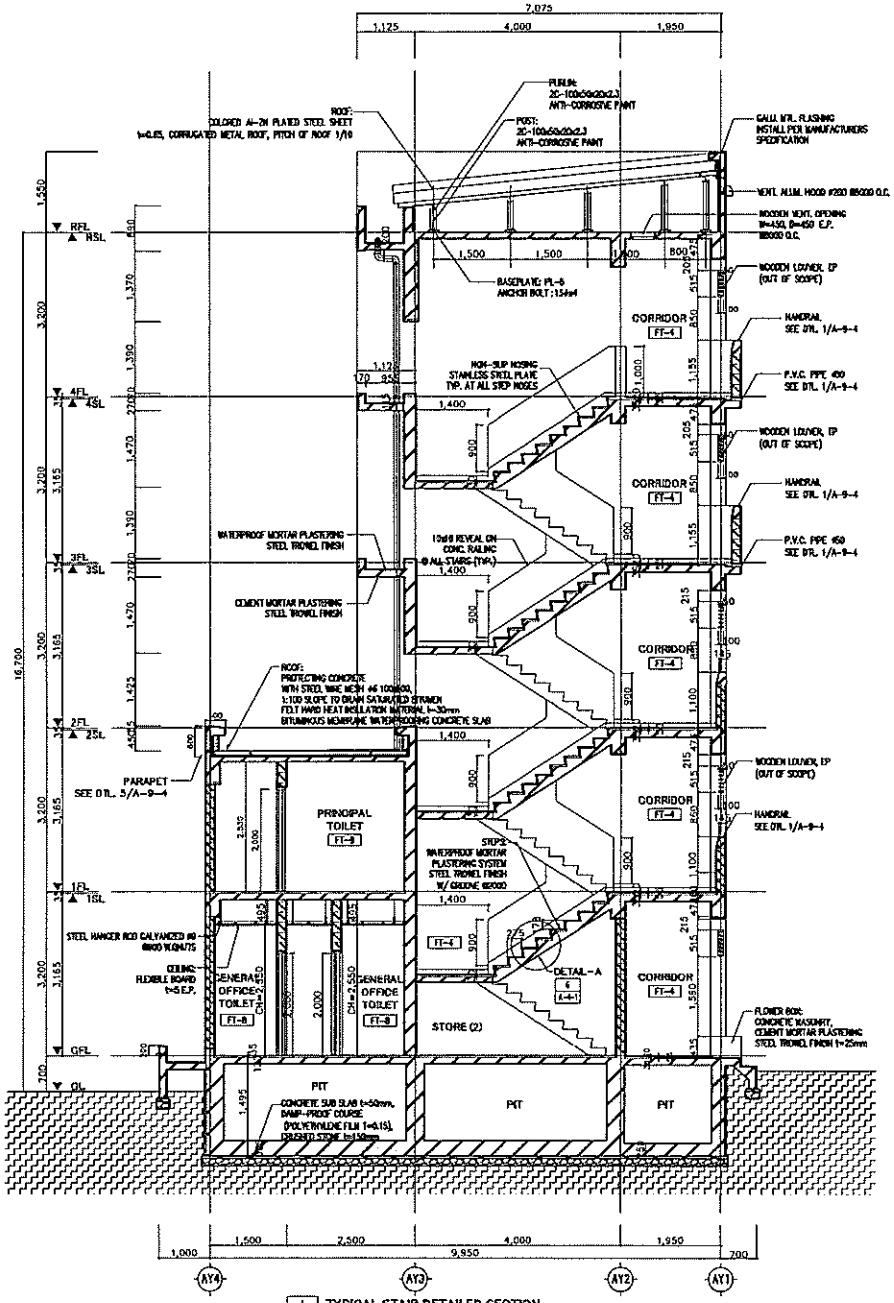
4 / A-2-8 SECTION-D



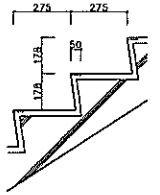
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1 : 200 / A3: 1 : 400	DRAWING TITLE: SECTIONS	DRAWN.by: H.Fujii	DATE: 08.02.07	NO.: A-2-8
				CHECKED.by		
				APPROVED.by		



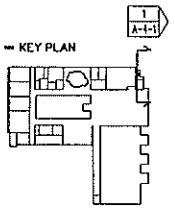
1 TYPICAL STAIR DETAILED PLAN
A-4-1 CLASSROOM-1 BUILDING



1 TYPICAL STAIR DETAILED SECTION
A-4-1 CLASSROOM-1 BUILDING



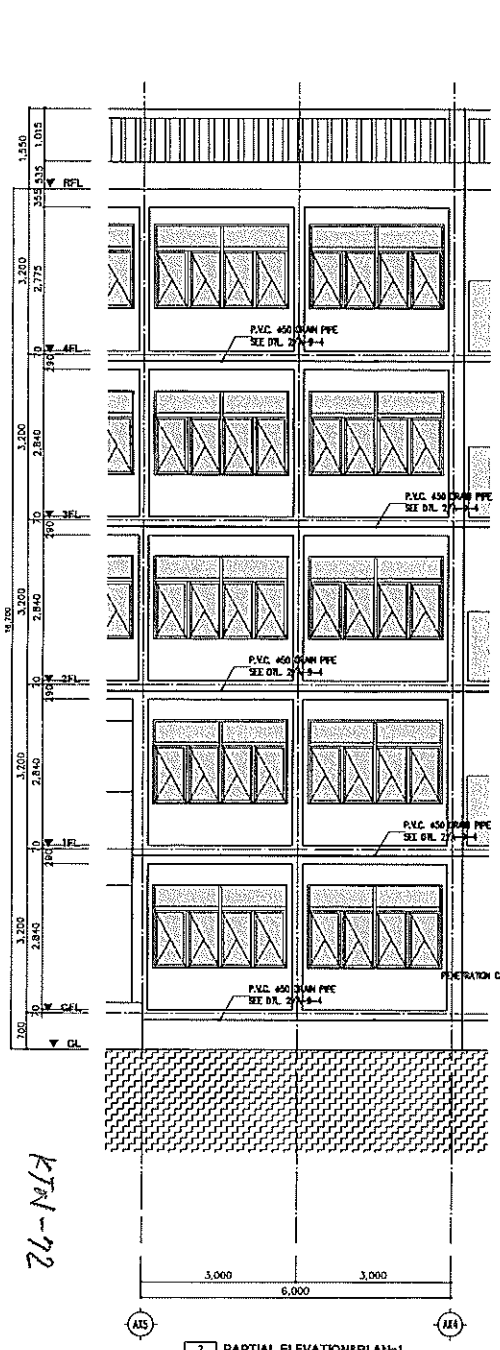
3 DETAIL-A
A-4-1



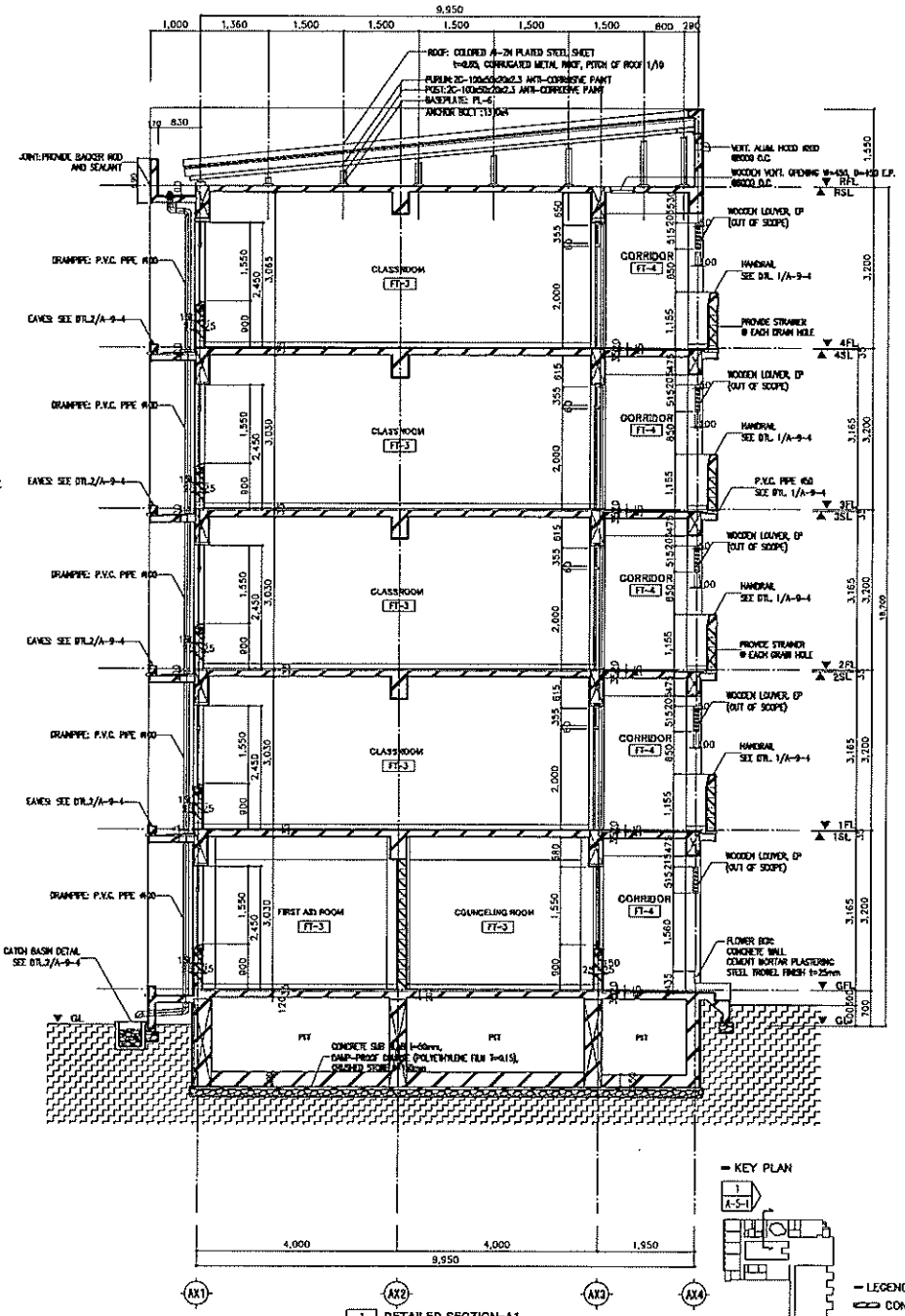
LEGEND
CONCRETE
CONCRETE BLOCK

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:50 / A3: 1:100	DRAWING TITLE: CLASSROOM-1 BUILDING TYPICAL STAIR DETAILED PLANS AND SECTION	DRAWN.by H.Fujii / CHECKED.by / APPROVED.by	DATE 08.02.07 / NO. A-4-1

411

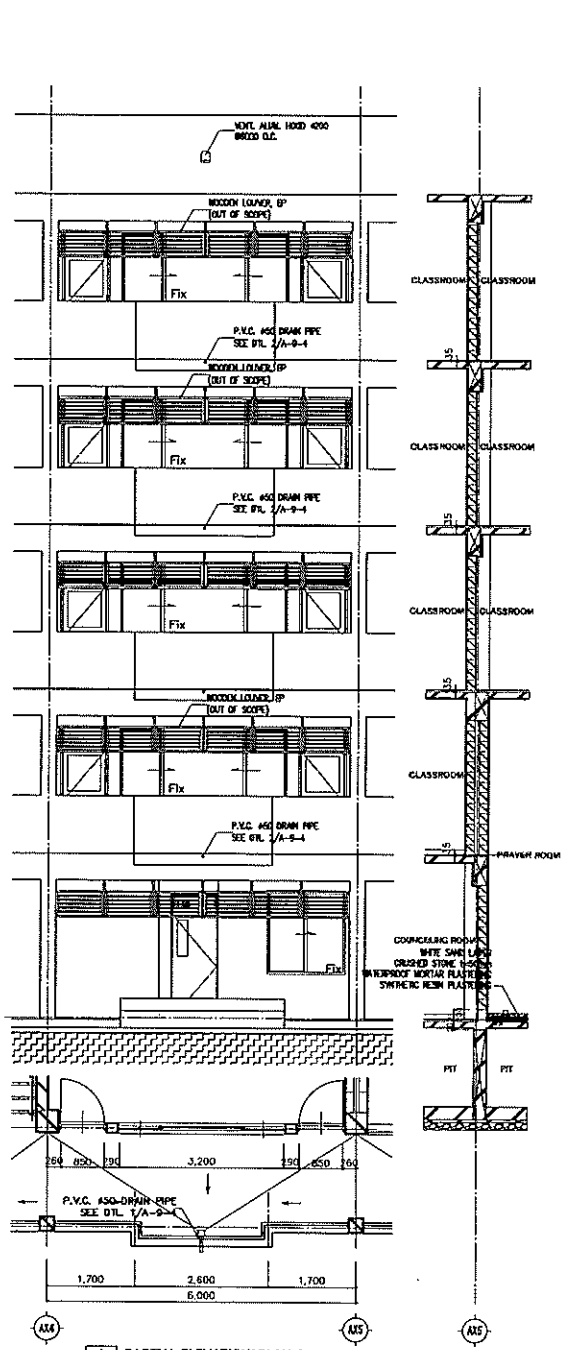


2 PARTIAL ELEVATION&PLAN-1
A-5-1 CLASSROOM-1 BUILDING



1 DETAILED SECTION-A1
A-5-1 CLASSROOM-1 BUILDING

LEGEND
CONCRETE
CONCRETE BLOCK

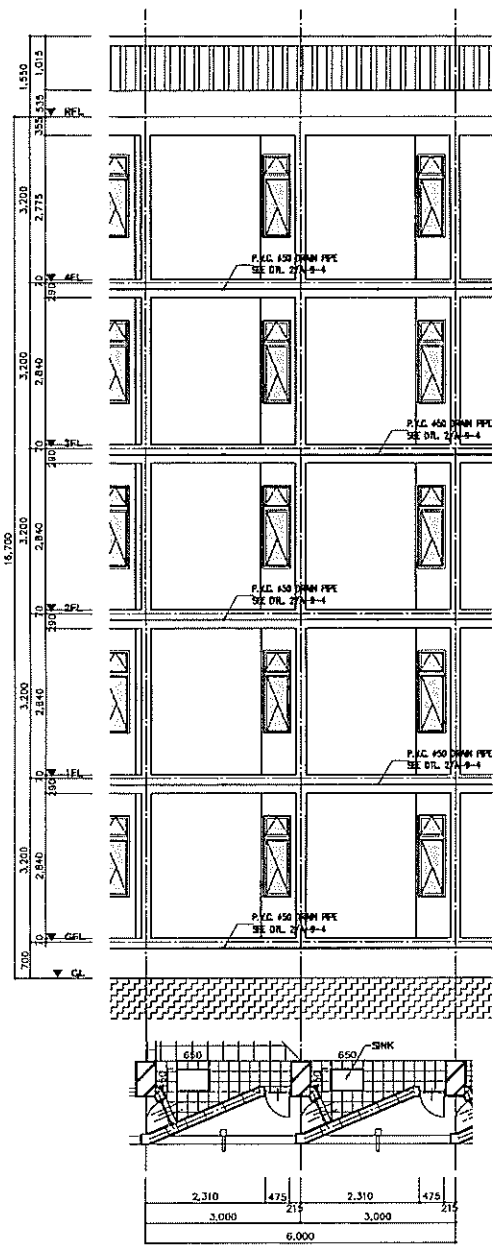


3 PARTIAL ELEVATION&PLAN-2
A-5-1 CLASSROOM-1 BUILDING

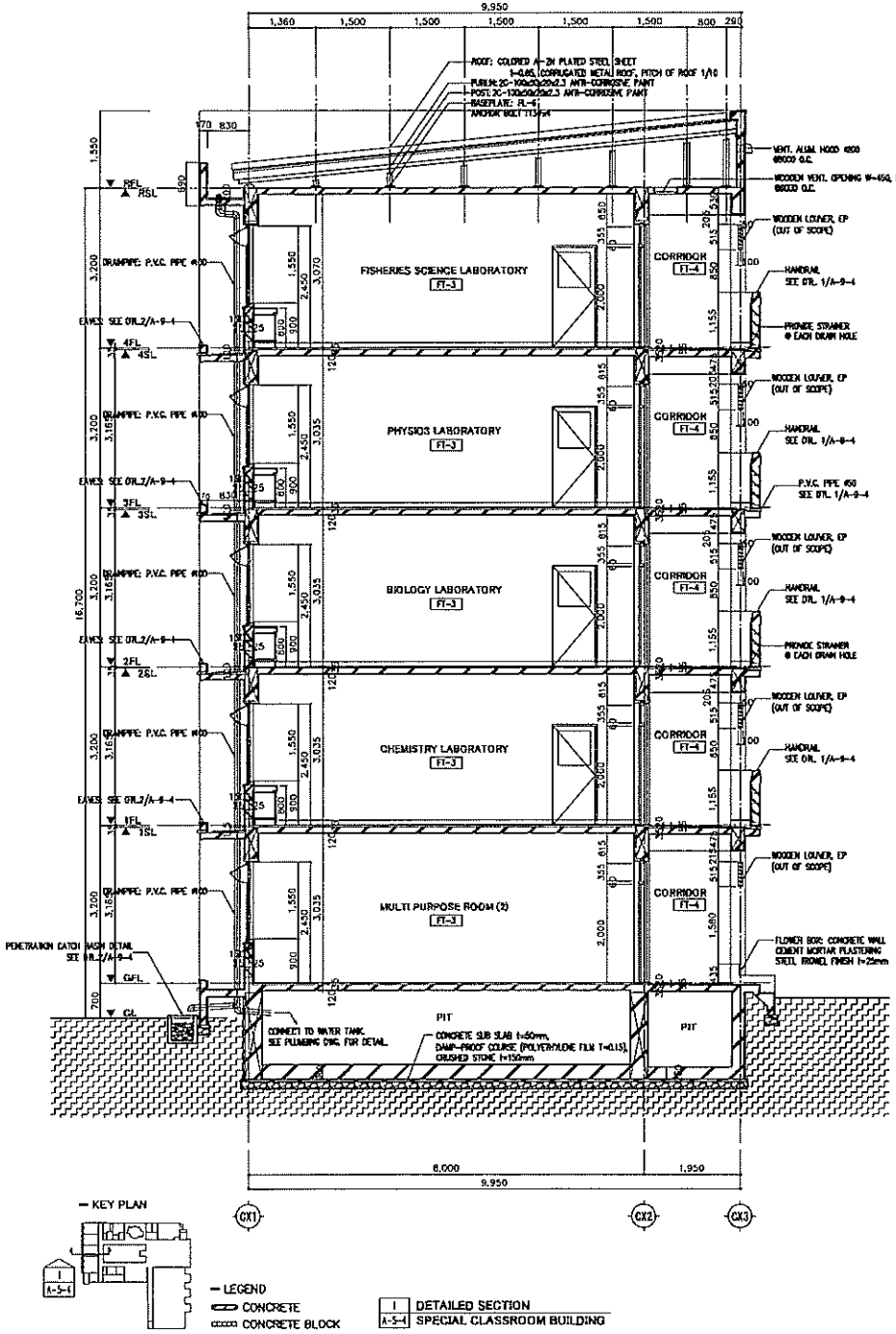
KEN-12

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:50 A3: 1:100	DRAWING TITLE: CLASSROOM-1 BUILDING DETAILED SECTION	DRAWN.by H.Fujii / CHECKED.by / APPROVED.by	DATE 08.02.07 / NO. A-5-1

8/1



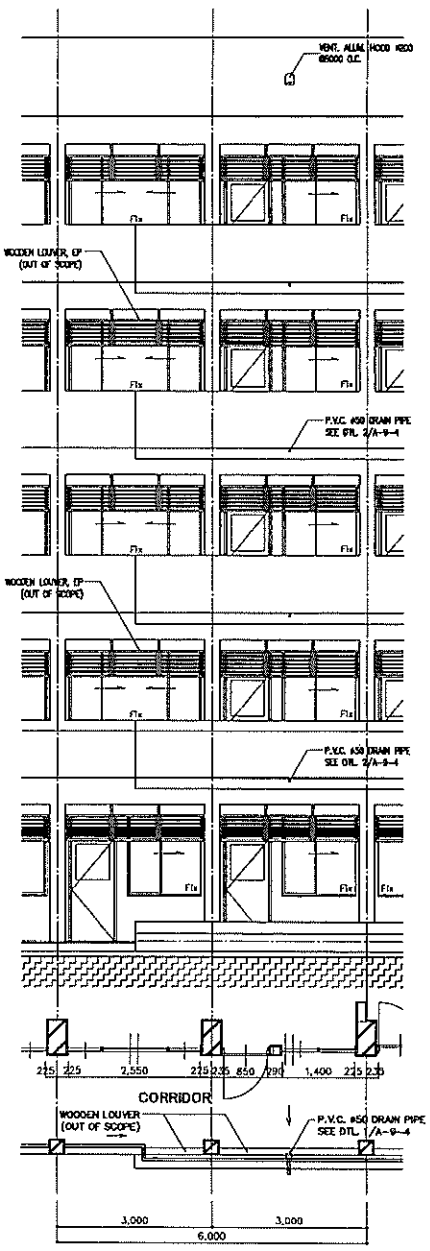
1 PARTIAL ELEVATION&PLAN-1
A-5-4 SPECIAL CLASSROOM BUILDING



KEY PLAN

LEGEND
CONCRETE
CONCRETE BLOCK

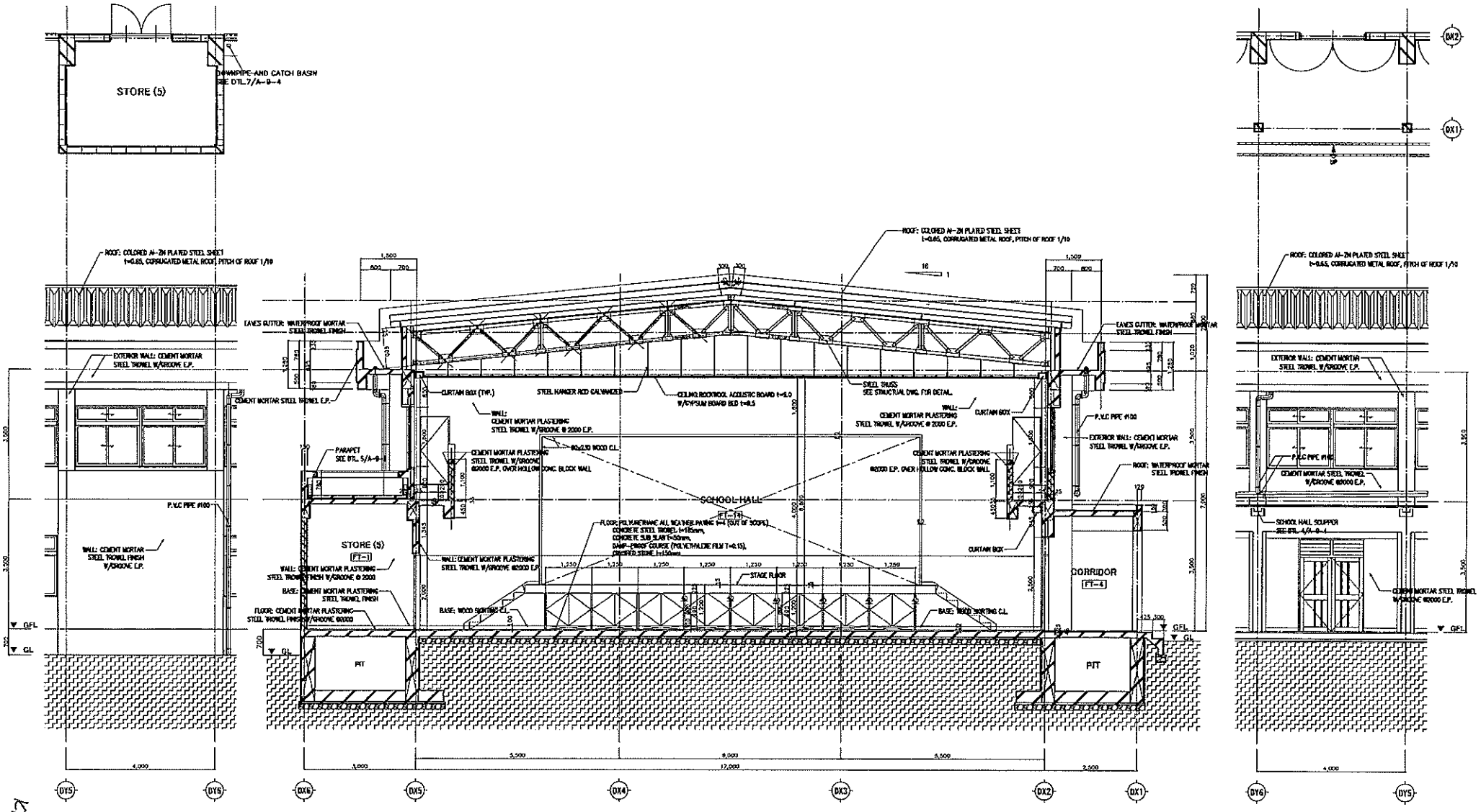
1 DETAILED SECTION
A-5-4 SPECIAL CLASSROOM BUILDING



1 PARTIAL ELEVATION&PLAN-2
A-5-4 SPECIAL CLASSROOM BUILDING

KTM-73

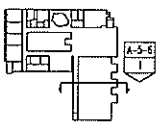
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:50 A3: 1:100	DRAWING TITLE: SPECIAL CLASSROOM BUILDING DETAILED SECTION	DRAWN.by H.Fujii / CHECKED.by / APPROVED.by	DATE 08.02.07 / NO. A-5-4



2 PARTIAL ELEVATION&PLAN-1
A-5-6 SCHOOL HALL BUILDING

1 DETAILED SECTION-2
A-5-6 SCHOOL HALL BUILDING

KEY PLAN

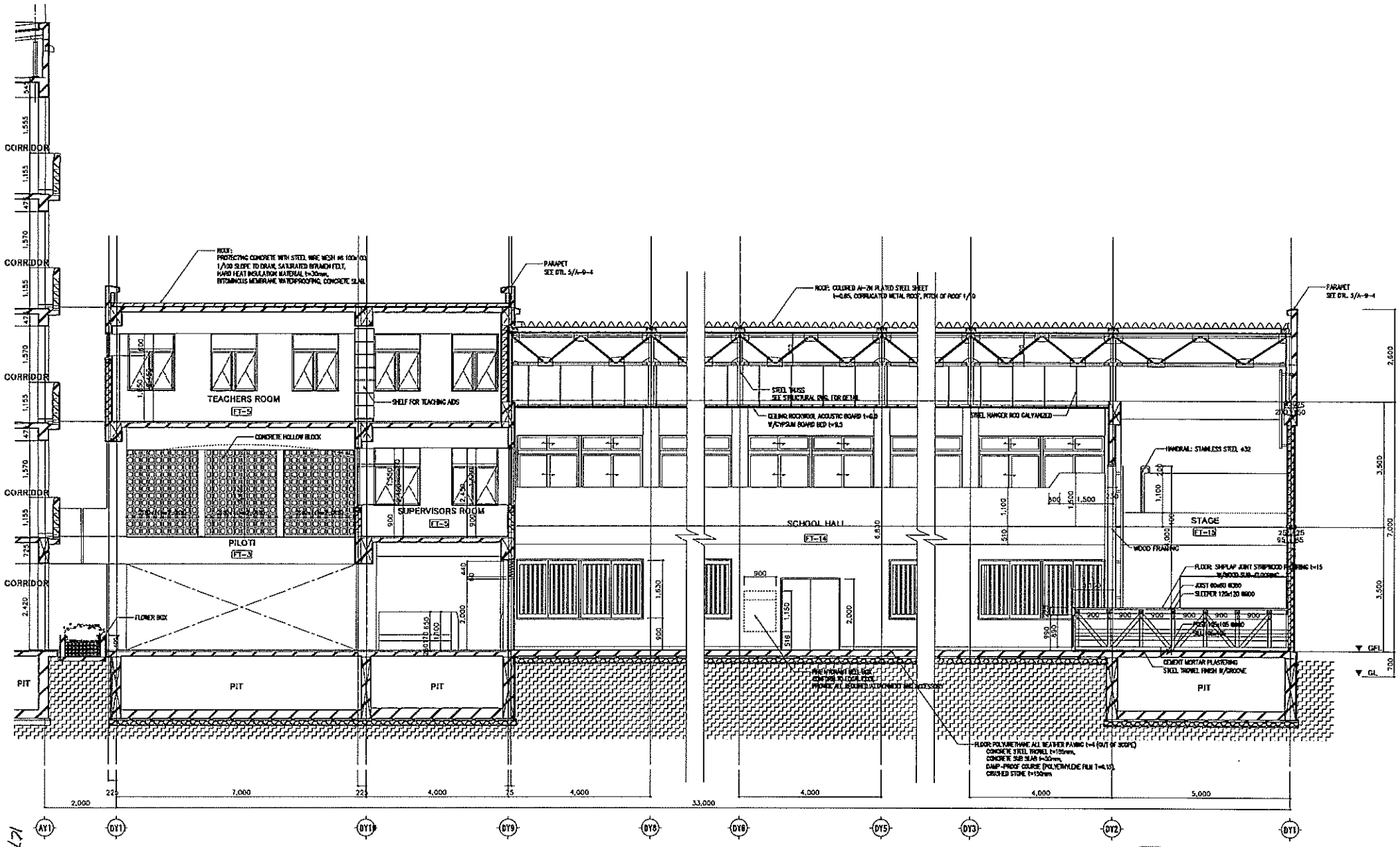


LEGEND
CONCRETE
CONCRETE BLOCK

3 PARTIAL ELEVATION&PLAN-2
A-5-6 SCHOOL HALL BUILDING

A1-N-74

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:50 A3: 1:100	DRAWING TITLE: SCHOOL HALL BUILDING DETAILED SECTION-2	DRAWN by: H.Fujii CHECKED by: APPROVED by:	DATE: 08.02.07 NO.: A-5-6

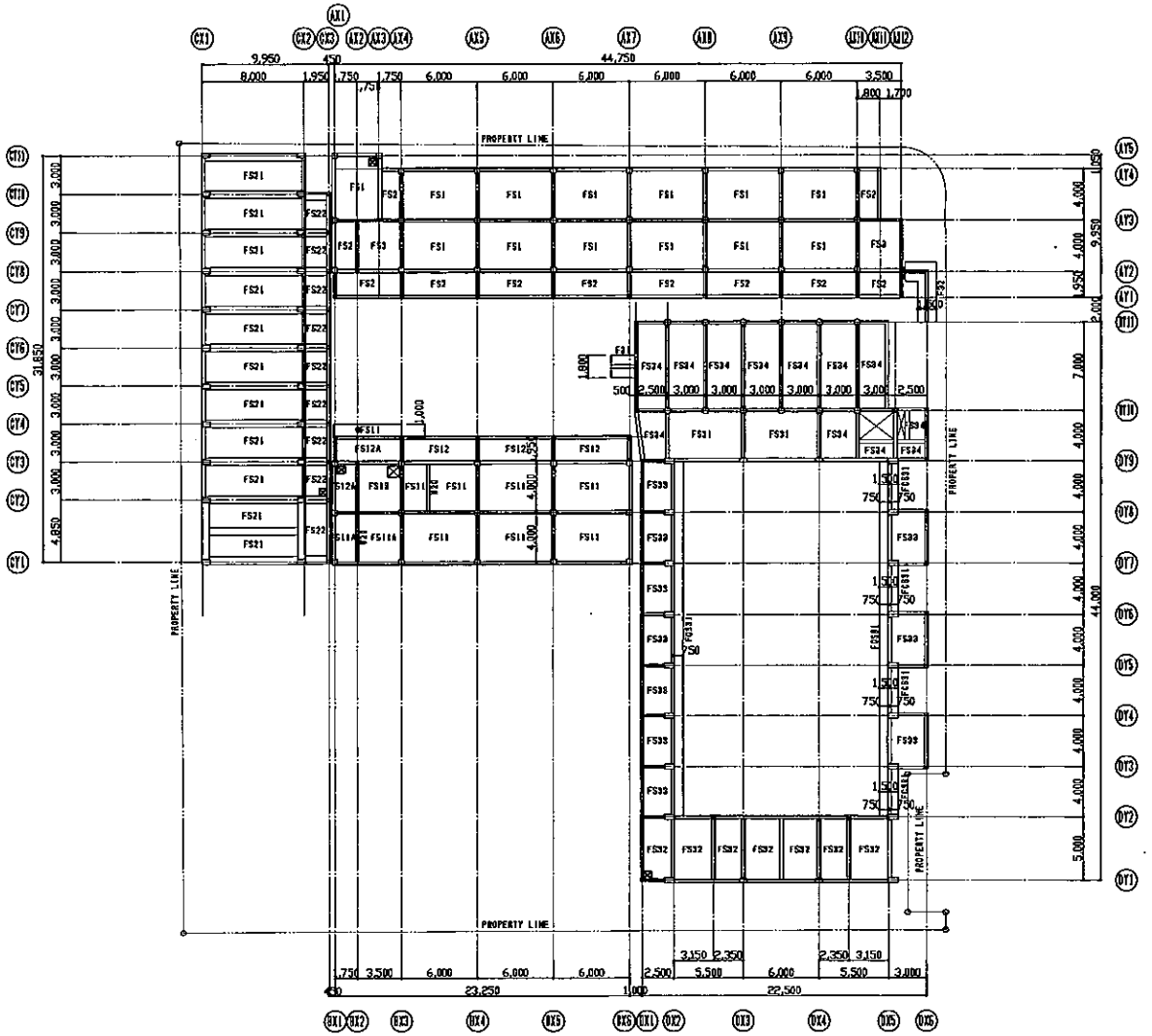


1 / A-5-7 DETAILED SECTION-3 SCHOOL HALL BUILDING

KEY PLAN 1 / A-5-7

LEGEND
CONCRETE
CONCRETE BLOCK

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE: 1:50 / A3: 1:100	DRAWING TITLE: SCHOOL HALL BUILDING DETAILED SECTION-3	DRAWN by: H.Fujii / CHECKED by: / APPROVED by:	DATE: 08.02.07 / NO.: A-5-7



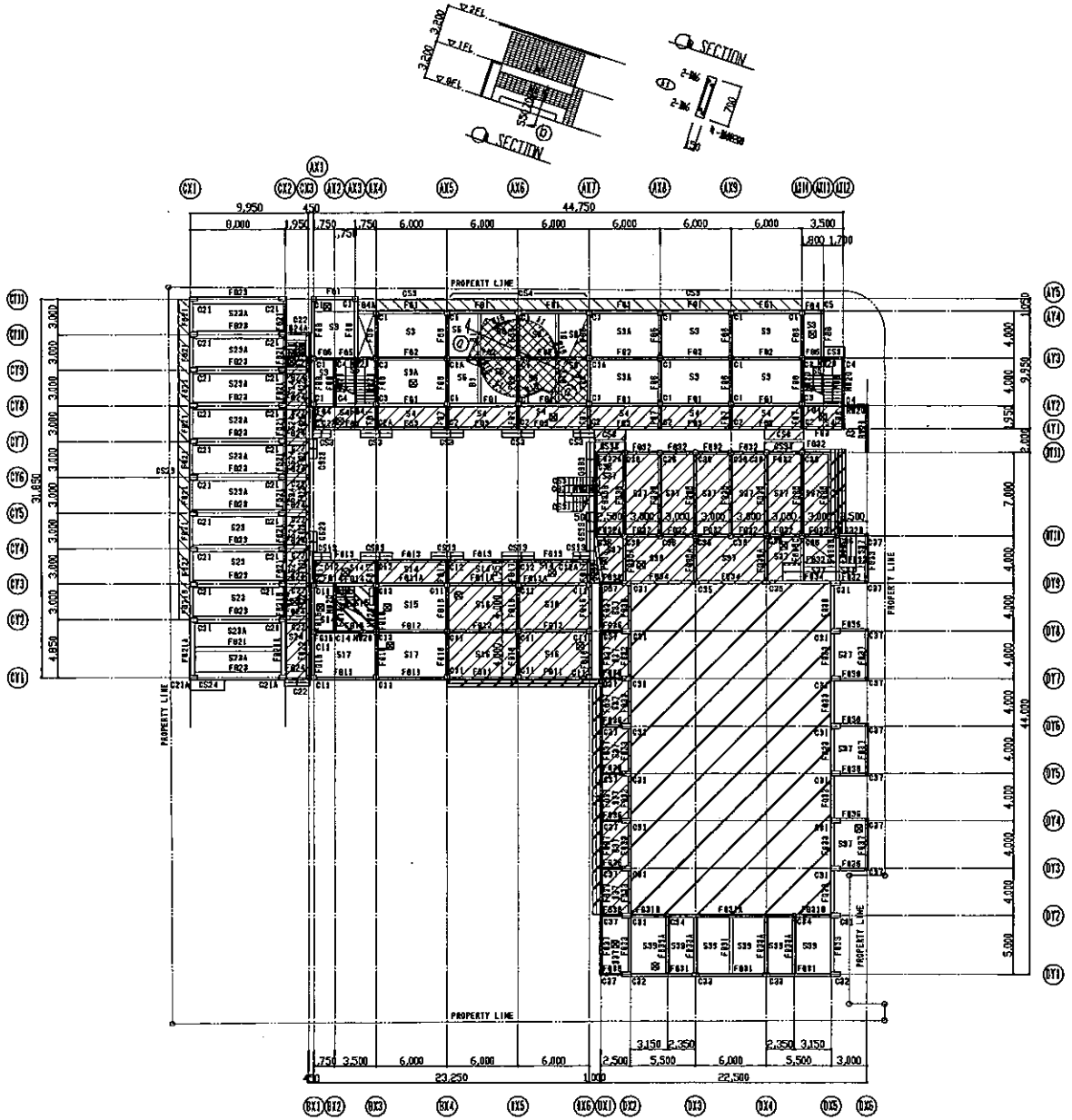
FOUNDATION FLOOR PLAN 1/200

NOTE
1. LEVEL OF FOUNDATION BOTTOM BE GL-1,250.

LEGEND
⊠ SUMPING 800x800x450 (DEPTH)
⊠ SUMPING 900x900x450 (DEPTH)

KTN-76

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:200	DRAWING TITLE: FOUNDATION FLOOR PLAN	DRAWN, by / CHECKED, by / APPROVED, by	DATE / NO. S-004



NOTE
1. GROUND FL=GL+700
2. TOP LEVEL OF FOUNDATON GIRDER BE GROUND FL-200.
3. TOP LEVEL OF SLAB BE FL-85.

LEGEND
CONCRETE COLUMN AND WALL
SLAB ON GRADE

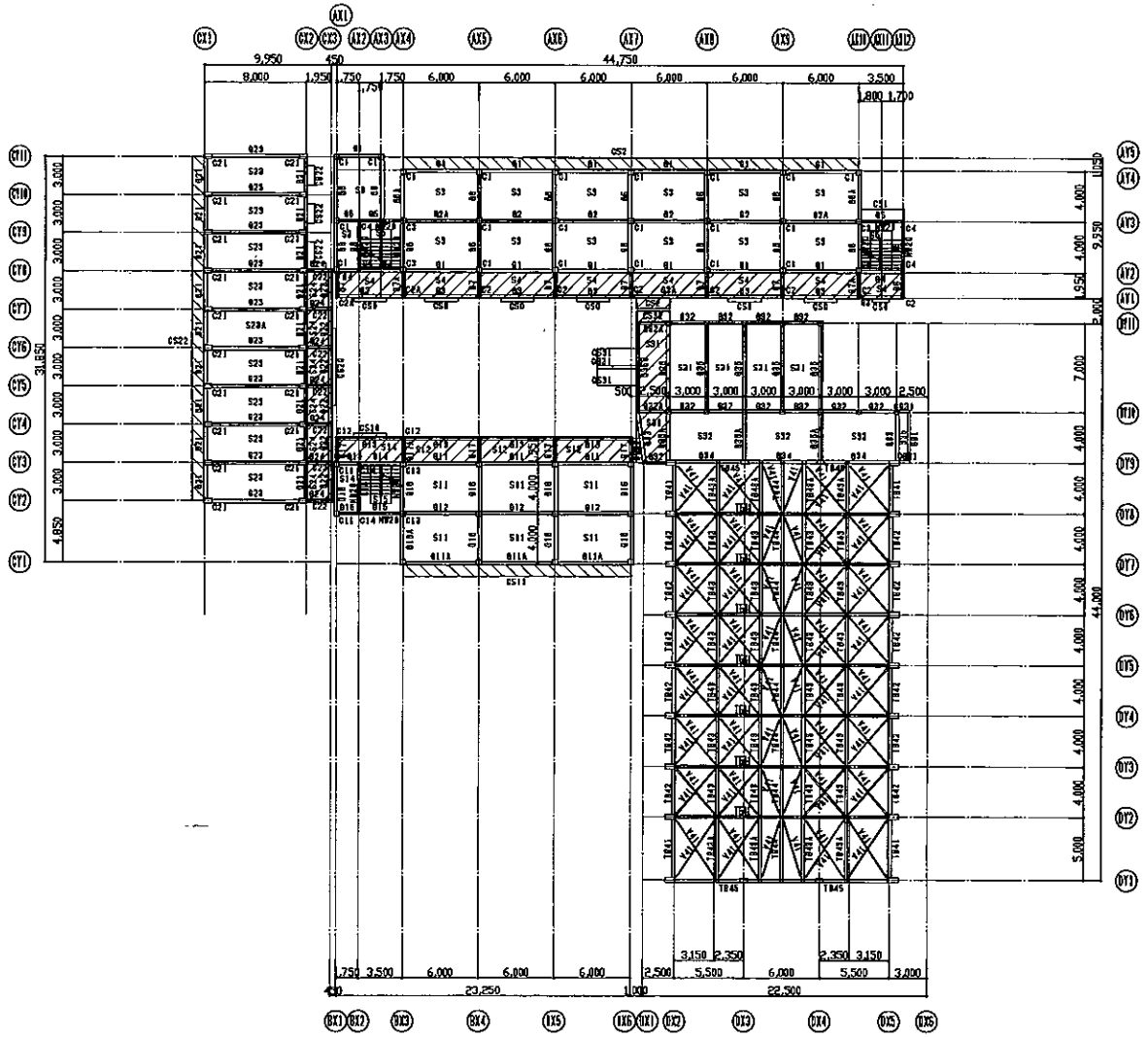
SLAB LEVEL
FL-35
FL-55
FL-135
FL-885
FL+185

LEGEND
INSPECTION HOLE 600×600

GROUND FLOOR PLAN 1/200

KTN-77

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:200	DRAWING TITLE: GROUND FLOOR PLAN	DRAWN, by / CHECKED, by / APPROVED, by	DATE	NO. S-005

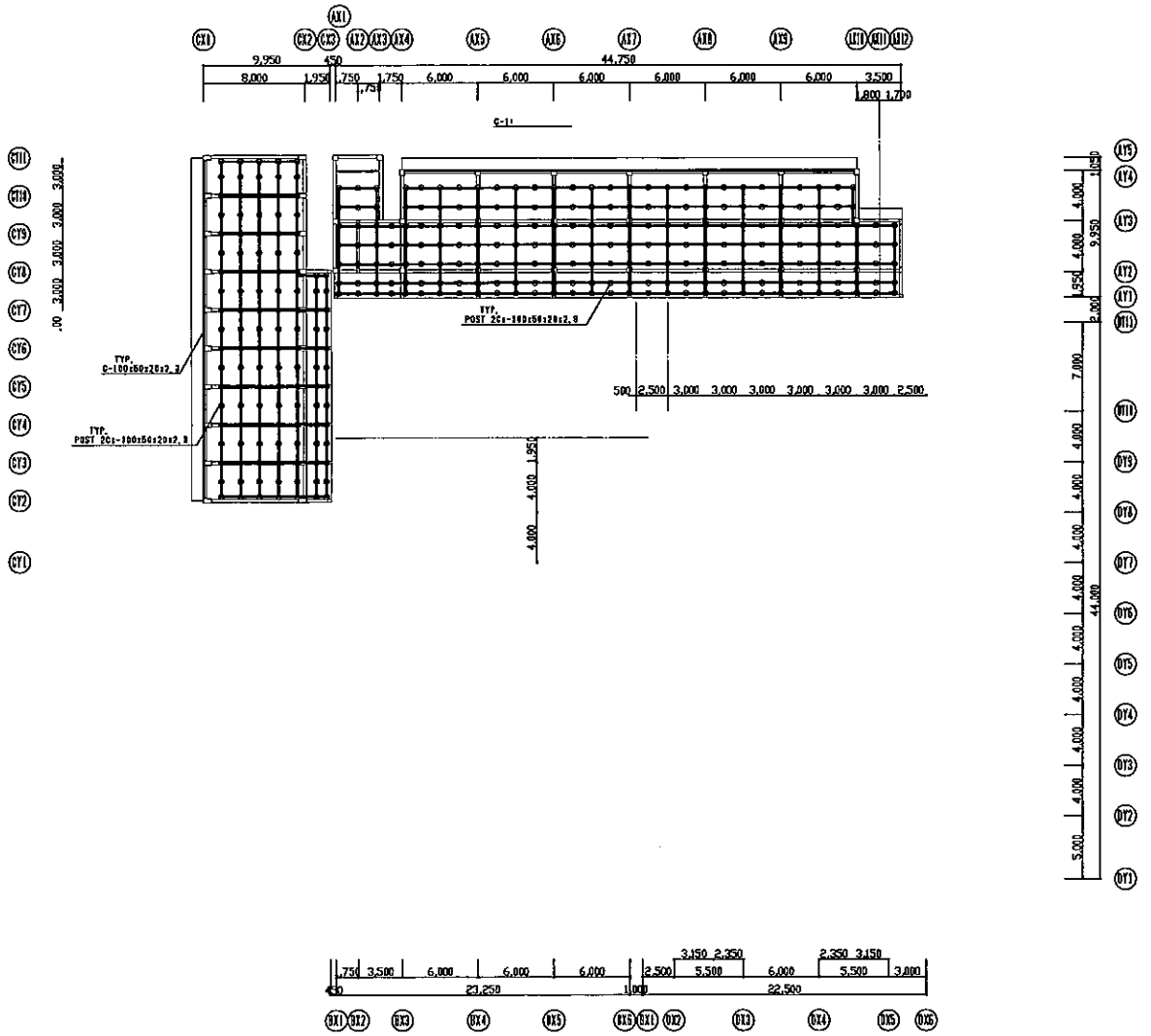


NOTE
1. FL=GL+10, 300
2. TOP LEVEL OF SLAB BE FL-95.

LEGEND
CONCRETE COLUMN AND WALL
SLAB LEVEL
FL-95
FL-56
FL-136

THIRD FLOOR PLAN 1/200

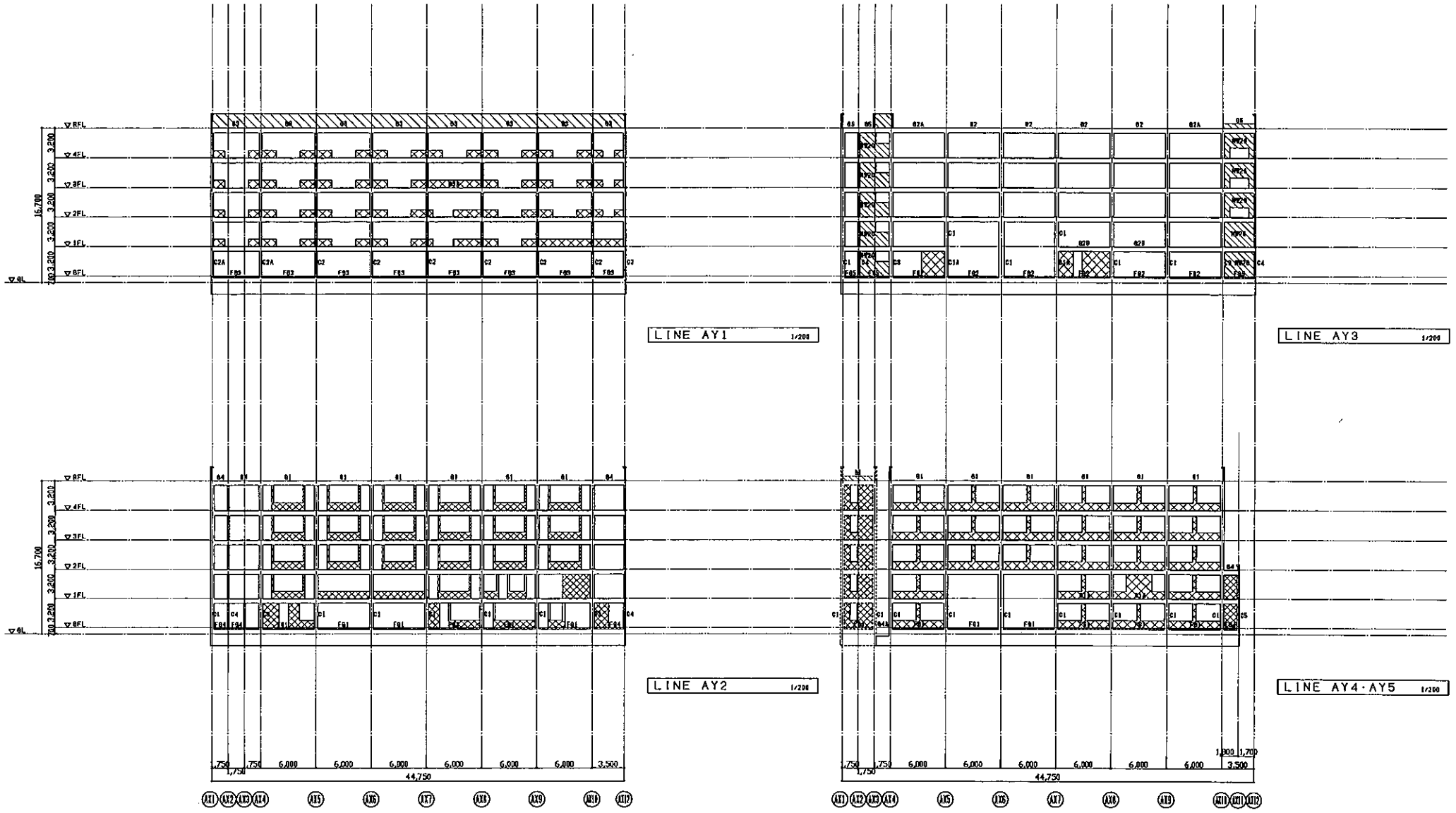
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:200	DRAWING TITLE: THIRD FLOOR PLAN	DRAWN, by / CHECKED, by / APPROVED, by	DATE / NO. S-008



LEGEND
◎ POST 2Cs-100x50x20x2.3

ROOF BACK STEEL PLAN 1/200

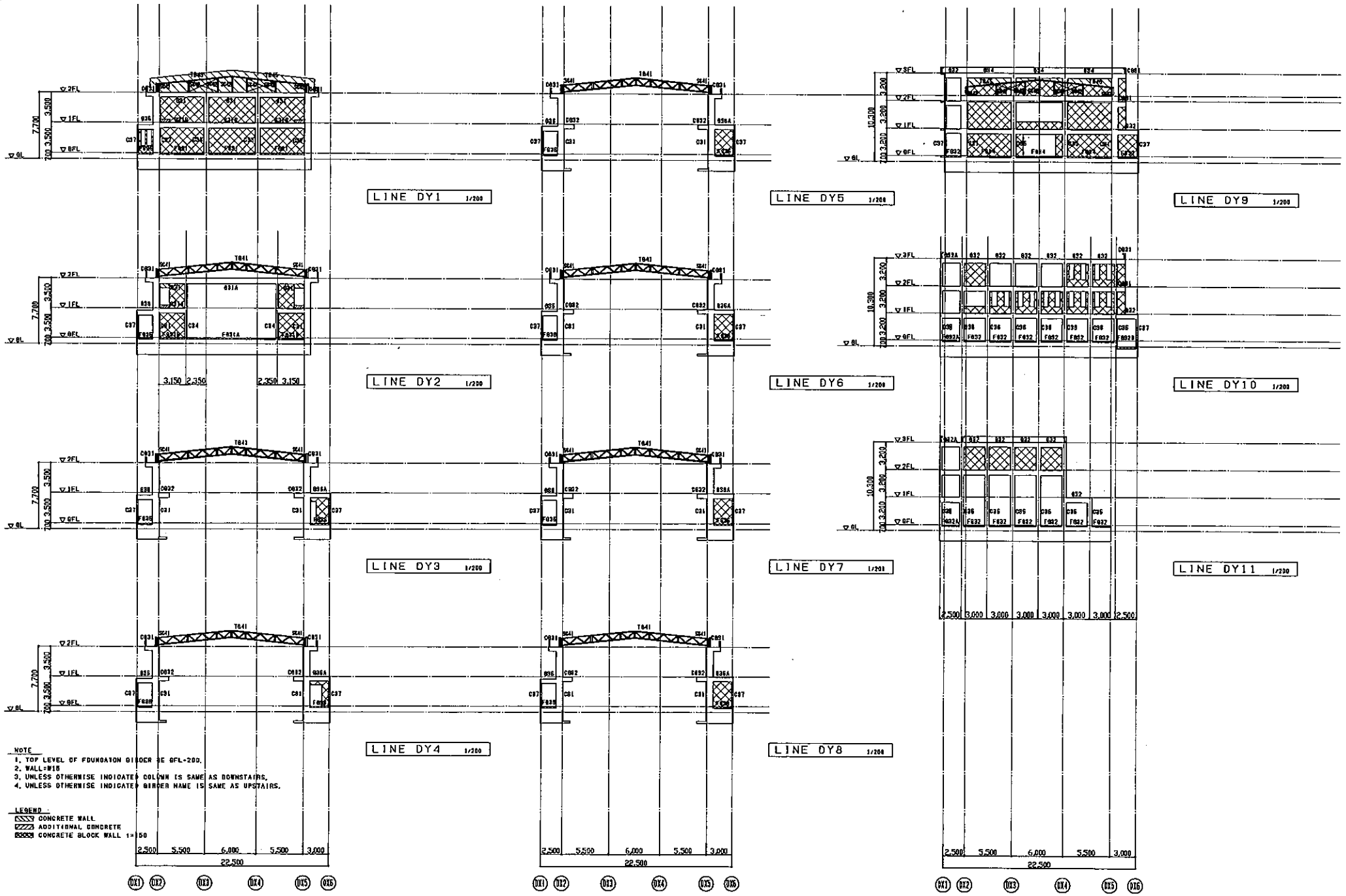
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:200	DRAWING TITLE: ROOF BACK STEEL PLAN	DRAWN, by / CHECKED, by / APPROVED, by	DATE	NO. S-011



NOTE
1. TOP LEVEL OF FOUNDATON GIRDER GE GFL-200.
2. WALL=W15
3. UNLESS OTHERWISE INDICATED COLUMN IS SAME AS DOWNSTAIRS.
4. UNLESS OTHERWISE INDICATED GIRDER NAME IS SAME AS UPSTAIRS.

LEGEND
- CONCRETE WALL
- ADDITIONAL CONCRETE
- CONCRETE BLOCK WALL t=150

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:200	DRAWING TITLE: FRAMING ELEVATION (CLASSROOM-1) -1	DRAWN, by / CHECKED, by / APPROVED, by	DATE / NO. S-012



MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:200	DRAWING TITLE: FRAMING ELEVATION (SCHOOL HALL)-1	DRAWN, by / CHECKED, by / APPROVED, by	DATE / NO. S-016

GIRDER SCHEDULE (2) 1/30

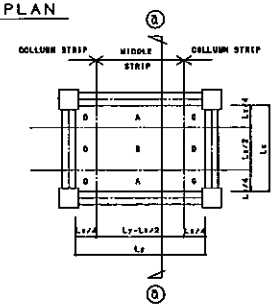
UNLESS OTHERWISE INDICATED : STIRRUP □-D10@250 TIE BARS ---D10@500

NAME		G6A			G7	G7A	G8
LOCATION		⑧END	CENTER	⑨END	ALL	ALL	ALL
ROOF FL	SECTION			550 / 250	450 / 250	450 / 250	450 / 200
	TOP BARS	4-D20	2-D20	2-D20	2-D20	6-D20	2-D16
	BOTT. BARS	3-D20	3-D20	2-D20	2-D20	6-D20	2-D16
	STIRRUP						
	MIDD. BARS						
FOURTH FL	SECTION			550 / 250	DITTO	DITTO	DITTO
	TOP BARS	6-D20	2-D20	2-D20			
	BOTT. BARS	3-D20	3-D20	2-D20			
	STIRRUP						
	MIDD. BARS						
THIRD FL	SECTION	DITTO			DITTO	450 / 250	DITTO
	TOP BARS					5-D20	
	BOTT. BARS					4-D20	
	STIRRUP						
	MIDD. BARS						
SECOND FL	SECTION	DITTO			DITTO	450 / 250	DITTO
	TOP BARS					3-D20	
	BOTT. BARS					2-D20	
	STIRRUP						
	MIDD. BARS						
FIRST FL	SECTION	DITTO			DITTO	DITTO	DITTO
	TOP BARS						
	BOTT. BARS						
	STIRRUP						
	MIDD. BARS						

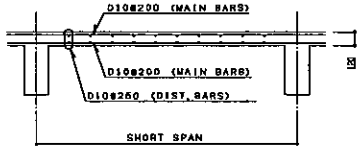
SLAB SCHEDULE

NAME	THICKNESS		MAIN BARS			DIST. BARS			NOTE
			MIDDLE STRIP		COLUMN STRIP	MIDDLE STRIP		COLUMN STRIP	
			ENDS	CENTER	ALL	ENDS	CENTER	ALL	
S1	12t	TOP	D10-@250			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S2	12t	TOP	D10-@250			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S3	12t	TOP	D10-D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S3A	15t	TOP	D12-@200			D10-D12-@200			DOUBLE
		BOTT	D10-D12-@200			D10-@200			
S4	12t	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S5	12t	TOP	D10-D12-@200			D10-D12-@200			DOUBLE
		BOTT	D10-@200			D12-@200			
S6	15t	TOP	D10-D12-@150			D10-D12-@200			DOUBLE
		BOTT	D10-D12-@150			D10-D12-@200			
		TOP							
		BOTT							
CS0	12t	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS1	BASE END-TOP END 150-12t	TOP	D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS2	BASE END-TOP END 150-12t	TOP	D12-@150			D10-@250			DOUBLE
		BOTT	D10-@150			D10-@250			
CS3	15t	TOP	D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS4	15t	TOP	D12-@150			D10-@250			DOUBLE
		BOTT	D10-D12-@150			D10-@250			
		TOP							
		BOTT							
FS1	35t	TOP	D12-D16-@100			D12-D16-@150			DOUBLE
		BOTT	D12-D16-@100			D12-D16-@150			
FS2	25t	TOP	D12-@150			D10-D12-@200			DOUBLE
		BOTT	D12-@150			D10-D12-@200			
FS3	30t	TOP	D12-D16-@100			D12-D16-@150			DOUBLE
		BOTT	D12-D16-@100			D12-D16-@150			

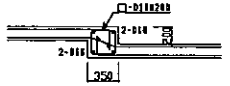
KEY PLAN



S1



PLAYERS ROOM STEP SLAB DETAIL 1/30



BEAM SCHEDULE 1/30

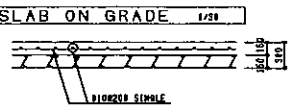
NAME	B1		
LOCATION	OTHER END	CENTER	CONNECTING END
SECTION	□-D10@250; 2-D16		600; 350
TOP BARS	3-D20	3-D20	4-D20
BOTT. BARS	3-D20	3-D20	3-D20
STIRRUP	□-D10@250		
MIDD. BARS	2-D10		

WALL SCHEDULE 1/30

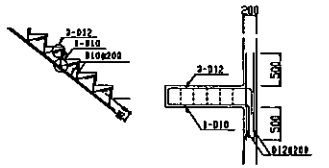
NAME	W15	NW20	CB15	OVER REINFORCEMENT BAR
SECTION	15t	20t	15t	45°
VERT. BAR	D10-@200 SINGLE	D10/D12-@200 DOUBLE	D10-@600 SINGLE	
HORI. BAR	D10-@200 SINGLE	D10-@200 DOUBLE	D10-@600 SINGLE	
a	1-D12	4-D12	1-D12	a
b	1-D12	4-D12	1-D12	b
c	1-D12	2-D12		c

ⓐ-ⓐ SECTION 1/30

SLAB ON GRADE 1/30



ST-1 1/40



MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:30 / 1:40	DRAWING TITLE: GIRDER SCHEDULE (2) SLAB, WALL AND MICELLANEOUS (CLASSROOM-1)	DRAWN, by / CHECKED, by / APPROVED, by	DATE	NO. S-021

GIRDER SCHEDULE (2) 1/30

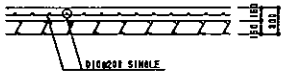
TIE BARS —D10@800
UNLESS OTHERWISE INDICATED : STIRRUP □-D10@250

NAME		G16A		G17	G17A	G18
LOCATION		OTHER END	CENTER	ALL	ALL	ALL
PH ROOF FL	SECTION			450 / 250	450 / 250	450 / 200
	TOP BARS			2-D20	3-D20	2-D16
	BOTT. BARS			2-D20	3-D20	2-D16
	STIRRUP					
	MIDD. BARS					
ROOF FL	SECTION			DITTO	DITTO	DITTO
	TOP BARS					
	BOTT. BARS					
	STIRRUP					
	MIDD. BARS					
FOURTH FL	SECTION			DITTO	DITTO	DITTO
	TOP BARS					
	BOTT. BARS					
	STIRRUP					
	MIDD. BARS					
THIRD FL	SECTION	550 / 250		DITTO	450 / 250	DITTO
	TOP BARS	4-D20	2-D20		4-D20	
	BOTT. BARS	3-D20	3-D20		3-D20	
	STIRRUP					
	MIDD. BARS					
SECOND FL	SECTION			DITTO	450 / 250	DITTO
	TOP BARS				3-D20	
	BOTT. BARS				3-D20	
	STIRRUP					
	MIDD. BARS					
FIRST FL	SECTION			DITTO	DITTO	DITTO
	TOP BARS					
	BOTT. BARS					
	STIRRUP					
	MIDD. BARS					

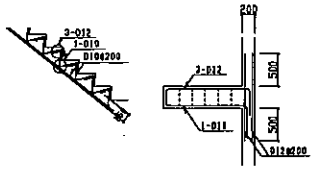
BEAM SCHEDULE 1/30

NAME	B11	
LOCATION	ALL	
SECTION	400 / 250	
TOP BARS	2-D16	
BOTT. BARS	3-D16	
STIRRUP	□-D10@250	
MIDD. BARS		

SLAB ON GRADE 1/20



ST-1 1/40

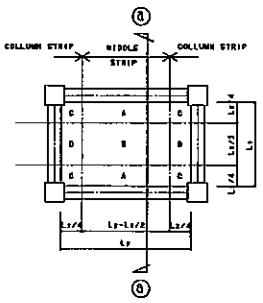


WALL SCHEDULE 1/30

NAME	W15	W20 NW20	C815	OPEN REINFORCEMENT BAR
SECTION	150	200	150	
VERT. BAR	D10-@200 SINGLE	D10@12-@200 DOUBLE	D10-@600 SINGLE	
HORI. BAR	D10-@200 SINGLE	D10-@200 DOUBLE	D10-@600 SINGLE	
a	1-D13	2-D12	1-D12	a
b	1-D13	2-D12	1-D12	b
c	1-D13	2-D12		c

SLAB SCHEDULE

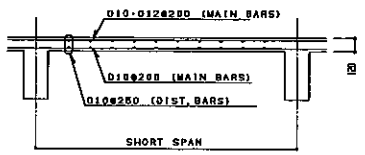
NAME	THICKNESS		MAIN BARS			DIST. BARS			NOTE
			MIDDLE STRIP		COLUMN STRIP	MIDDLE STRIP		COLUMN STRIP	
			ENDS	CENTER	ALL	ENDS	CENTER	ALL	
S11	120	TOP	D10-D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@200			
S11A	140	TOP	D10-D12-@175			D10-D12-@200			
		BOTT	D10-D12-@175			D10-D12-@200			
S12	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@200			
S13	120	TOP	D10-D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S14	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S15	120	TOP	D10-D12-@200			D10-@200			DOUBLE
		BOTT	D10-D12-@200			D10-@200			
S16	150	TOP	D10-D12-@150			D10-D12-@200			DOUBLE
		BOTT	D10-D12-@150			D10-D12-@200			
S17	120	TOP	D10-D12-@200			D10-@200			DOUBLE
		BOTT	D10-D12-@200			D10-@200			
		TOP							
		BOTT							
CS10	150	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS11	BASE END-TOP END L5%-L20	TOP	D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS12	BASE END-TOP END L5%-L20	TOP	D12-@150			D10-@250			DOUBLE
		BOTT	D10-@150			D10-@250			
CS13	150	TOP	D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
		TOP							
		BOTT							
FS11	300	TOP	D16-@125			D10-@250			DOUBLE
		BOTT	D16-@125			D10-@250			
FS11A	350	TOP	D16-@125			D10-@175			DOUBLE
		BOTT	D16-@125			D10-@175			
FS12	250	TOP	D12-@200			D12-@250			DOUBLE
		BOTT	D12-@200			D12-@250			
FS12A	250	TOP	D16-@125			D12-@250			DOUBLE
		BOTT	D16-@125			D12-@250			
FS13	300	TOP	D16-@125			D10-@250			DOUBLE
		BOTT	D16-@125			D10-@250			
CFS11	250	TOP	D16-@125			D12-@200			DOUBLE
		BOTT	D16-@125			D12-@200			
		TOP							
		BOTT							



KEY PLAN

ⓐ-ⓐ SECTION 1/30

S11

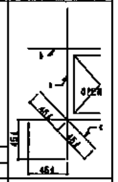


MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME	THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:30 / 1:40	DRAWING TITLE GIRDER (2) AND BEAM SCHEDULE SLAB, WALL AND MICELLANEOUS (CLASSROOM-2)	DRAWN, by / CHECKED, by / APPROVED, by	DATE	NO. S-025

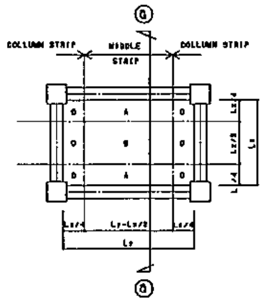
SLAB SCHEDULE

NAME	THICKNESS		MAIN BARS MIDDLE STRIP ENDS	MAIN BARS MIDDLE STRIP CENTER	MAIN BARS COLUMN STRIP ALL	DIST. BARS MIDDLE STRIP ENDS	DIST. BARS MIDDLE STRIP CENTER	DIST. BARS COLUMN STRIP ALL	NOTE
S21	120	TOP	D10-@210			D10-@250			DOUBLE
		BOTT	D10-@210			D10-@250			
S22	120	TOP	D10-@210			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S23	120	TOP	D10-D12-@200			D10-@250			DOUBLE
		BOTT	D10-@210			D10-@250			
S23A	120	TOP	D12-@210			D10-@250			DOUBLE
		BOTT	D10-D12-@200			D10-@250			
S24	120	TOP	D10-@210			D10-@250			DOUBLE
		BOTT	D10-@210			D10-@250			
S25	150	TOP	D10-D12-@200			D10-D12-@210			DOUBLE
		BOTT	D10-@200			D10-@240			
		TOP							
		BOTT							
CS20	150	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS21	BASE END~TIP END 160~120	TOP	D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS21A	BASE END~TIP END 160~120	TOP	D12-@150			D10-@250			DOUBLE
		BOTT	D10-@150			D10-@250			
CS22	BASE END~TIP END 180~120	TOP	D12-@150			D10-@250			DOUBLE
		BOTT	D10-@150			D10-@250			
CS23	150	TOP	D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
CS24	150	TOP	D12-@100			D10-@250			DOUBLE
		BOTT	D10-@100			D10-@250			
FS21	300	TOP	D12-D16-@150			D12-D16-@200			DOUBLE
		BOTT	D12-D16-@150			D12-D16-@200			
FS22	250	TOP	D12-@150			D12-@210			DOUBLE
		BOTT	D12-@150			D12-@210			
		TOP							
		BOTT							

WALL SCHEDULE 1/30

NAME	W15	CB15			OPEN REINFORCEMENT BAR
SECTION	150	150			
VERT. BAR	D10-@200 SINGLE	D10-@300 SINGLE			
HORI. BAR	D10-@200 SINGLE	D10-@500 SINGLE			
a	1-D12	1-D12			a
b	1-D12	1-D12			b
c	1-D12				c

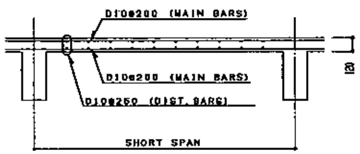
SLAB ON GRADE 1/30



KEY PLAN

a-a SECTION 1/30

S21



KTN - 84

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:30 / 1:40	DRAWING TITLE: SLAB, WALL AND MICELLANEOUS (SPECIAL CLASSROOM)	DRAWN. by / CHECKED. by / APPROVED. by	DATE	NO. S-029

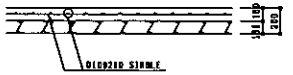
SLAB SCHEDULE

NAME	THICKNESS		MAIN BARS			DIST. BARS			NOTE
			MIDDLE STRIP		COLUMN STRIP	MIDDLE STRIP		COLUMN STRIP	
			ENDS	CENTER	ALL	ENDS	CENTER	ALL	
S31	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S32	120	TOP	D10-D12-@200			D10-@200			DOUBLE
		BOTT	D10-@200			D10-@200			
S33	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S34	120	TOP	D10-D12-@200			D10-@200			DOUBLE
		BOTT	D10-@200			D10-@200			
S35	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S36	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S37	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
S38	120	TOP	D10-D12-@200			D10-@200			DOUBLE
		BOTT	D10-D12-@200			D10-@200			
S39	120	TOP	D10-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
		TOP							
		BOTT							
CS31	150	TOP	D12-@200			D10-D12-@200			DOUBLE
		BOTT	D12-@200			D10-D12-@200			
CS32	150~120	TOP	D12-@150			D10-@250			DOUBLE
		BOTT	D10-@150			D10-@250			
CS33	120	TOP	D12-@200			D10-@250			DOUBLE
		BOTT	D10-@200			D10-@250			
		TOP							
		BOTT							
FS31	300	TOP	D16-@125			D16-@200			DOUBLE
		BOTT	D16-@125			D16-@200			
FS32	250	TOP	D12-@125			D12-@200			DOUBLE
		BOTT	D12-@125			D12-@200			
FS33	250	TOP	D12-@150			D12-@200			DOUBLE
		BOTT	D12-@150			D12-@200			
FS34	250	TOP	D12-@150			D12-@200			DOUBLE
		BOTT	D12-@150			D12-@200			
FCS31	250	TOP	D12-@150			D10-@200			DOUBLE
		BOTT	D12-@150			D10-@200			
		TOP							
		BOTT							

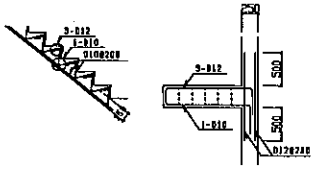
WALL SCHEDULE 1/30

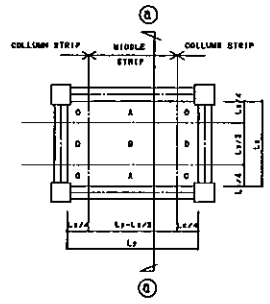
NAME	W15	RW20	NW25	C815	OPEN REINFORCEMENT BAR
SECTION	150	200	250	150	
VERT. BAR	D10-@200 SINGLE	D12-@200 DOUBLE	D12-@200 DOUBLE	D10-@600 SINGLE	
HORI. BAR	D10-@200 SINGLE	D10-@200 DOUBLE	D-D10-@200	D10-@600 SINGLE	
a	1-D12	2-D16	2-D16	1-D12	a
b	1-D12	2-D16	2-D12	1-D12	b
c	1-D12	2-D12	2-D12		c

SLAB ON GRADE 1/30



ST-1 1/40

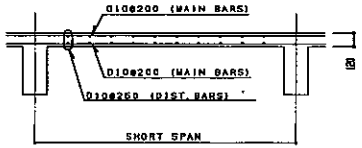




KEY PLAN

Ⓐ-Ⓐ SECTION 1/30

S31



KTN-85

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:30 / 1:40	DRAWING TITLE: SLAB, WALL AND MICELLANEOUS (SCHOOL HALL)	DRAWN, by / CHECKED, by / APPROVED, by	DATE	NO. S-033

101

MEMBER SCHEDULE

STRUCTURAL STEEL TO BE USED SHALL BE SS400, UNLESS OTHERWISE SPECIFIED.

(1) STUD

MARK	MEMBER	BPL A, Bolts	GPL H, T, B,	REMARK
SC41	H-150x150x7x10	BPL-12x200x200 A, Bolts 2-M16(L:640 D, N,)		
SC42	H-100x100x6x8	BPL-12x300x200 A, Bolts 2-M16(L:640 D, N,)		

(2) TRUSS AND BEAM

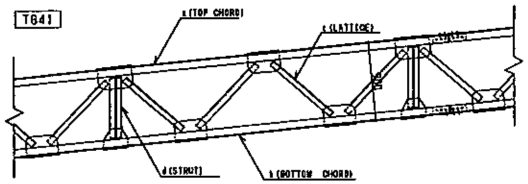
MARK		MEMBER	SPL OR GPL FLANGE (OUT)	SPL OR GPL FLANGE (IN)	SPL OR GPL WEB	H, T, B, FLANGE	H, T, B, WEB	REMARK
TB41	a	2Ls-90x90x7	SPL-9x200	———	L-75x75x9	4-M20	3-M20	SEE DETAIL-1
	b	2Ls-90x90x7	SPL-9x200	———	L-75x75x9	4-M20	3-M20	SEE DETAIL-1
	c	L-65x65x6	———	———	GPL-6	———	2-M16	TO BE APPLIED FOR JOINTS AT SITE
	d	2Ls-65x65x6	———	———	GPL-6	———	———	WELDED
TB41	a	C-150x75x6.5x10	———	———	———	———	2-M16	
	b	L-65x65x8	———	———	GPL-6	———	2-M16	KNEE BRACE
TB42	a	C-150x75x6.5x10	———	———	GPL-6	———	2-M16	
	b	C-100x50x20x3.2	———	———	GPL-6	———	2-M16	
	c	L-65x65x6	———	———	GPL-6	———	2-M16	
	d	1-M16	———	———	GPL-6	———	1-M16	WITH TURNBACKLE
TB43	a	C-150x75x6.5x10	———	———	GPL-6	———	2-M16	
	b	L-65x65x8	———	———	GPL-6	———	2-M16	KNEE BRACE
TB43A	a	2C-150x75x6.5x10	———	———	GPL-9	———	2-M16	
	b	L-65x65x6	———	———	GPL-6	———	2-M16	KNEE BRACE
TB44	a	2Cs-100x50x20x3.2	———	———	GPL-6	———	2-M16	
	b	2Cs-100x50x20x3.2	———	———	GPL-6	———	2-M16	
	c	L-65x65x8	———	———	GPL-6	———	2-M16	FOR JOINT AT SITE
TB45		C-150x75x6.5x10	———	———	GPL-6	———	2-M16	
V41		L-65x65x8	———	———	GPL-6	———	2-M16	

NOTE C :LIGHT GAGE STEEL CHANEL (SSC400)
SP:SPLICE PLATE
GP:GUSSET PLATE

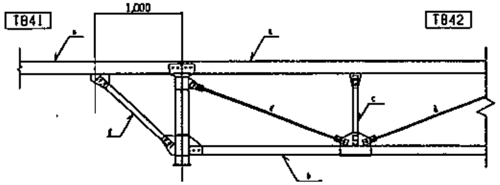
(3) BASE PLATE(S=1/20) NOTE: D, N, =DOUBLE NUTS

MARK	SC41	SC41	SC42		
DIMENSION	DX2 LINE 2-φ18 60 180 60 / 300 150 150 / 300	DX5 LINE SLOT HOLE 2-φ18x40 60 180 60 / 300 150 150 / 300	60 180 60 / 300 75 75 / 150		
BPL	PL-12	PL-12	PL-12		
A, Bolts	2-M16 (L=640 D, N,)	2-M16 (L=640 D, N,)	2-M16 (L=640 D, N,)		

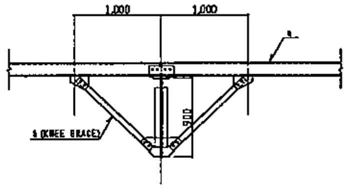
TB41



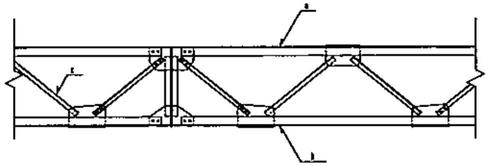
TB41 TB42



TB43

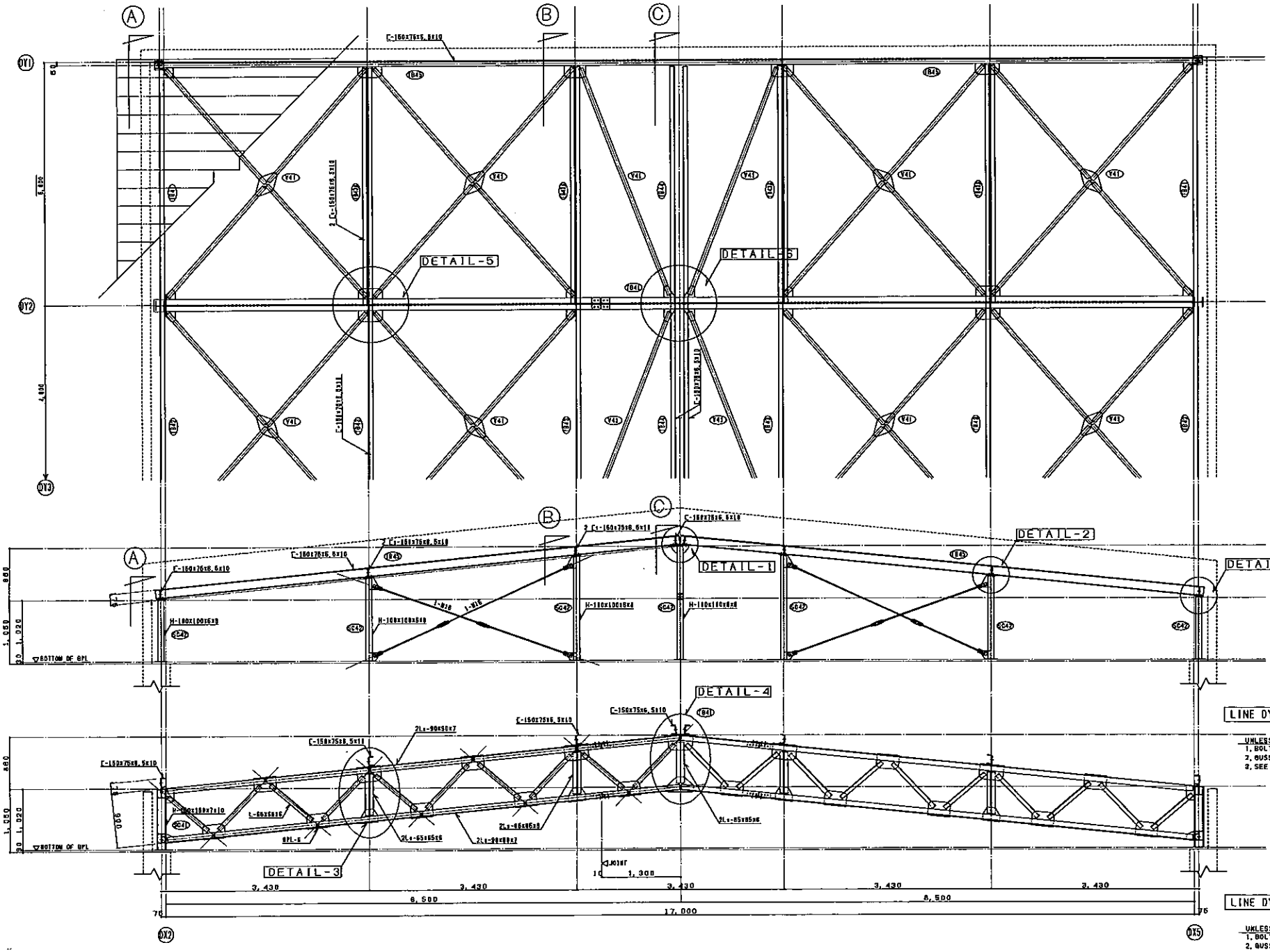


TB44



KTN-86

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME	SCALE	DRAWING TITLE		DATE	NO.
	THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	1:20	STEEL ROOF MEMBER SCHEDULE (SCHOOL HALL)	DRAWN. by CHECKED. by APPROVED. by		S-035



LINE DY1 DETAIL OF ROOF TRUSS 1/30

UNLESS OTHERWISE SPECIFIED
1. BOLTS SHALL BE M18 OF HIGHSTRENGTH BOLT.
2. GUSSET PLATE SHALL BE 6mm THICK.
3. SEE S-034 FOR DETAIL.

LINE DY2 DETAIL OF ROOF TRUSS 1/30

UNLESS OTHERWISE SPECIFIED
1. BOLTS SHALL BE M18 OF HIGHSTRENGTH BOLT.
2. GUSSET PLATE SHALL BE 6mm THICK.
3. SEE S-034 FOR DETAIL.

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:30	DRAWING TITLE: STEEL ROOF TRUSS DETAIL-1 (SCHOOL HALL)	DRAWN, by / CHECKED, by / APPROVED, by	DATE	NO. S-036

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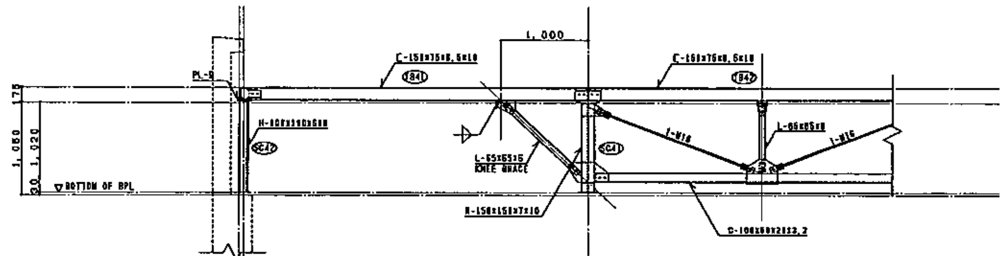
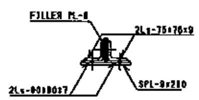
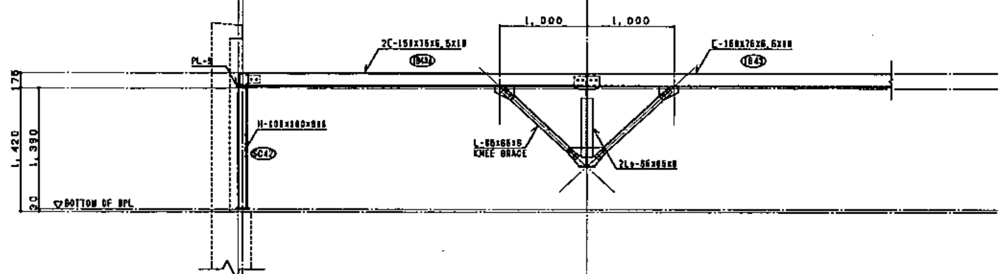


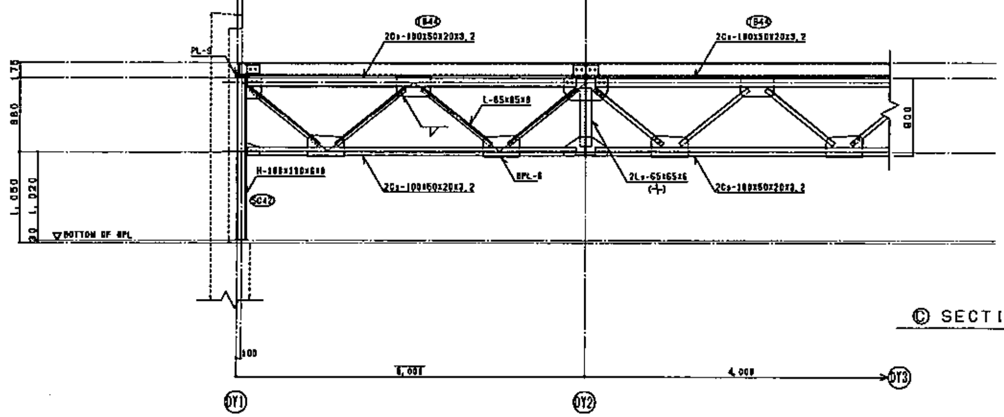
Ⓐ SECTION 1/30



Ⓓ SECTION 1/10



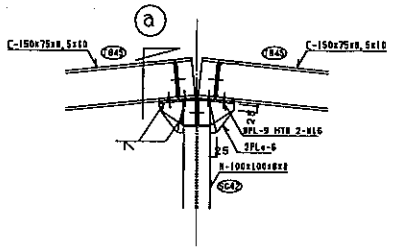
Ⓑ SECTION 1/30



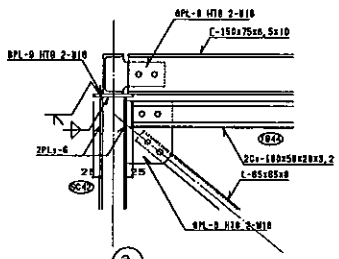
Ⓒ SECTION 1/30

KTN-88

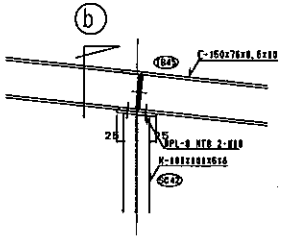
MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:10 / 1:30	DRAWING TITLE: STEEL ROOF TRUSS DETAIL-2 (SCHOOL HALL)	DRAWN. by / CHECKED. by / APPROVED. by	DATE	NO. S-037



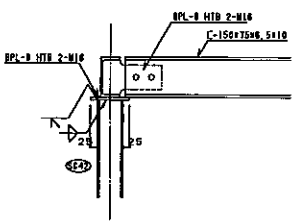
DETAIL-1 1/10



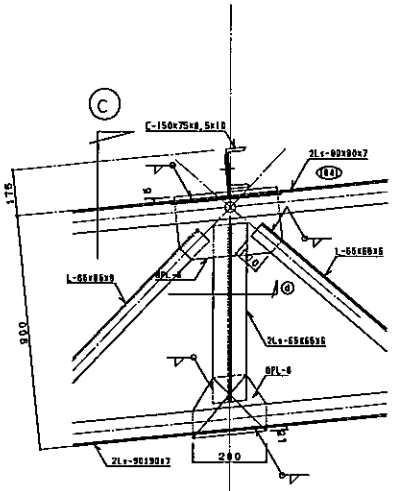
a SECTION 1/10



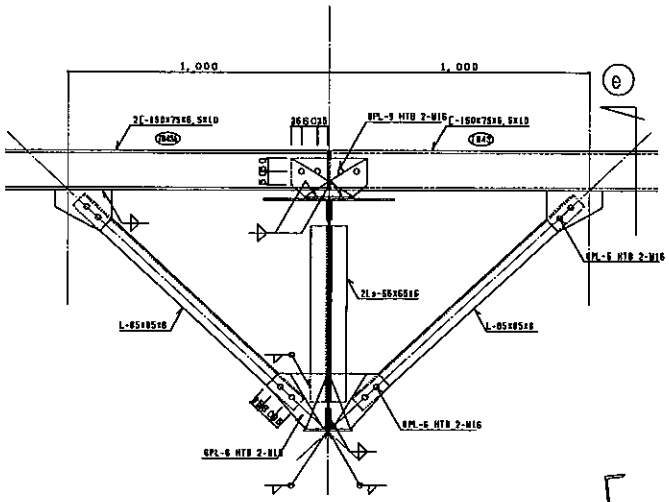
DETAIL-2 1/10



b SECTION 1/10

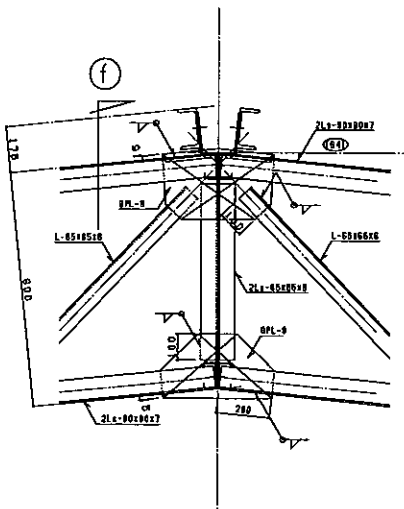


DETAIL-3 1/10

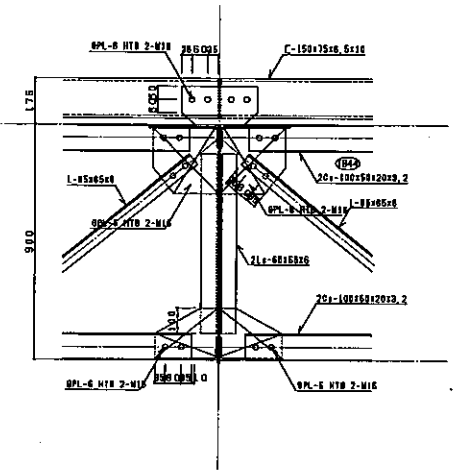


c SECTION 1/10

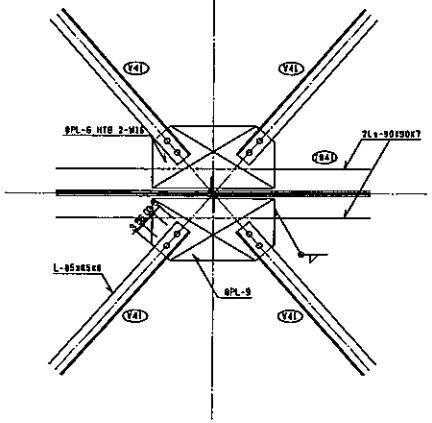
e SECTION 1/10



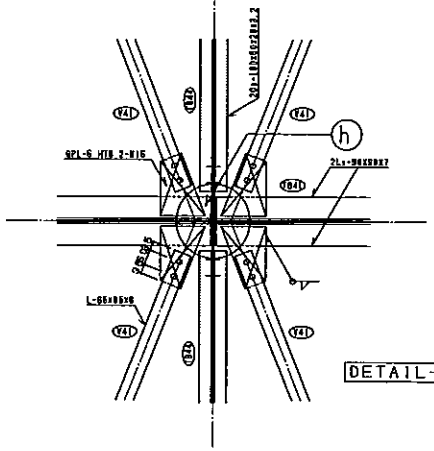
DETAIL-4 1/10



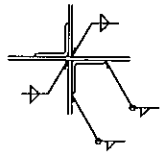
f SECTION 1/10



DETAIL-5 1/10



DETAIL-6 1/10

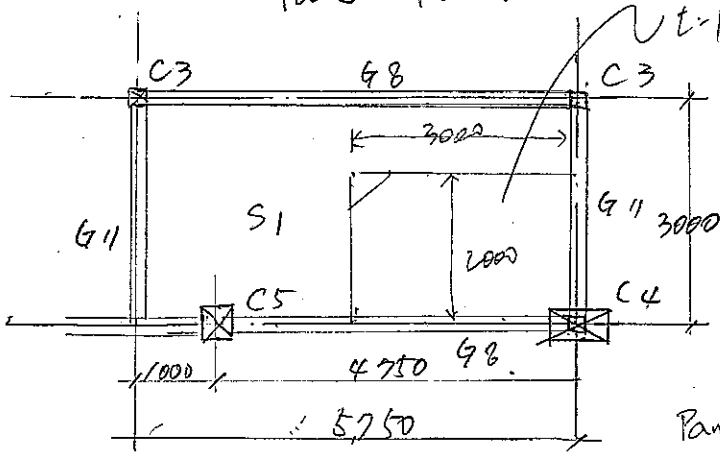


h SECTION 1/5

MOHRI, ARCHITECT & ASSOCIATES, INC.	PROJECT NAME: THE PROJECT FOR CONSTRUCTION OF THE SECOND GIRLS SECONDARY SCHOOL IN MALE' IN THE REPUBLIC OF MALDIVES	SCALE 1:5 / 1:10	DRAWING TITLE: STEEL ROOF TRUSS DETAIL-3 (SCHOOL HALL)	DRAWN, by / CHECKED, by / APPROVED, by	DATE	NO. S-038

4. Kalaafaanu School

Panel Foundation



Panel self weight

20 kN

Foundation h=120 $2.88\ kN/m \times 3 \times 2 = 17.4$

Panel 20

37.4

$37.4 / 5.75 \times 3 = 2.17\ kN/m$

SLAB t=120 $2.9\ kN/m$

water proof $1.0\ kN/m$

Total $6.1\ kN/m$

for support slab. confirmation

$M_{x1} = 0.078 \times \overset{w}{6.1} \times \overset{l}{3.0^2} = 4.3\ kNm$

$M_{x2} = 0.052 \times$ 〃 $= 2.9$

$M_{y1} = 0.048 \times$ 〃 $= 2.7$

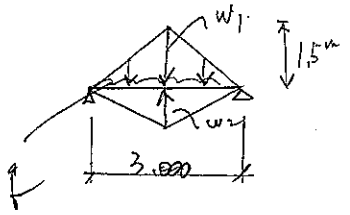
$Q = 0.52 \times 6.1 \times 3 = 9.6\ kN$

t=120 d=90 $\phi = 78.75$ $ft = 196$

$at_x = 4.3 \times 10^6 / (196 \times 78.75) = 279\ mm^2$ D10@200 $71.3 \times 5 = 356$

$at_y = 2.7 \times 10^6 / (196 \times 70) = 197\ mm^2$ 〃

$\tau = 9.6 \times 10^3 / 1000 \times 78.75 = 0.13 < 0.7$ OK



$w_1 = (20/6 + 2.88) \times 1.5 = 9.32\ kN/m$ (Panel)

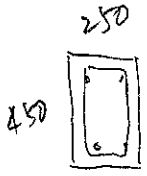
$w_2 = (2.9 + 1.0) \times 1.5 \times 2 = 11.7\ kN/m$

$g = 0.25 \times (0.45 - 0.12) \times 24 = 2.0\ kN/m$

$M_c = 1/12 \times 21.02 \times 3.0^2 + 1/8 \times 2.0 \times 3.0^2 = 18.1\ kNm$

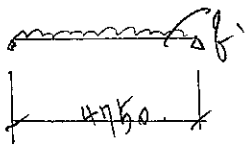
$Q = 1/4 \times 21.02 \times 3.0 + 1/2 \times 2.0 \times 3.0 = 18.8\ kN$

(G11) 250×450 $d = 400$ $j = 350$



$at = \frac{18.1 \times 10^6}{215 \times 350} = 241\ mm^2$ → 2-D19 ($573\ mm^2$) OK

$\tau = \frac{18.8 \times 10^3}{250 \times 350} = 0.22 < 0.7$ OK

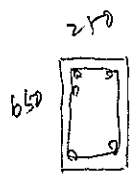


$g_1 = 6.1\ kN/m^2 \times 1.5^m + 0.25 \times (0.65 - 0.12) \times 24 = 12.4\ kN/m$

$M = 1/8 \times 12.4 \times 4.75^2 = 35\ kNm$

$Q = 1/2 \times 12.4 \times 4.75 = 30\ kN$

(G8) 250×650 $d = 600$ $j = 525$



$at = \frac{35 \times 10^6}{215 \times 525} = 311\ mm^2$ 2-D22 ($774\ mm^2$) OK

$\tau = \frac{30 \times 10^3}{250 \times 525} = 0.23 < 0.7$

Auxial Force.

$P_1 = 12^{kN/m^2} \times 2.25^m \times 5.75^m + 6.1^{kN/m} \times 1.5^m \times 2.9^m = 181.8$

$P_2 = 12^{kN/m^2} \times 1.5^m \times 5.35^m +$ 〃 $+ 3.5 \times 17 \times 10 \times 1/4 = 279$

$P_3 = 12^{kN/m^2} \times (1.5^m \times 5.0^m + 2.0 \times 2.5) + 6.1 \times 5.75 \times 1/2 \times 1.5$

$+ 3.5 \times 17 \times 10 \times 1/4 \quad = 325.1$

$P_4 = 12 \times 2.0 \times 5.75 \times 1/2 + 12 \times 2.5 \times 5.75 \times 1/2 + 6.1 \times 5.75 \times 1/2 \times 1.5$

$= 173.0$

$P1 \rightarrow F4$

$181.8 / (1.5 \times 1.5) = 81^{kN/m^2}$

$P2 \rightarrow F5$

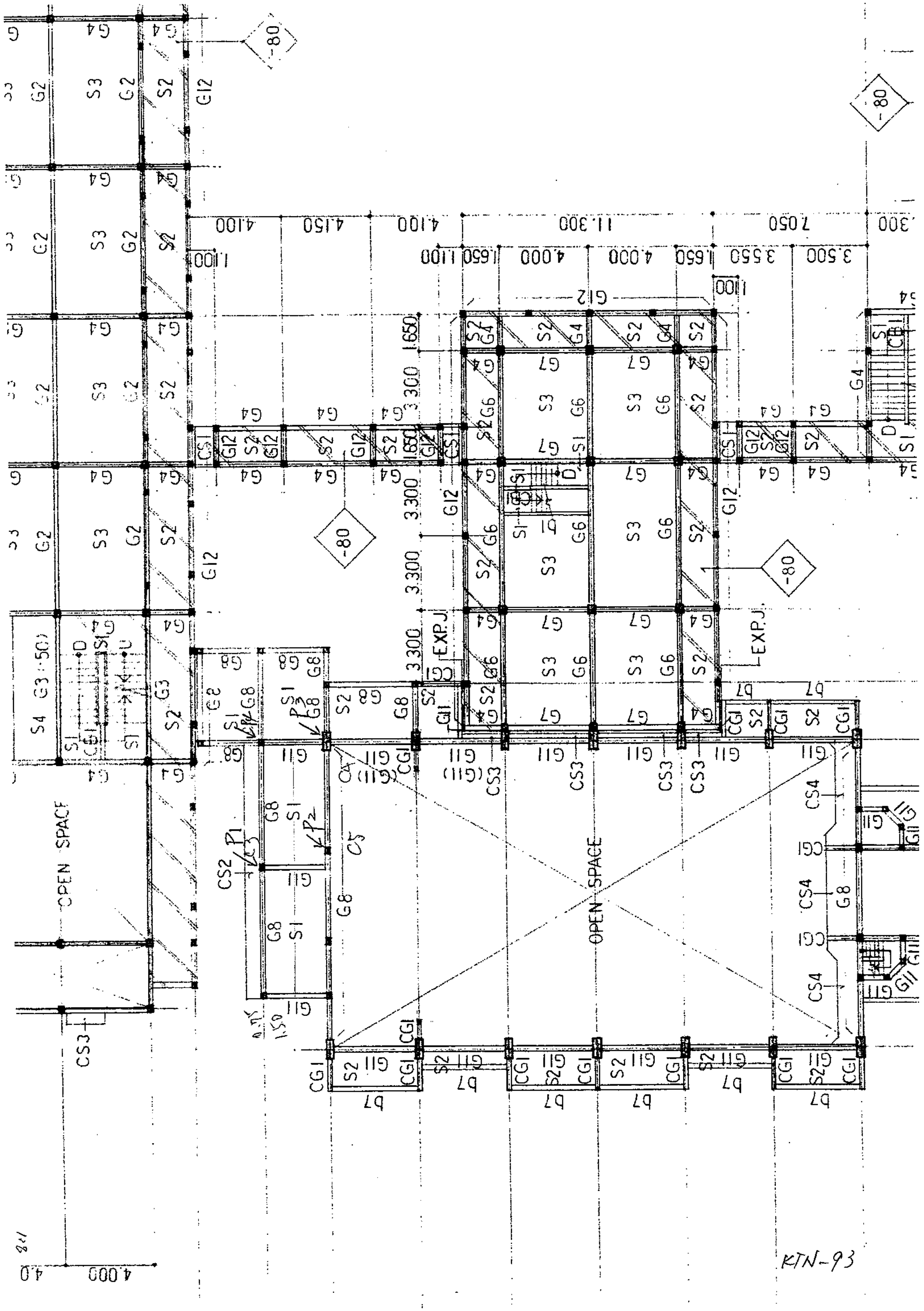
$279 / (2.6 \times 2.6) = 42^{kN/m^2}$

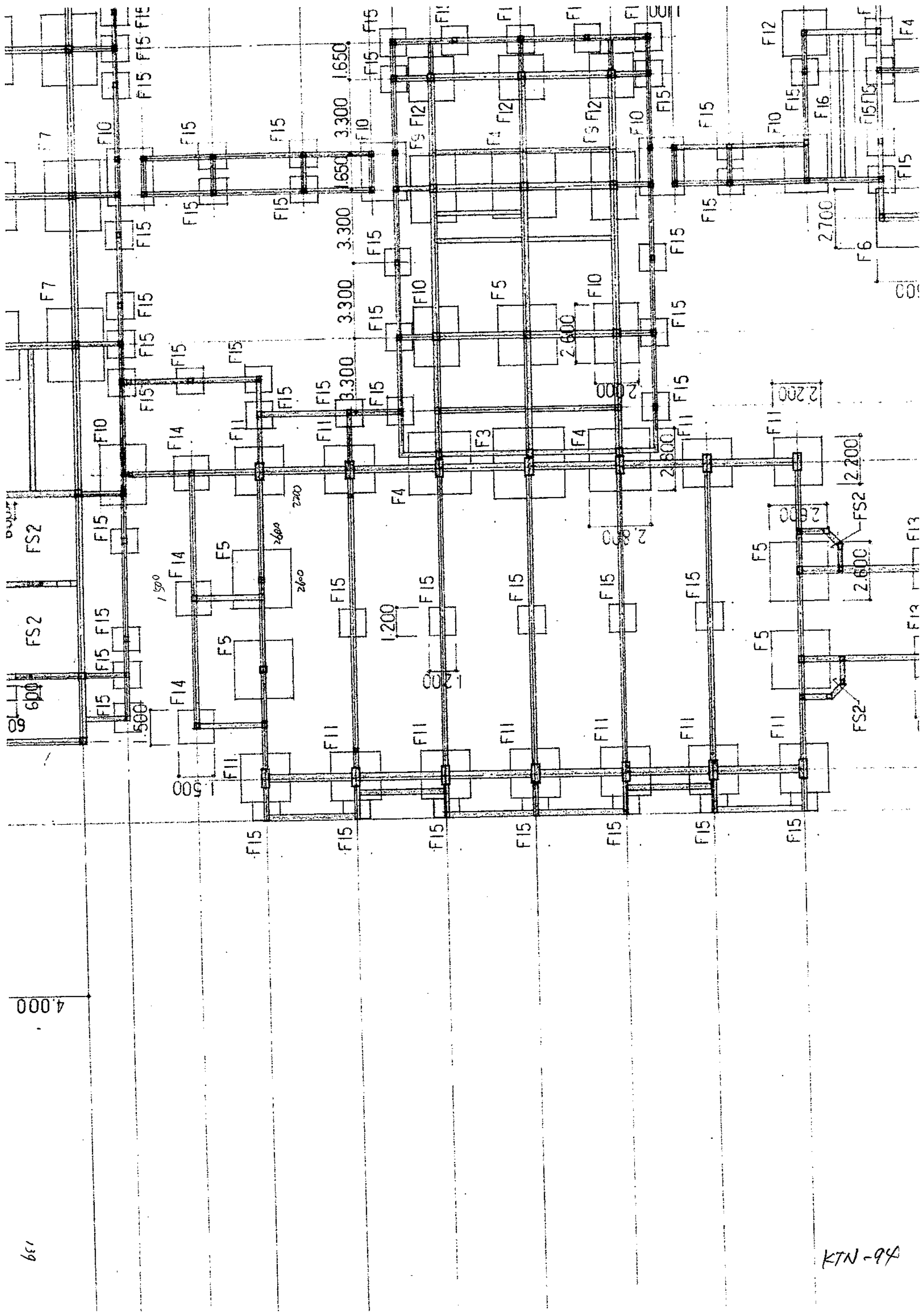
$P3 \rightarrow F11$

$325.1 / (2.2 \times 2.2) = 68^{kN/m^2}$

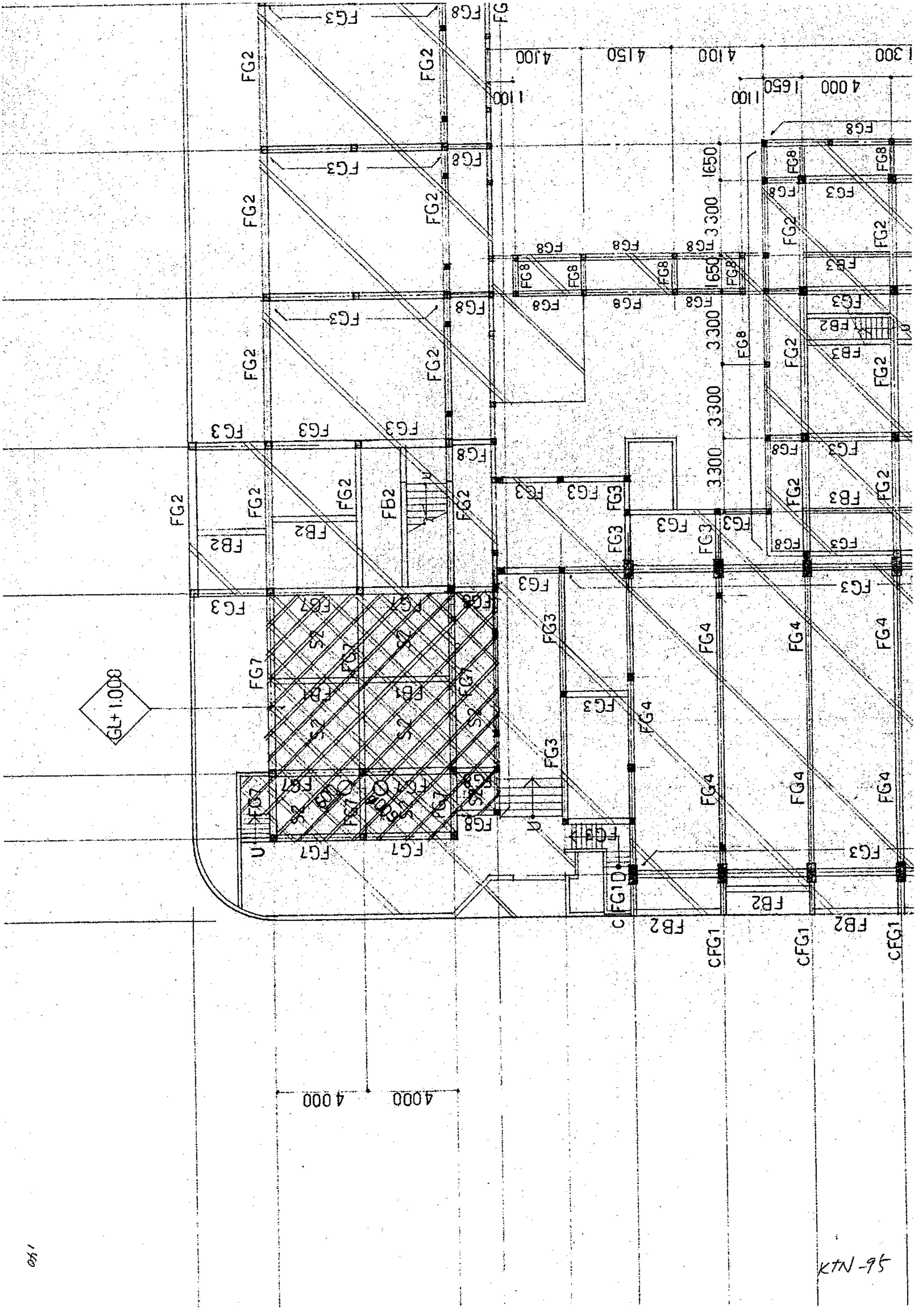
$P4 \rightarrow F14$

$173 / (1.5 \times 1.5) = 77^{kN/m^2}$

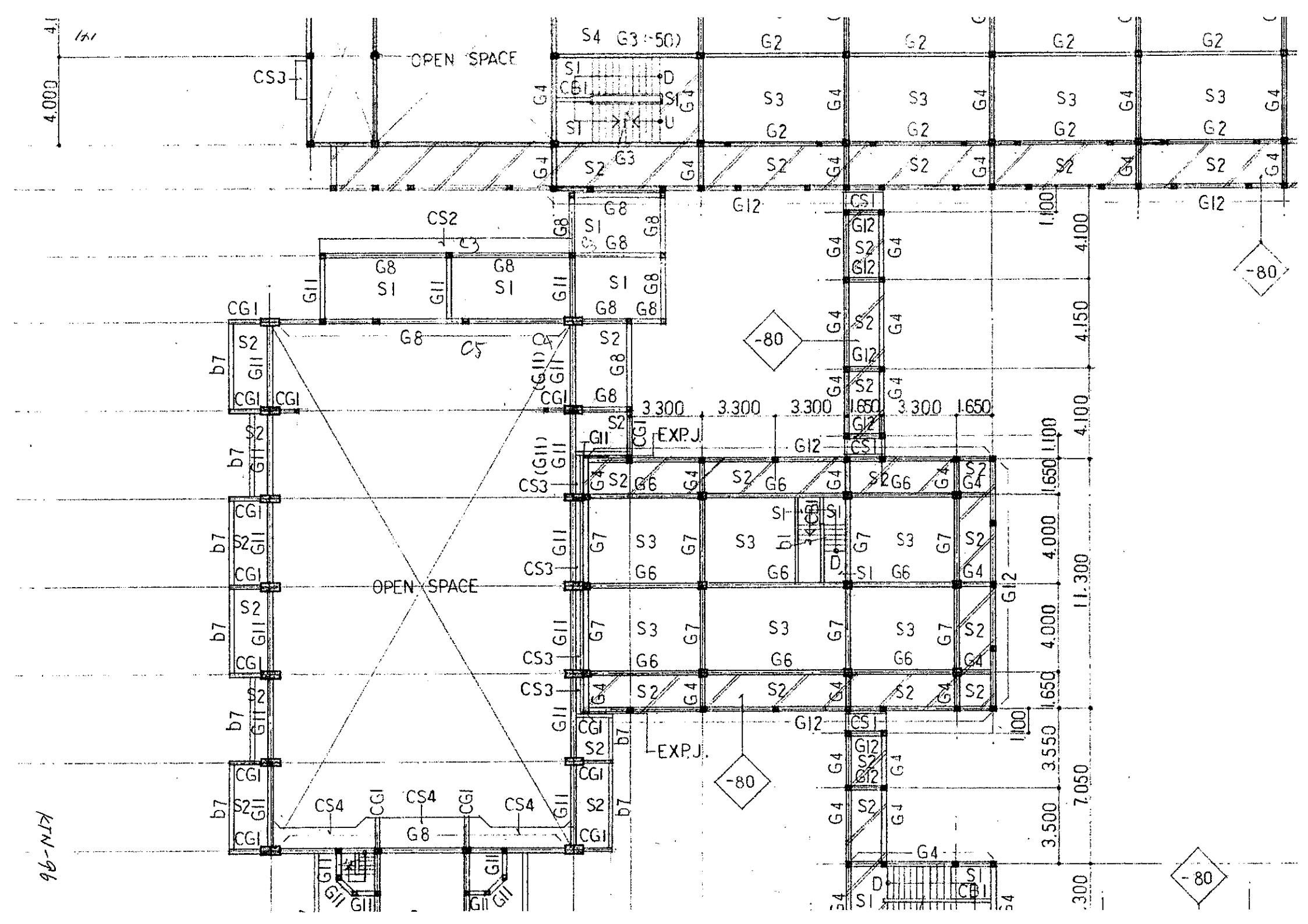

OPEN SPACE
OPEN SPACE
EXP.J
EXP.J
-80
-80
-80
-80
11.300
7.050
4.100
4.150
4.100
4.000
4.000
3.550
3.500
1.650
1.100
3.300
3.300
3.300
3.300
G12
CS2
CS3
CS4
KTN-93


F15
F11
F14
F5
F10
F12
F3
F4
F7
FS2
3.300
1.650
2.600
2.200
2.800
1.200
1.500
4.000

KTN-94



GL+1.000
4 000
4 100
4 150
3 300
1 650
1 100
KTN-95


OPEN SPACE
OPEN SPACE
EXP.J
EXP.J
-80
-80
-80
-80
CS1
CS2
CS3
CS4
CS5
G1
G2
G3
G4
G5
G6
G7
G8
G11
G12
S1
S2
S3
S4
CG1
b1
b7
3.300
3.300
3.300
1.650
3.300
1.650
4.100
1.100
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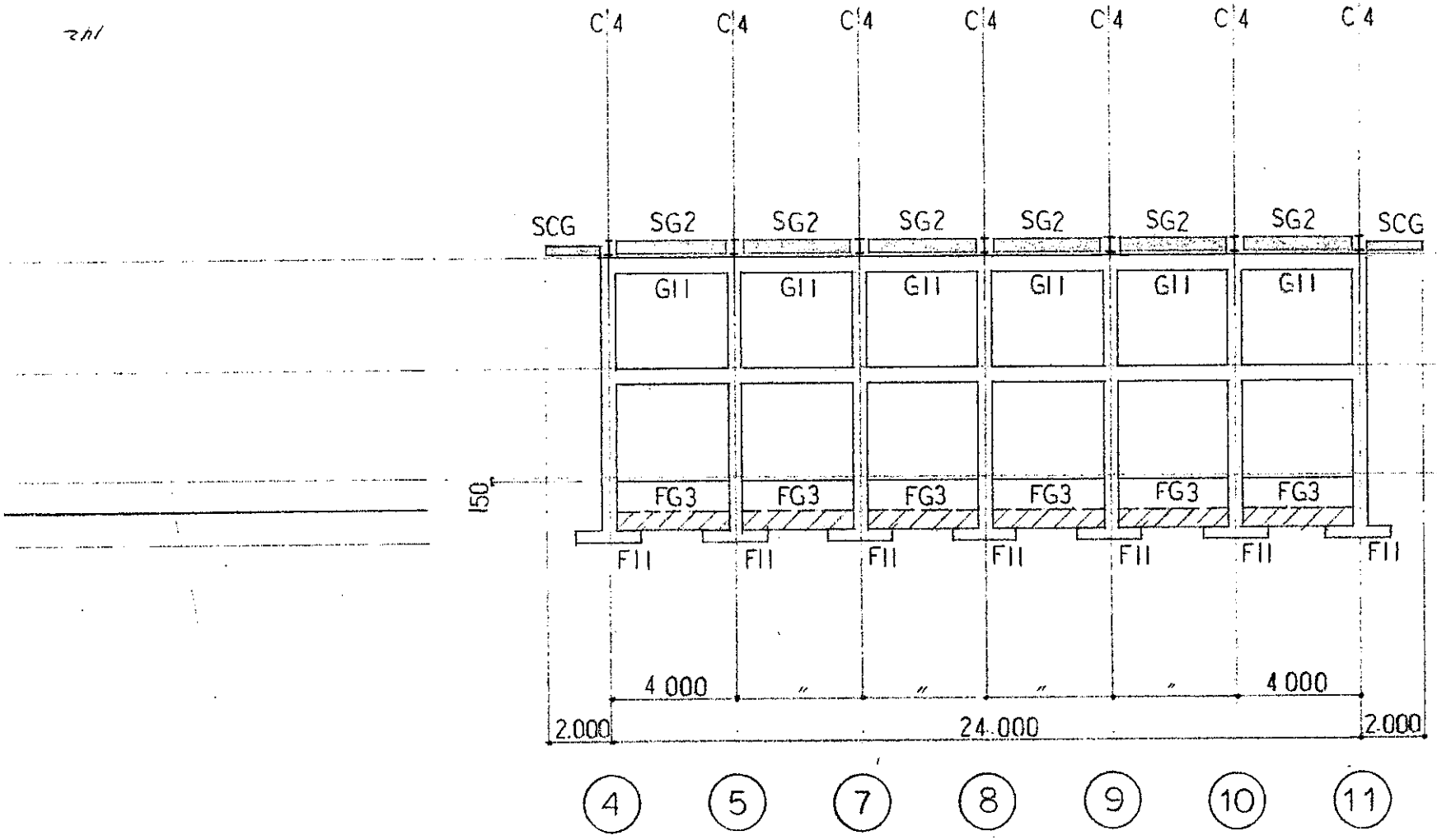
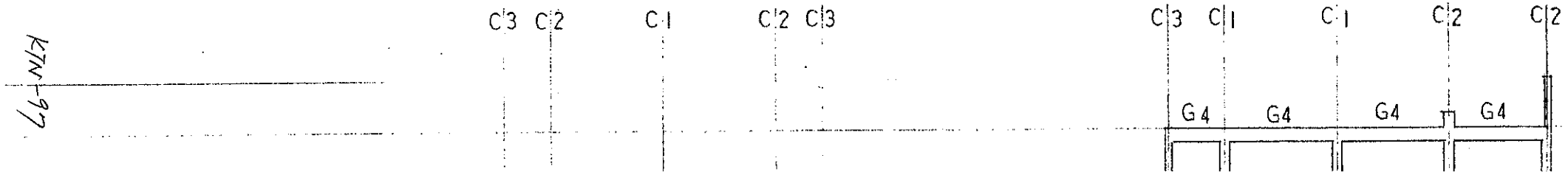
1.650
1.100
3.550
7.050
3.500
4.000

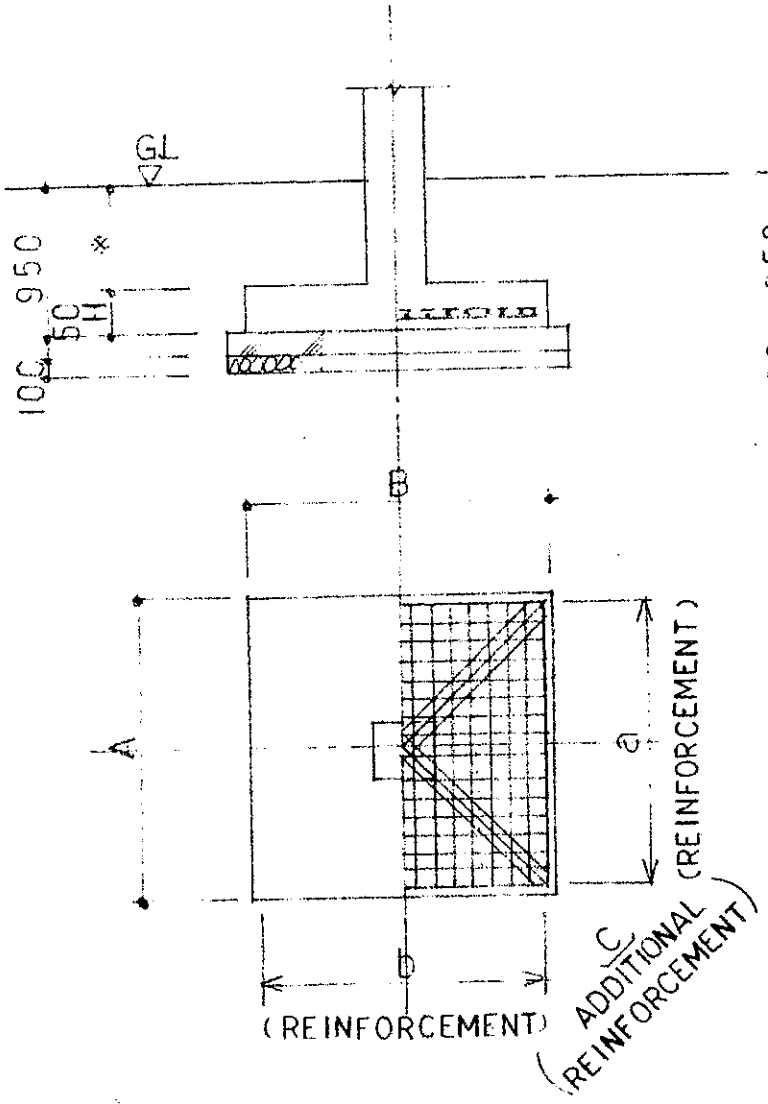


A - FRAMING ELEVATION S = 1:200

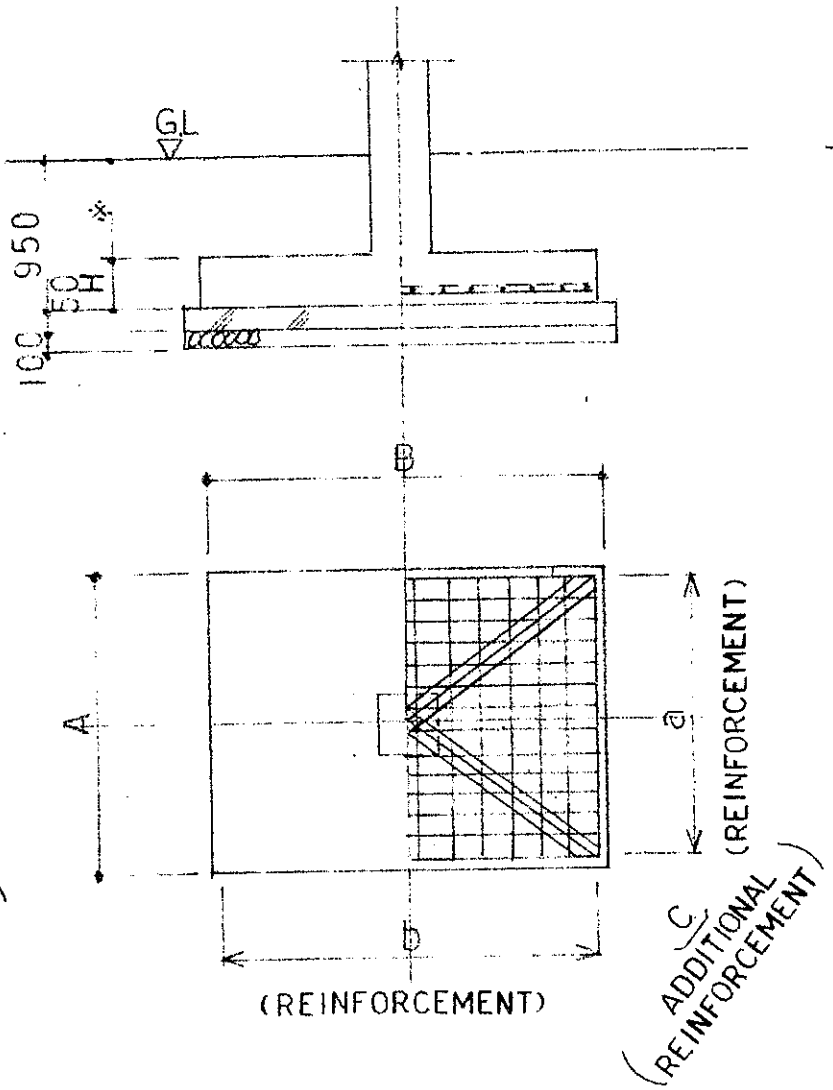


NUMBER	A	B	H	a	b
F1	3,800	3,800	500	20 – D19	20 – D19
F2	3,300	3,300	500	17 – D19	17 – D19
F3	3,100	3,100	500	16 – D19	16 – D19
F4	2,800	2,800	400	14 – D19	14 – D19
F5	2,600	2,600	400	13 – D16	13 – D16
F6	2,700	4,500	500	16 – D22	22 – D16
F7	2500	3,200	400	12 – D19	16 – D16
F8	2,000	3,500	400	12 – D19	18 – D16
F9	2,000	3,000	350	16 – D16	16 – D16
F10	2,000	2,600	350	14 – D16	14 – D16
F11	2,200	2,200	300	12 – D16	12 – D16
F12	2,000	2,000	300	12 – D16	12 – D16
F13	1,800	1,800	300	11 – D16	11 – D16
F14	1,500	1,500	250	8 – D13	8 – D13
F15	1,200	1,200	250	7 – D13	7 – D13
F16	1,100	6,600	250	10 – D16	D13 @ 200

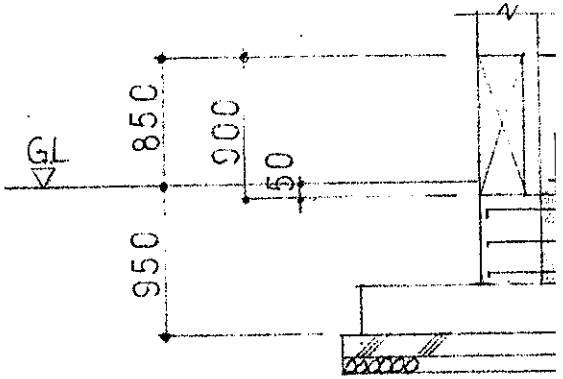
SQUARE FOOTING



RECTANGULAR FOOTING



ADDITIONAL C



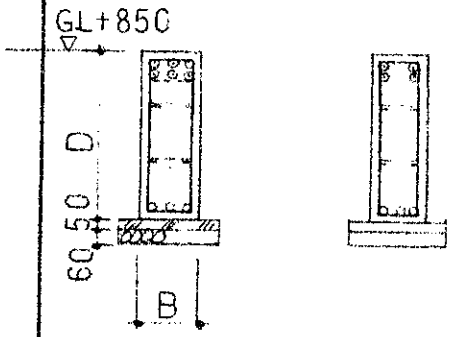
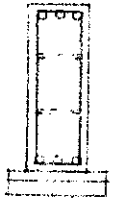
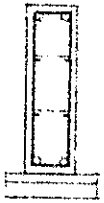
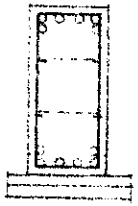
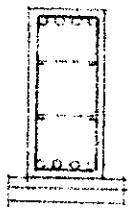
541

SPECIAL MENTION MATTER

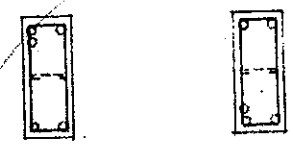
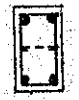
STIRRUP	: □ D10 @ 200
WEB REINFORCEMENT	: 4 – D10
SPACING BAR	: ⟷ D10 @ 1,000

UNDERGROUND GIRDER LIST

S = 1 : 40

NUMBER	FG1		FG2	FG3 · FB2	FG4	
POSITION	OE	C.IE	E.C	E.C	OE	C.IE
SECTION						
B X D	300 x 900		300 x 900	250 x 900	400 x 900	
MAIN REINFORCEMENT	D25·D22		D22	D22	D22	
TOP BAR	6 – D25	4 – D25	3	2	6	4
BOTTOM BAR	3 – D22	3 – D22	3	2	6	4
STIRRUP	□ – D13 @ 200				□ – D13 @ 200	
SPACING BAR						

HTN – 100

4 2	3 4	3 3	2	2
	□ – D10 @150			
				
250 x 500	250 x 550	250 x 650		200 x 300
D22	D22	D22		D16
4 2	5 3	5 3		2
4 2	5 3	5 4		2
□ – D10@150 □ – D10@200	□ – D10 @150			
1				
				
250 x 650	250 x 650	250 x 550	250 x 450	200 x 300
D22	D22	D22	D19	D16
3 2	3 3	3 3	2	2
2 3	3 3	3 3	2	2
	□ – D10@150 □ – D10@200			

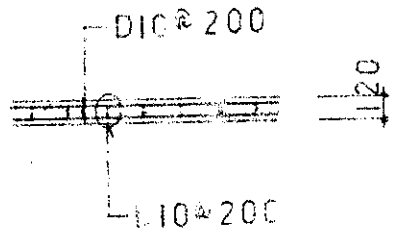
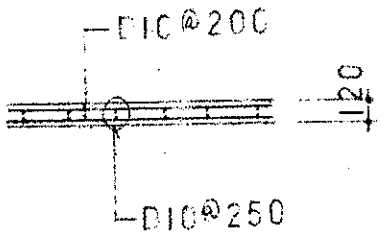
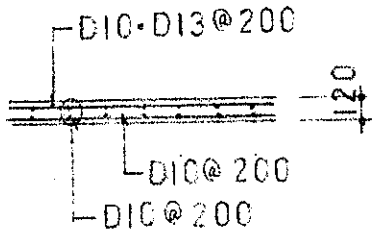
2FLOOR

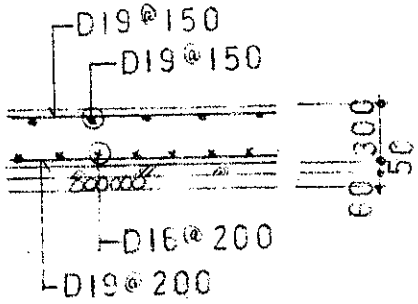
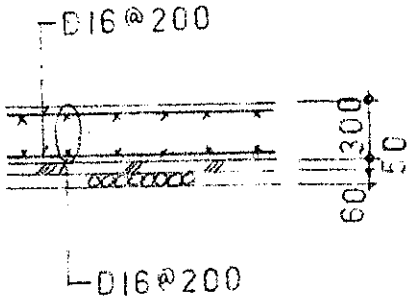
G8

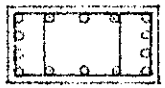
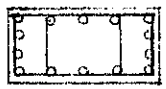
G11

SLAB LIST

S = 1 : 40

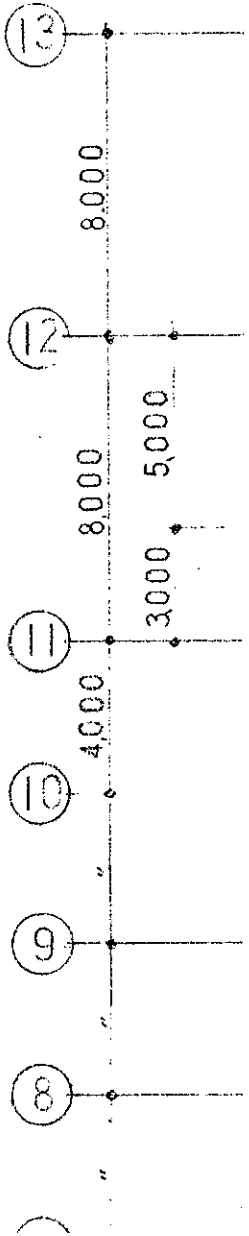
NUMBER	S1	S2	S3
DIRECTION	SHORT DIRECTION	SHORT DIRECTION	SHORT DIRECTION
SECTION			

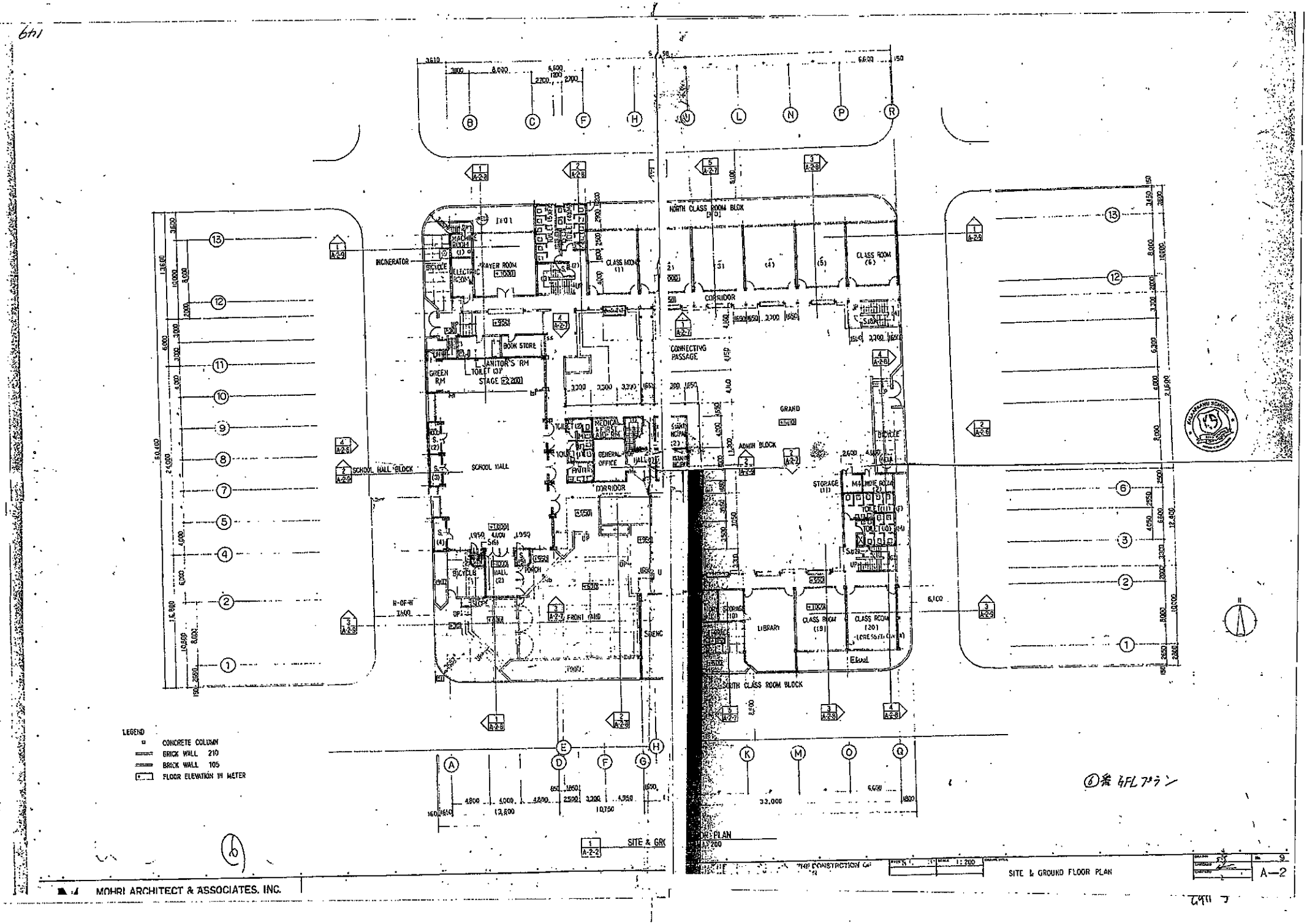
NUMBER	FS1	FS2	
DIRECTION	SHORT DIRECTION	SHORT DIRECTION	SHORT DIRECTION
SECTION			

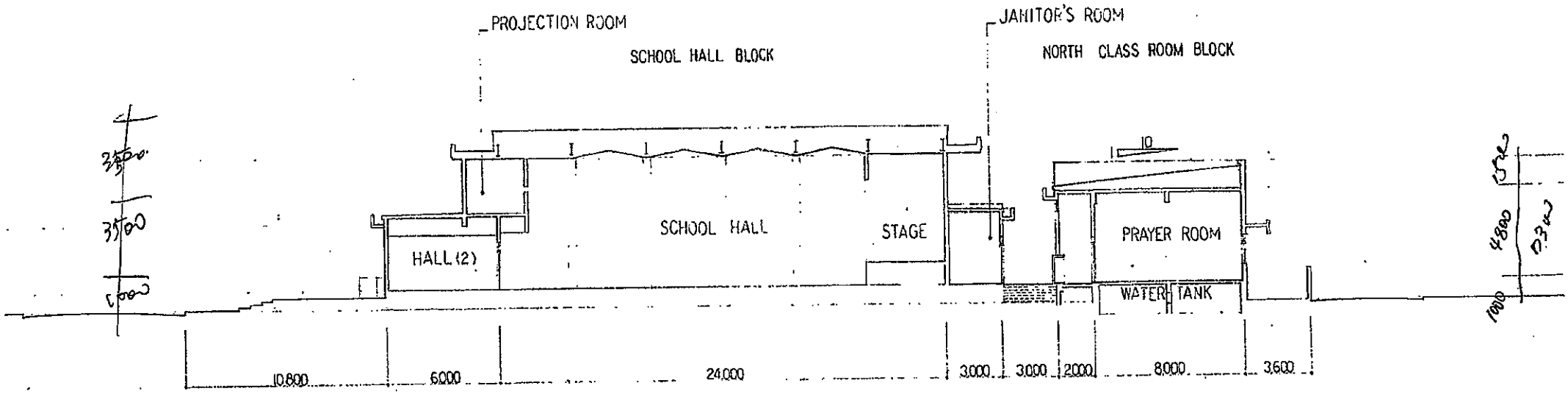
00 RM	300 x 300	200 x 200			
-D13	°4-D22 ×4-D16	4-D13			
150	□-D6@150	□-D6@100			
600	◇-D6@600				
					
00	300 x 300	200 x 200	400 x 800	400 x 400	
-D16	°4-D22 °4-D19	4-D13	14-D22	°4-D22 •4-D19	
150	□-D6@150	□-D6@100	⊞-D10@200		
600	◇-D6@600			◇-D6@600	
1Flow					
00	300 x 300	200 x 200	400 x 800	400 x 400	
-D16	°4-D22 °4-D19	4-D16	14-D22	°4-D22 •4-D19	
50	□-D6@150	□-D6@150	⊞-D10@200		
00	◇-D6@600			◇-D6@600	

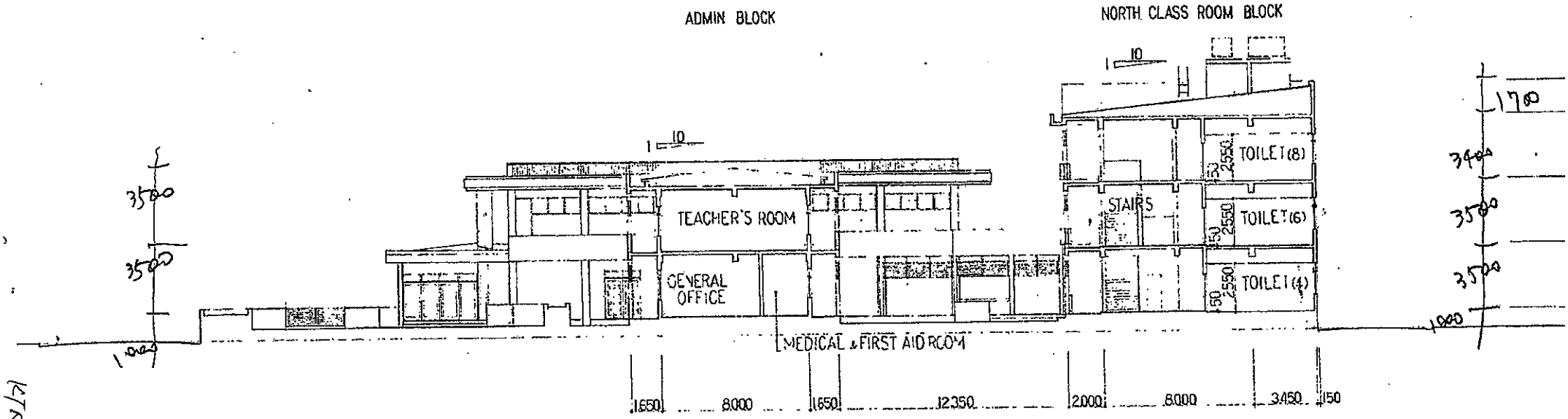
KEN-03

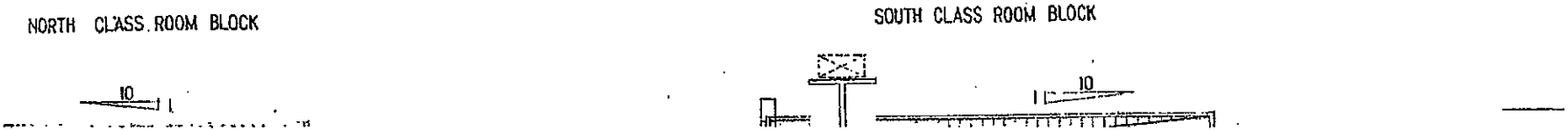
C3 C4 C5




NORTH CLASS ROOM BLOK
CLASS ROOM (6)
CORRIDOR
CONNECTING PASSAGE
GRAND
ADMIN BLOCK
INCINERATOR
BICYCLE
ELECTRIC ROOM
PRAYER ROOM
BOOK STORE
JANITOR'S RM
TOILET (F)
STAGE
GREEN RM
SCHOOL HALL BLOCK
SCHOOL HALL
GENERAL OFFICE
MEDICAL
CORRIDOR
PORCH
FRONT GATE
R-OF-W
STORAGE
LIBRARY
CLASS ROOM (19)
CLASS ROOM (20)
SOUTH CLASS ROOM BLOCK
LEGEND
CONCRETE COLUMN
BRICK WALL 210
BRICK WALL 105
FLOOR ELEVATION IN METER
SITE & GR
SITE & GROUND FLOOR PLAN
1:200
A-2
MOHRI ARCHITECT & ASSOCIATES, INC.


PROJECTION ROOM
SCHOOL HALL BLOCK
JANITOR'S ROOM
NORTH CLASS ROOM BLOCK
HALL (2)
SCHOOL HALL
STAGE
PRAYER ROOM
WATER TANK
10,800
6000
24,000
3,000
3,000
2000
8,000
3,600


ADMIN BLOCK
NORTH CLASS ROOM BLOCK
TEACHER'S ROOM
GENERAL OFFICE
MEDICAL & FIRST AID ROOM
STAIRS
TOILET (8)
TOILET (6)
TOILET (4)
1650
8,000
1650
12350
2,000
8,000
3,450
150


NORTH CLASS ROOM BLOCK
SOUTH CLASS ROOM BLOCK

No. 7.

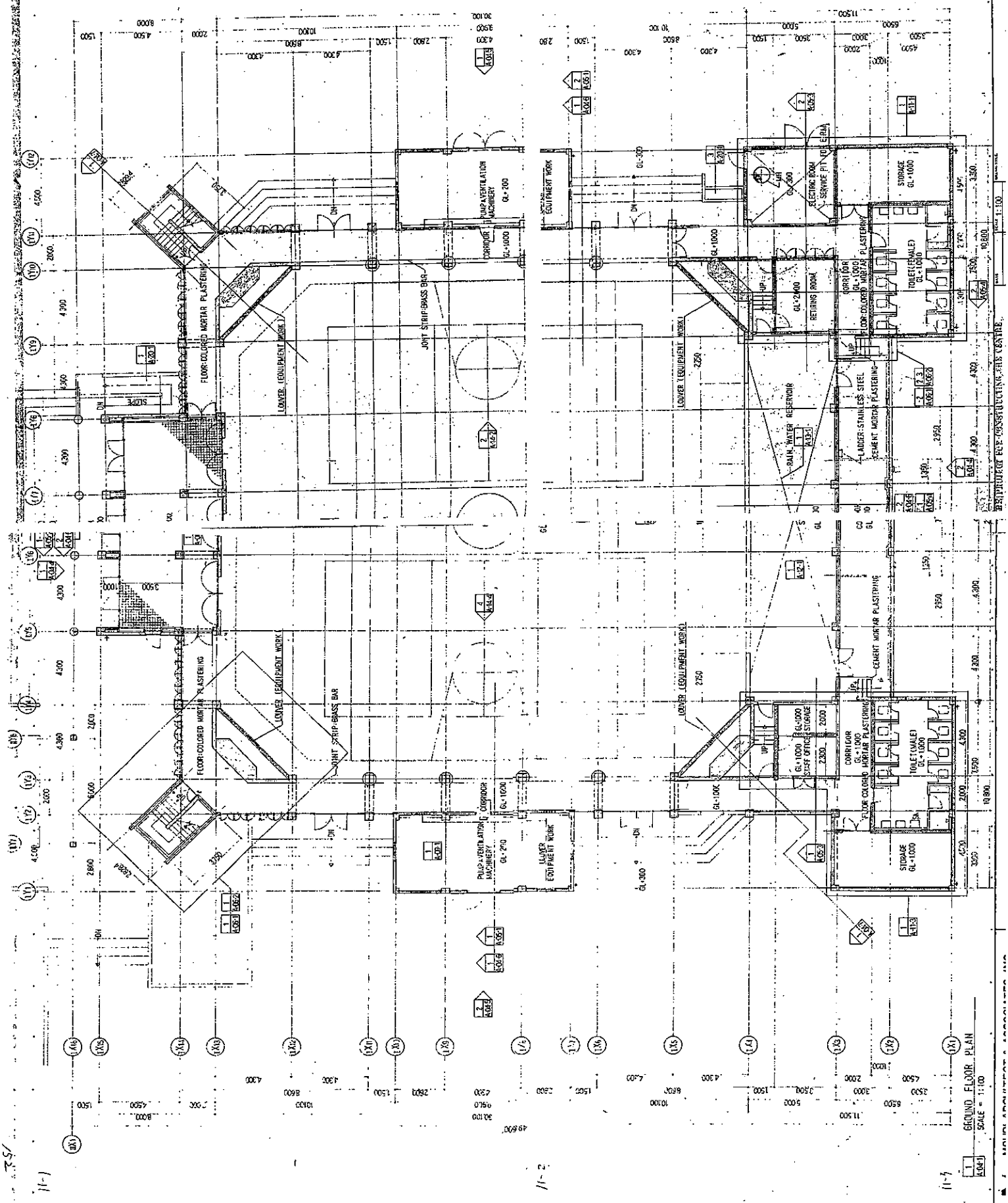
Center for Social Education

- PV panel and support frame : Weight is 0.5kN/㎡
- Sub beam and Truss are confirmed with the existen member.
- There is no problem in the safety because additional weight is 0.5kN/㎡ with the main structure member.

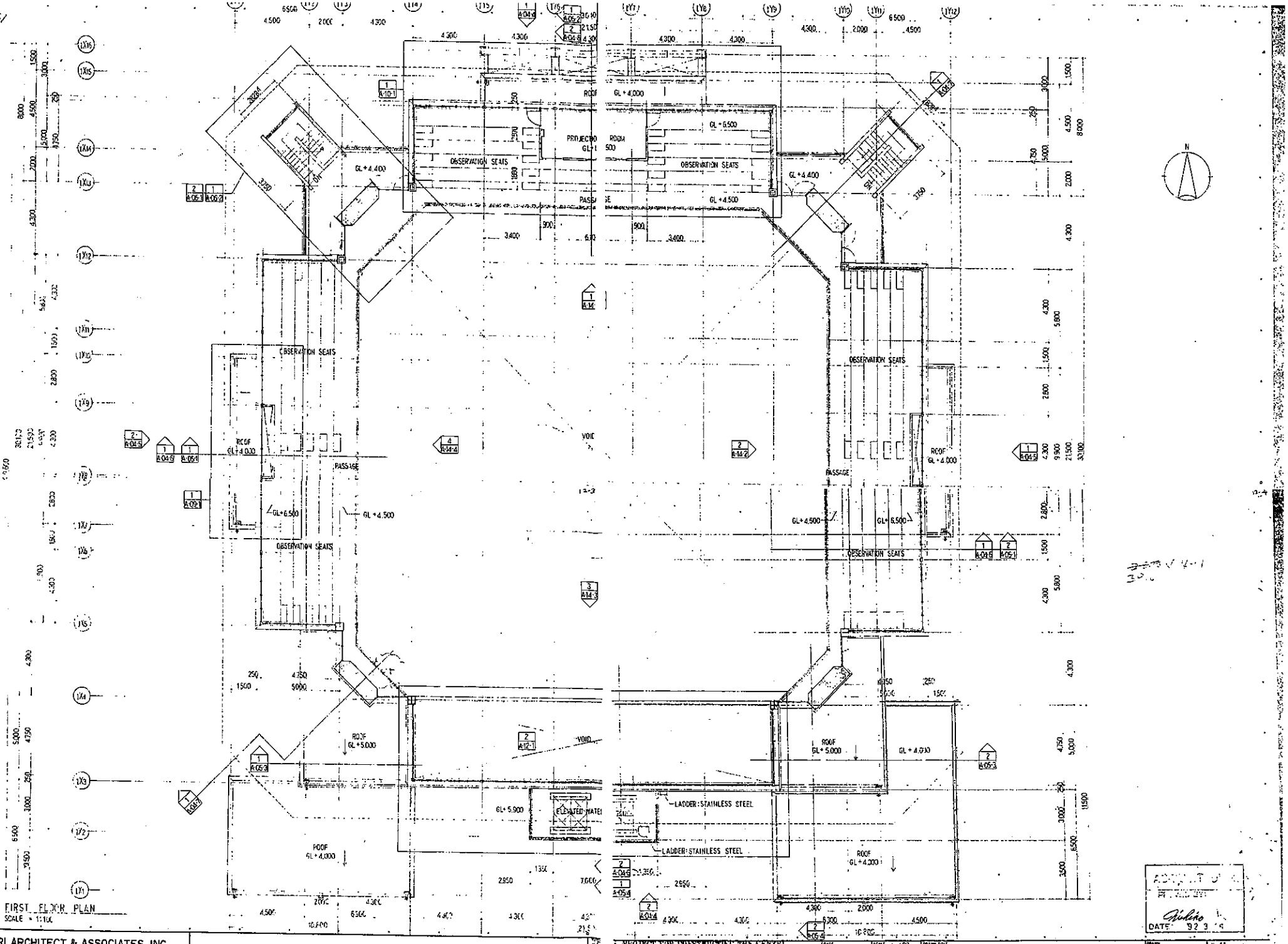
Examination of the existent Building

1. As-Build DWG.

GFL Plan



SC-1



FIRST FLOOR PLAN
SCALE = 1:100

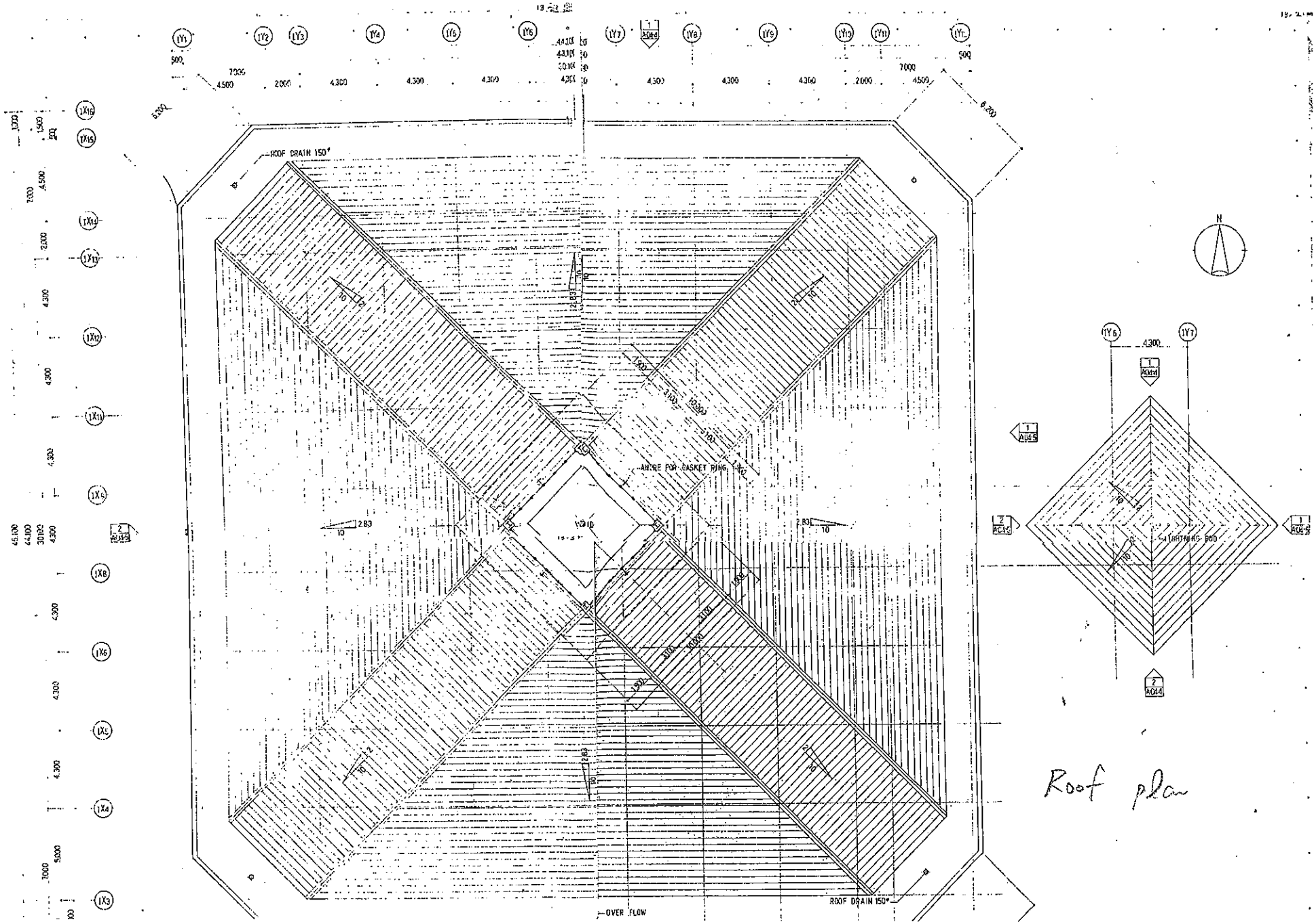
MOHRI ARCHITECT & ASSOCIATES, INC.
3-2-17, KYOBASHI CHUO-KU, TOKYO, JAPAN

PROJECT FOR CONSTRUCTING THE CENTRE
SOCIAL EDUCATION IN THE REPUBLIC OF MALDIVES

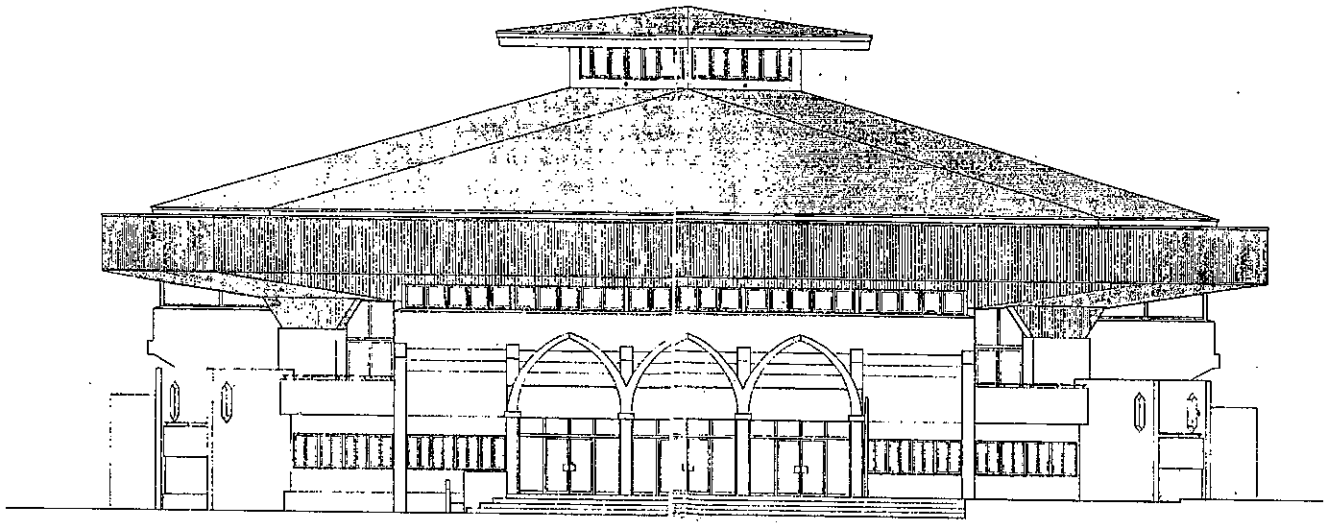
SCALE 1:100

FIRST FLOOR PLAN

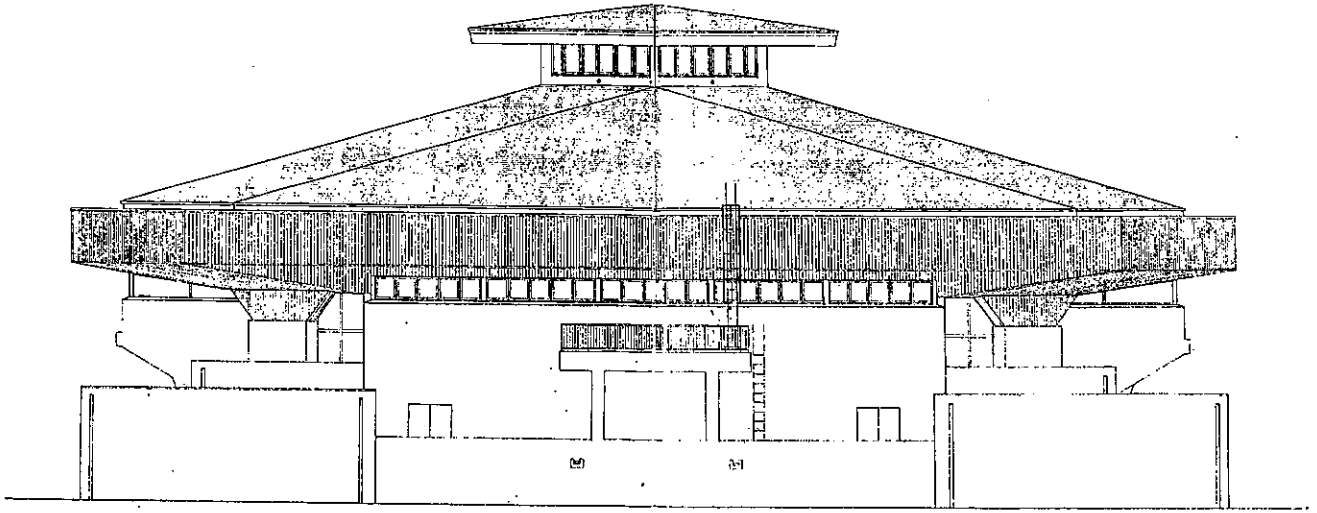
DRAWING NO. A—04—2


ROOF DRAIN 150φ
ROOF DRAIN 150φ
OVER FLOW
ANCHOR FOR GASKET RING
LIGHTNING ROD
N

Roof plan

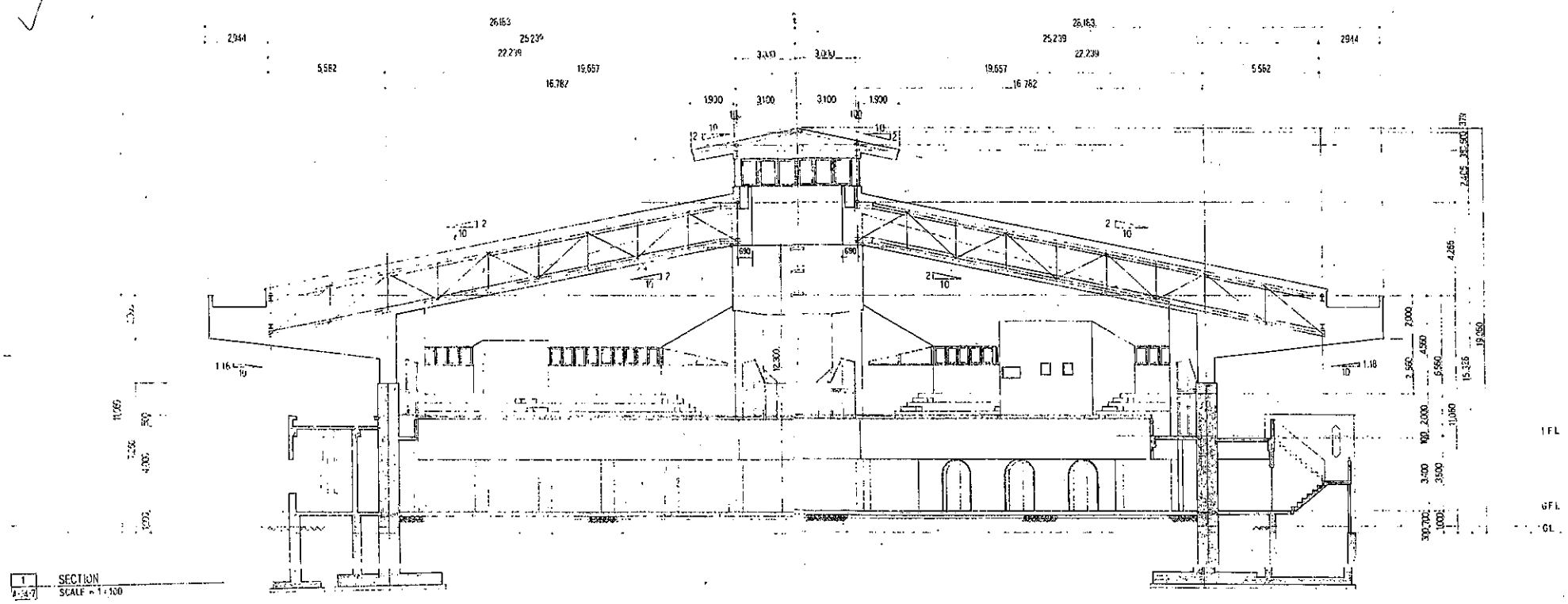


1 / A-04-4 NORTH ELEVATION
SCALE 1:100



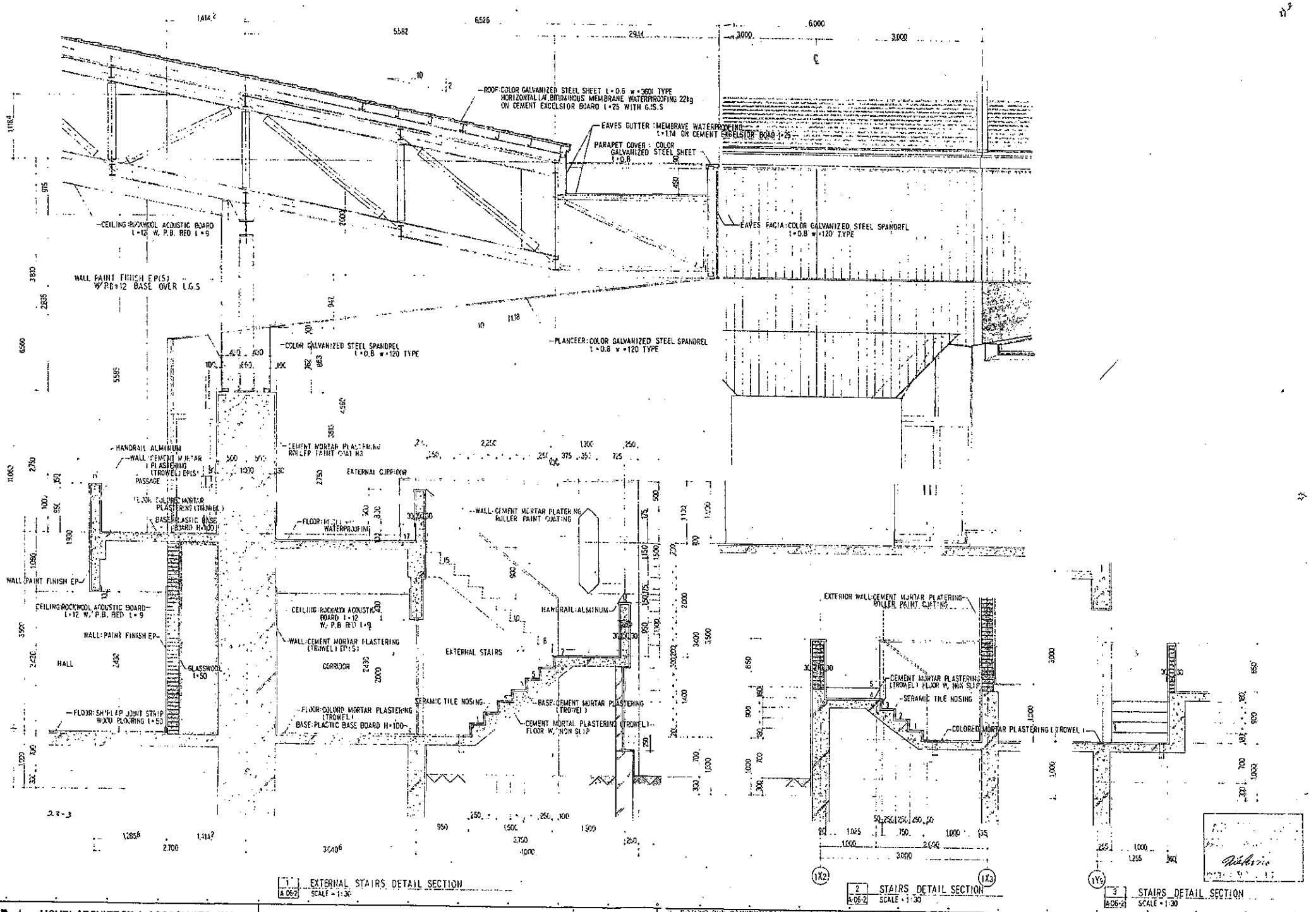
2 / A-04-4 SOUTH ELEVATION
SCALE 1:100

951



Section

S-35

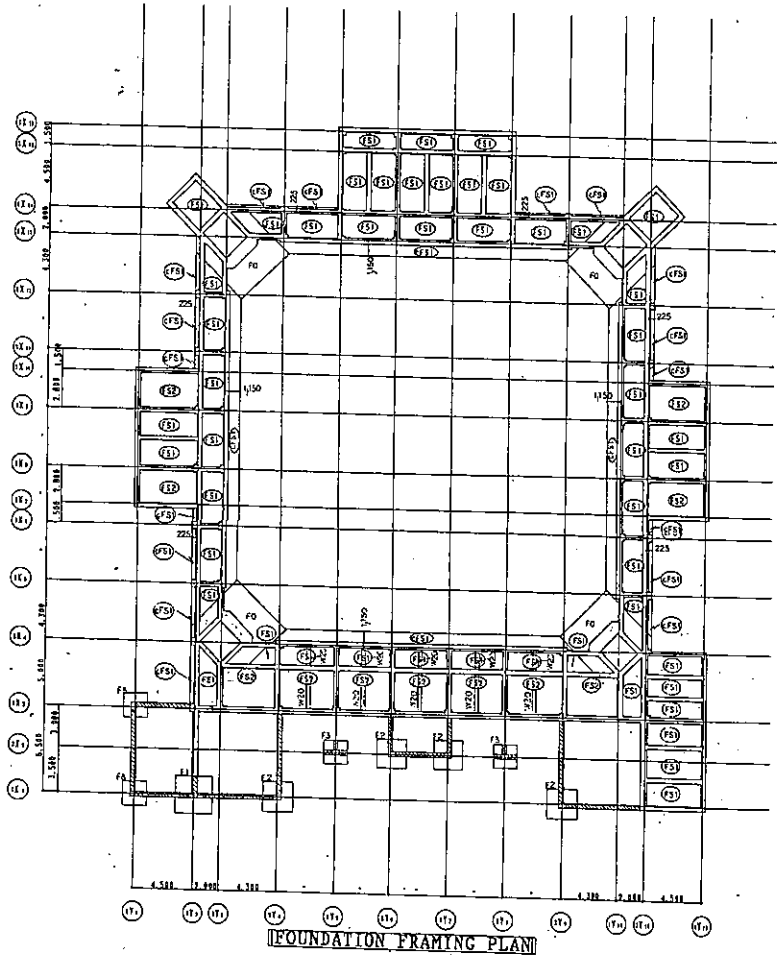


1 EXTERNAL STAIRS DETAIL SECTION
A 06-2 SCALE = 1:30

2 STAIRS DETAIL SECTION
A 06-2 SCALE = 1:30

3 STAIRS DETAIL SECTION
A 06-2 SCALE = 1:30

MOHRI ARCHITECT & ASSOCIATES, INC.



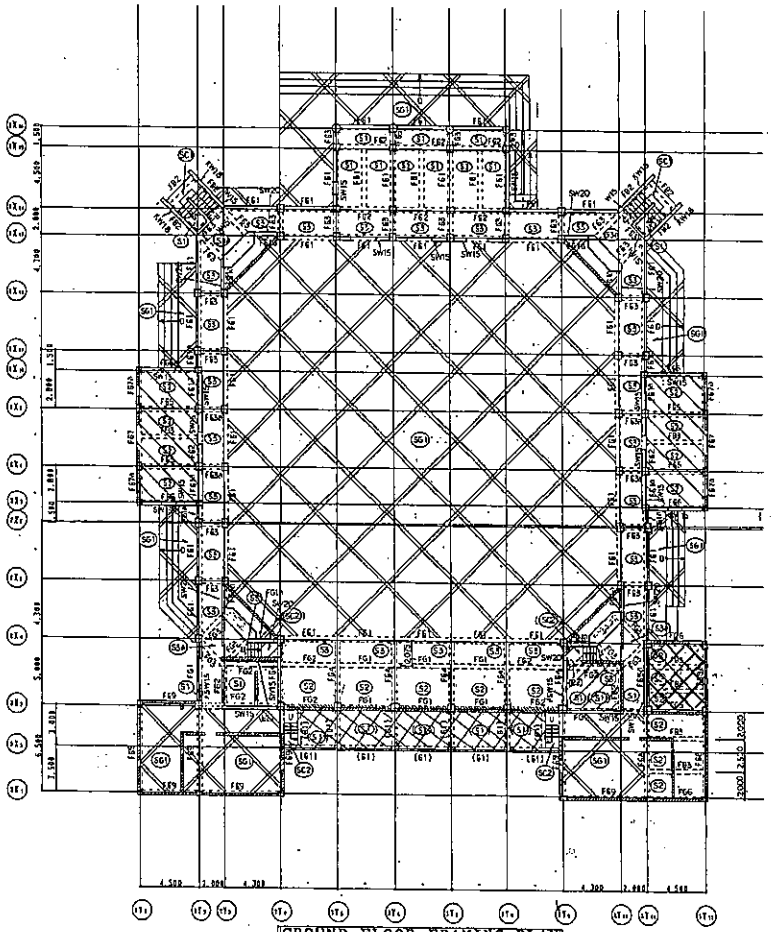
FOUNDATION FRAMING PLAN

NOTES

1. BOTTOM LEVEL OF THE FOUNDATION G.L.-1500

LEGENDS

1. INDICATES ADDITIONAL CONCRETE.



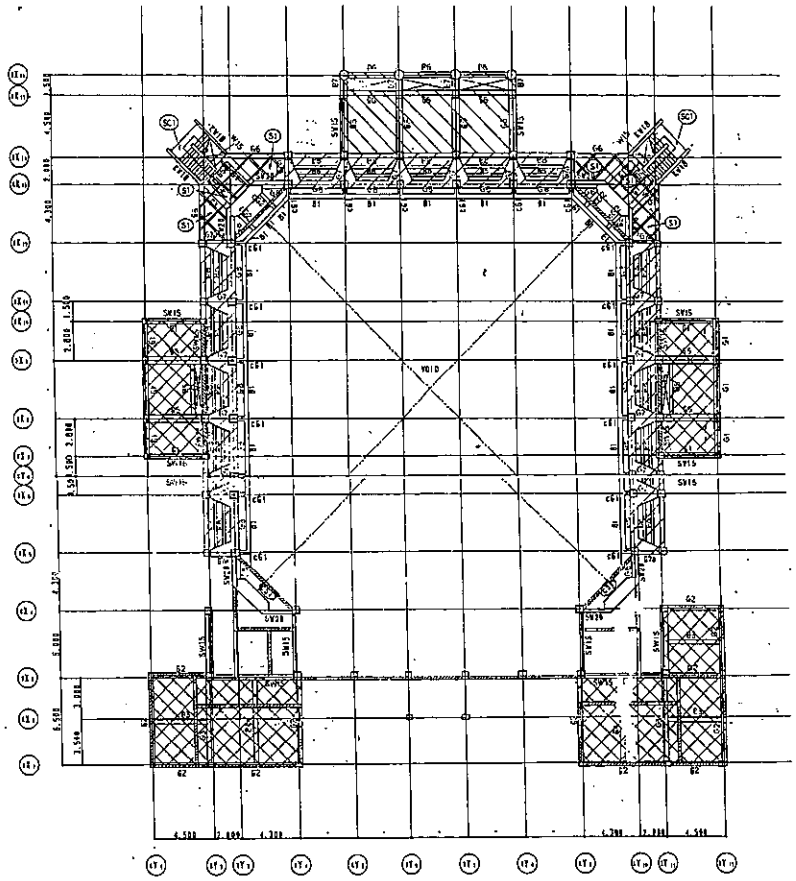
GROUND FLOOR FRAMING PLAN

NOTES

1. TOP LEVEL OF THE SLAB G.F.L. -50

LEGENDS

1. INDICATES BRICK WALL OF (SR2) .
2. INDICATES REINFORCED CONCRETE WALL.
3. INDICATES ADDITIONAL CONCRETE.
4. INDICATES SLAB-ON-GRADE OF (SG) .
5. INDICATES THAT TOP LEVEL OF THE SLAB IS G.F.L.+970.
6. INDICATES THAT TOP LEVEL OF THE SLAB IS G.F.L.+870.
7. INDICATES THAT TOP LEVEL OF THE SLAB IS G.F.L.- 730.
8. INDICATES THAT TOP LEVEL OF THE SLAB IS G.F.L.- 830.
9. ( ) INDICATES THAT THE MEMBER IS LOCATED AT HIGHER LEVEL THAN G.F.L.



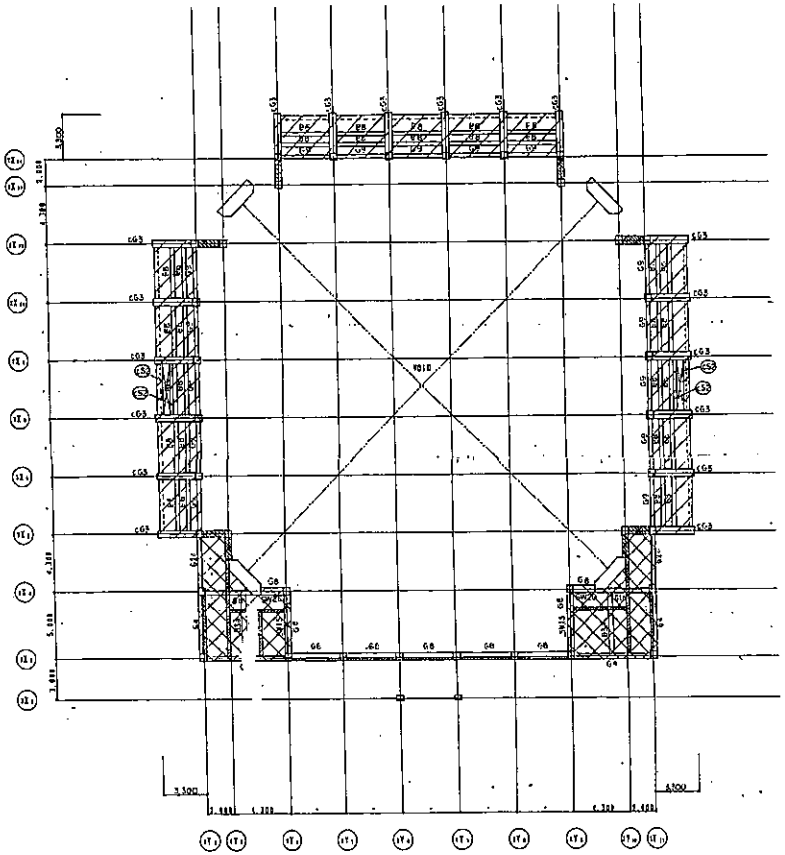
FIRST FLOOR FRAMING PLAN

NOTES

1. TOP LEVEL OF THE SLAB I.F.L. -30
2. SLAB (S4)

LEGENDS

1. INDICATES BRICK WALL OF (BR2) .
2. INDICATES REINFORCED CONCRETE WALL.
3. INDICATES ADDITIONAL CONCRETE.
4. INDICATES THAT TOP LEVEL OF THE SLAB IS I.F.L.± 0.
5. INDICATES THAT TOP LEVEL OF THE SLAB IS I.F.L.- 130.
6. INDICATES THAT TOP LEVEL OF THE SLAB IS I.F.L.- 500.
7. INDICATES THAT TOP LEVEL OF THE SLAB IS HIGHER THAN I.F.L. (REFER TO THE DESIGN DRAWINGS.)



GROUND FLOOR + 4000 LEVEL FRAMING PLAN

NOTES

1. SLAB (S4)

LEGENDS

1. INDICATES BRICK WALL OF (BR2) .
2. INDICATES REINFORCED CONCRETE WALL.
3. INDICATES ADDITIONAL CONCRETE.
4. INDICATES THAT TOP LEVEL OF THE SLAB IS I.F.L.+ 500.
5. INDICATES THAT TOP LEVEL OF THE SLAB IS HIGHER THAN I.F.L.+ 500. (REFER TO THE DESIGN DRAWINGS.)

SC-8

AS BUILT DWG.

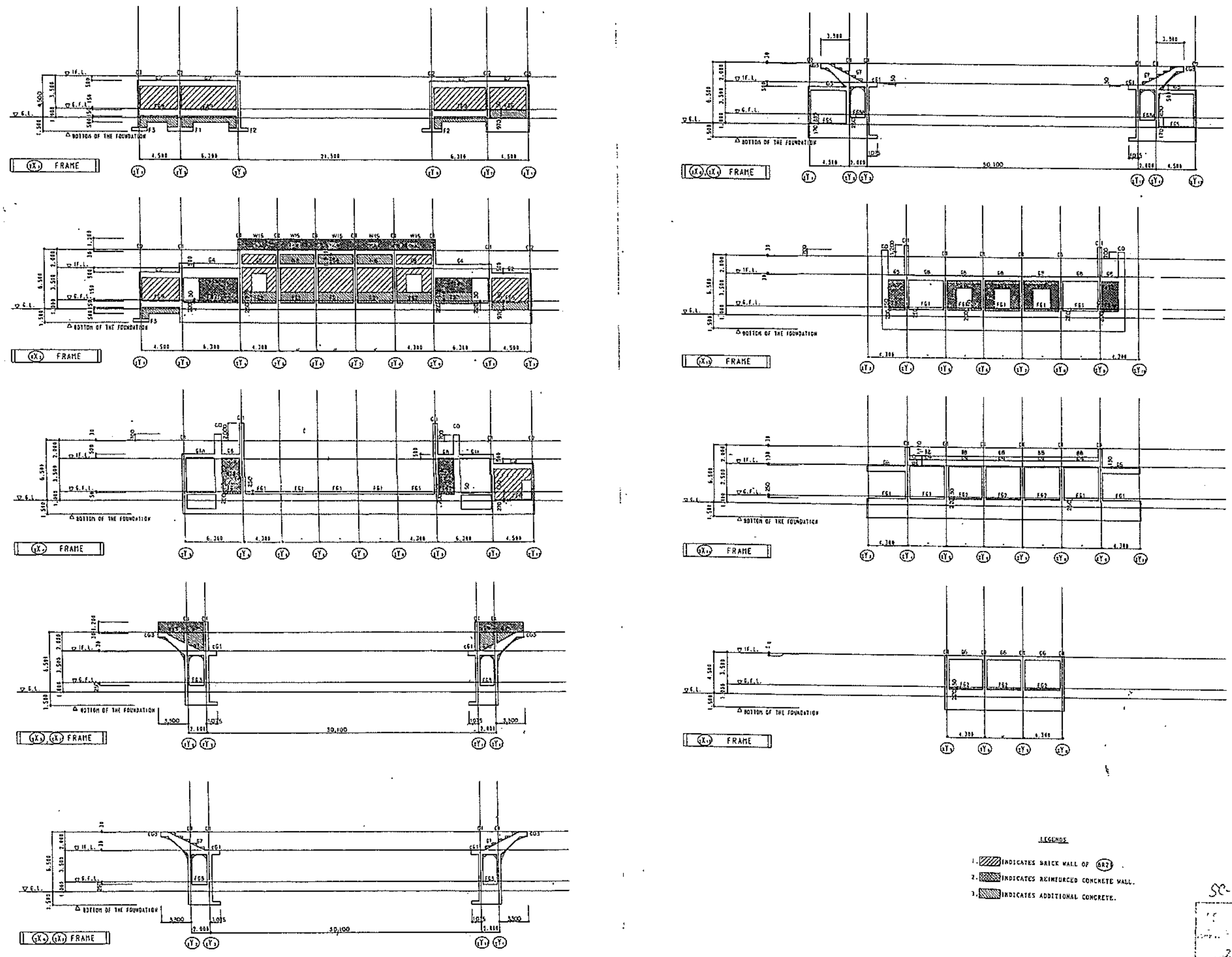
MOHRI ARCHITECT & ASSOCIATES, INC.

THE PROJECT FOR CONSTRUCTING THE CENTRE FOR SOCIAL EDUCATION IN THE REPUBLIC OF MALDIVES

SCALE 1:200

FIRST FLOOR & GROUND FLOOR + 4000 LEVEL FRAMING PLAN

S—05

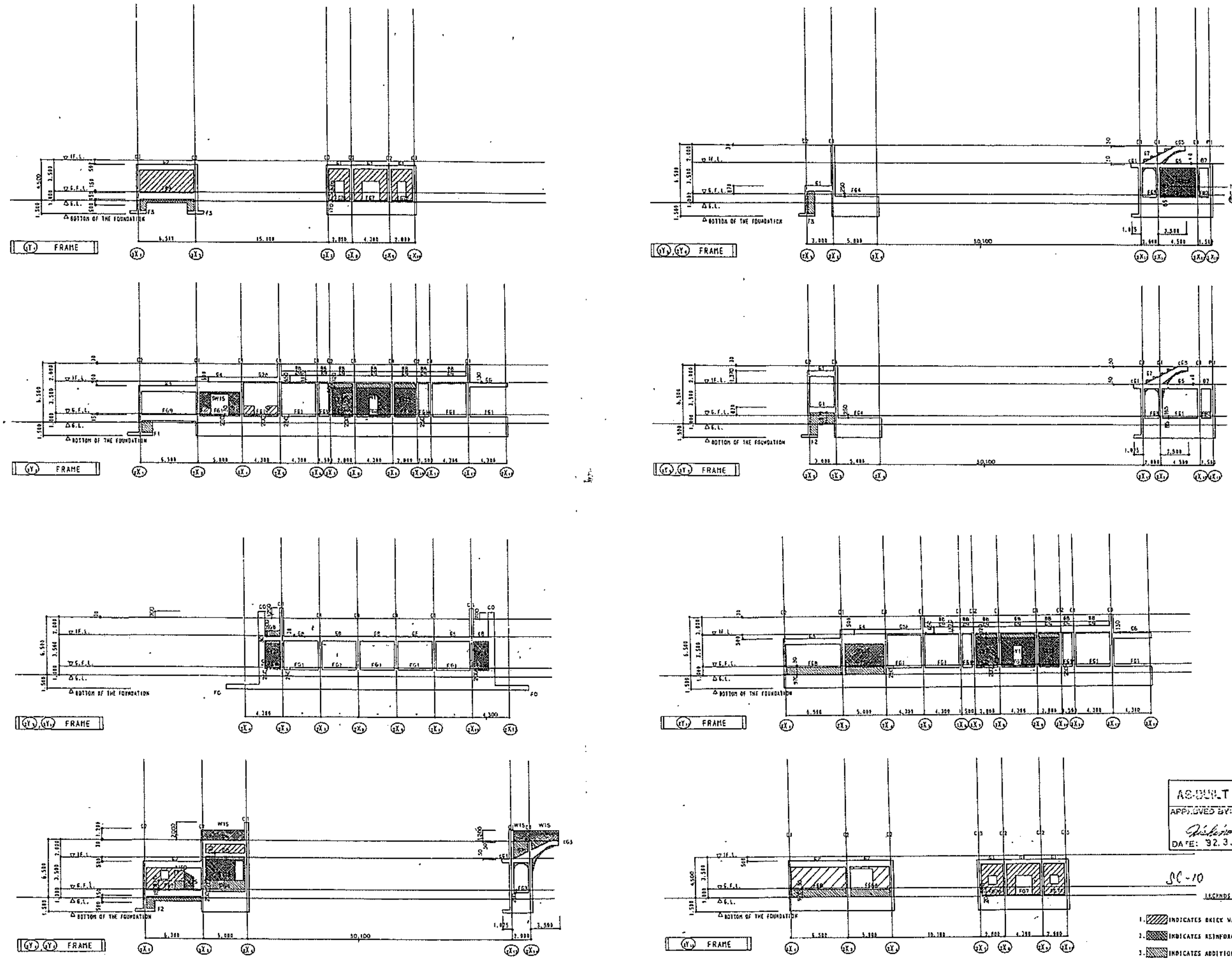


LEGENDS

1. INDICATES BRICK WALL OF (BR2).
2. INDICATES REINFORCED CONCRETE WALL.
3. INDICATES ADDITIONAL CONCRETE.

SC-9

THE PROJECT FOR CONSTRUCTING THE CENTRE | SCALE 1:200



AS-BUILT DWG.
APPROVED BY:
DATE: 92.3.15

SC-10

LEGENDS

1. INDICATES BRICK WALL OF
2. INDICATES REINFORCED CONCRETE WAL
3. INDICATES ADDITIONAL CONCRETE.

THE PROJECT FOR CONSTRUCTING THE CENTRE | SCALE 1:200 | NO. 58

SC-10

191

COLUMN SCHEDULE S=1/50

NOTE : UNLESS OTHERWISE NOTED,
1. HOOP □-Y12@150

FLOOR	MARKS	C0	C1	C2	C3			P1
GF	SECTION							
	MAIN BARS							
	HOOP							
	NOTE							
GF	SECTION	2,000 × 1,000	450 × 450	450 × 300	300 × 300			450
	MAIN BARS	36 - Y24	8 - Y20	6 - Y20	4 - Y20			8-Y20
	HOOP	□-Y12@100						○-Y12@150
	NOTE							

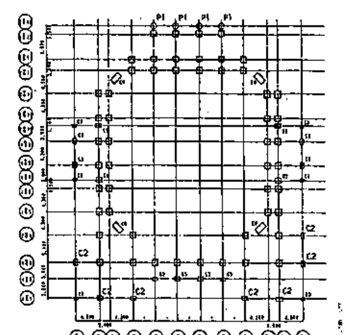
GIRDER SCHEDULE S=1/50

NOTE : UNLESS OTHERWISE NOTED,
1. STIRRUPS □-Y10@200 2. WEB BARS 2-Y10 3. ▨ INDICATES ADDITIONAL CONCRETE.

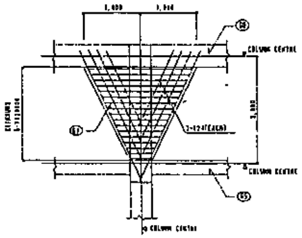
FLOOR	MARKS	G1(G1a)	G2(G2a)			G3			G4		G5		G6(G6a)		G7(G7a)	
	POSITION	ALL	Ⓢ END	CEN.	OTHER END	OUT END	CEN.	CON. END	END	CEN.	END	CEN.	END	CEN.	Ⓒ END	OTHER END
1F	SECTION															
	TOP BARS															
	BOT. BARS															
	STIRRUPS															
	WEB BARS															
	NOTE															
1F	SECTION	450 × 250(350)	650 (620) × 250			650 × 400			1,650 × 250		450 × 400		450 × 300		1,825 × 400 (o) 2,000 (1,766) 325	
	TOP BARS	2(3)-Y20	4-Y20	2-Y20	3-Y20	3-Y20	3-Y20	6-Y20	3-Y20	2-Y20	3-Y20	2-Y20	3-Y20	2(3)-Y20	6-Y24	5+8 (4)-Y24
	BOT. BARS	2(3)-Y20	2-Y20	4-Y20	2-Y20	2-Y20	4-Y20	3-Y20	2-Y20	4-Y20	2-Y20	3-Y20	2(3)-Y20	3-Y20	4-Y24	4+8 (3)-Y24
	STIRRUPS						□-Y12@200					□-Y12@200			□-Y12@100	▭(Ex)-Y12@100
	WEB BARS	—								6-Y12		—		—	4-Y10	—
	NOTE														SEE DETAIL	

FLOOR	MARKS	G8	G9		cG1(cG1a)	cG2		cG3		
	POSITION	ALL	ALL		ALL	END	TIP	END	TIP	
1F	SECTION									
	TOP BARS									
	BOT. BARS									
	STIRRUPS									
	WEB BARS									
	NOTE									
1F	SECTION	1-Y20, 1-Y20; 450 × 400	*1 Y10@200 L=1,000; 770, 500; 100, 250		450 × 300(250)	450 × 450		1,100; 450 × 400		
	TOP BARS	3-Y20	2-Y20		3(2)-Y20	5-Y20	3-Y20	6-Y24	4-Y24	
	BOT. BARS	3-Y20	2-Y20		2-Y20	3-Y20	2-Y20	4-Y24	3-Y24	
	STIRRUPS	□-Y12@200				□-Y12@200		□-Y12@200		
	WEB BARS	2-Y20(MAIN BAR)	2-Y12		—	—		4-Y10	—	
	NOTE		*1;SHEAR CONNECTOR					SEE DRAWING NO.S-12		

COLUMN KEY PLAN

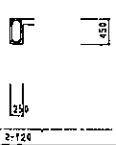
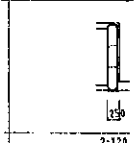
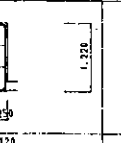
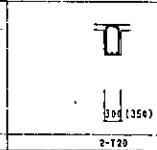
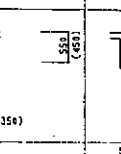
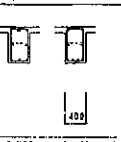
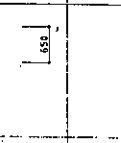
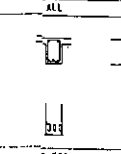


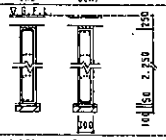
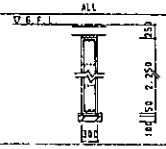
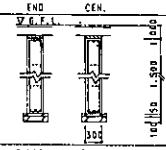
NOTE
UNLESS OTHERWISE NOTED,
1. COLUMN C1



BEAM SCHEDULE S=1/50

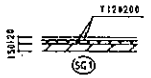
NOTE : UNLESS OTHERWISE NOTED,
1. STIRRUPS □-Y10@200 2. WEB BARS 2-Y10 3. ▨ INDICATES ADDITIONAL CONCRETE.

MARKS	B1	B2	B3(B3a)	B4	B5	B6	B7	B8
POSITION	ALL	ALL	ALL	END / CEN.	ALL	END / CEN.	ALL	ALL
SECTION								
TOP BARS	2-Y20	2-Y20	2-Y20	5-Y20 / 2-Y20	2-Y20	3-Y20	3-Y20	2-Y20
BOT. BARS	2-Y20	2-Y20	3-Y20	3-Y20 / 4-Y20	3-Y20	3-Y20	3-Y20	2-Y20
STIRRUPS				□-Y12@200		□-Y12@200	□-Y12@200	
WEB BARS	—	4-Y10	—		—	2-Y20(MAIN BARS)	—	—
NOTE								

MARKS	FB1	FB2	FB3
POSITION	END / CEN.	ALL	END / CEN.
SECTION			
TOP BARS	2-Y20 / 3-Y20	3-Y20	3-Y20 / 5-Y20
BOT. BARS	3-Y20 / 2-Y20	3-Y20	3-Y20 / 3-Y20
STIRRUPS	□-Y12@300	□-Y12@300	□-Y12@300
WEB BARS	8-Y12	8-Y12	6-Y12
NOTE			

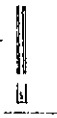
SLAB SCHEDULE S=1/50

MARKS	THICKNESS	POSITION	SHORT SPAN	LONG SPAN	
S1	135	TOP BARS	Y10,Y12@200	Y10,Y12@200	
		BOT. BARS	Y10,Y12@200	Y10,Y12@200	
S2	150	TOP BARS	Y12@200	Y12@200	
		BOT. BARS	Y12@200	Y12@200	
S3(S3a)	200	TOP BARS	Y12@100(200)	Y12@200	
		BOT. BARS	Y12@100(200)	Y12@200	
S4	120	TOP BARS	Y10,Y12@200	Y10,Y12@200	
		BOT. BARS	Y10,Y12@200	Y10,Y12@200	
		TOP BARS			
		BOT. BARS			
cS1	200	TOP BARS	Y12@200	Y12@200	
		BOT. BARS	Y12@200	Y12@200	
cS2	120	TOP BARS	Y10,Y12@200	Y10,Y12@200	
		BOT. BARS	Y10,Y12@200	Y10,Y12@200	
		TOP BARS			
		BOT. BARS			
		TOP BARS			
		BOT. BARS			
SG1	120	TOP BARS	Y12@200	Y12@200	ON GRADE SEE DETAIL
		BOT. BARS	—	—	
		TOP BARS			
		BOT. BARS			
FS1	300	TOP BARS	Y12,Y16@200	Y12,Y16@200	
		BOT. BARS	Y12,Y16@200	Y12,Y16@200	
FS2	300	TOP BARS	Y16@200	Y12,Y16@200	
		BOT. BARS	Y16@200	Y12,Y16@200	
		TOP BARS			
		BOT. BARS			
cFS1	300	TOP BARS	Y12,Y16@200	Y12,Y16@200	
		BOT. BARS	Y12,Y16@200	Y12,Y16@200	

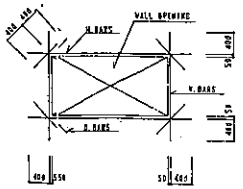


WALL SCHEDULE S=1/50

NOTE : UNLESS OTHERWISE NOTED
1. BAR DOUBLE LAYER

MARKS	W15	SW15	SW20	
SECTION		THE SAME AS W15		
VER. BARS	Y10@200		Y12@200	
HOR. BARS	Y10@200		Y12@200	
V. BARS	2-Y10		2-Y12	
H. BARS	2-Y10		2-Y12	
D. BARS	2-Y10		2-Y12	
NOTE		SHEAR WALL	SHEAR WALL	

MARKS	KW18		BR21	BR10
SECTION				
VER. BARS	Y10,Y12 @100		—	—
HOR. BARS	Y10,Y12 @200		—	—
V. BARS	2-Y12		—	—
H. BARS	2-Y12		—	—
D. BARS	2-Y12		—	—
NOTE			NO REINFORCEMENT	NO REINFORCEMENT



REINFORCEMENT FOR OPENING

SC-12

MOHRI ARCHITECT & ASSOCIATES, INC.
3-2-17, KITAGASHI, CHUO-KU, TOKYO, JAPAN

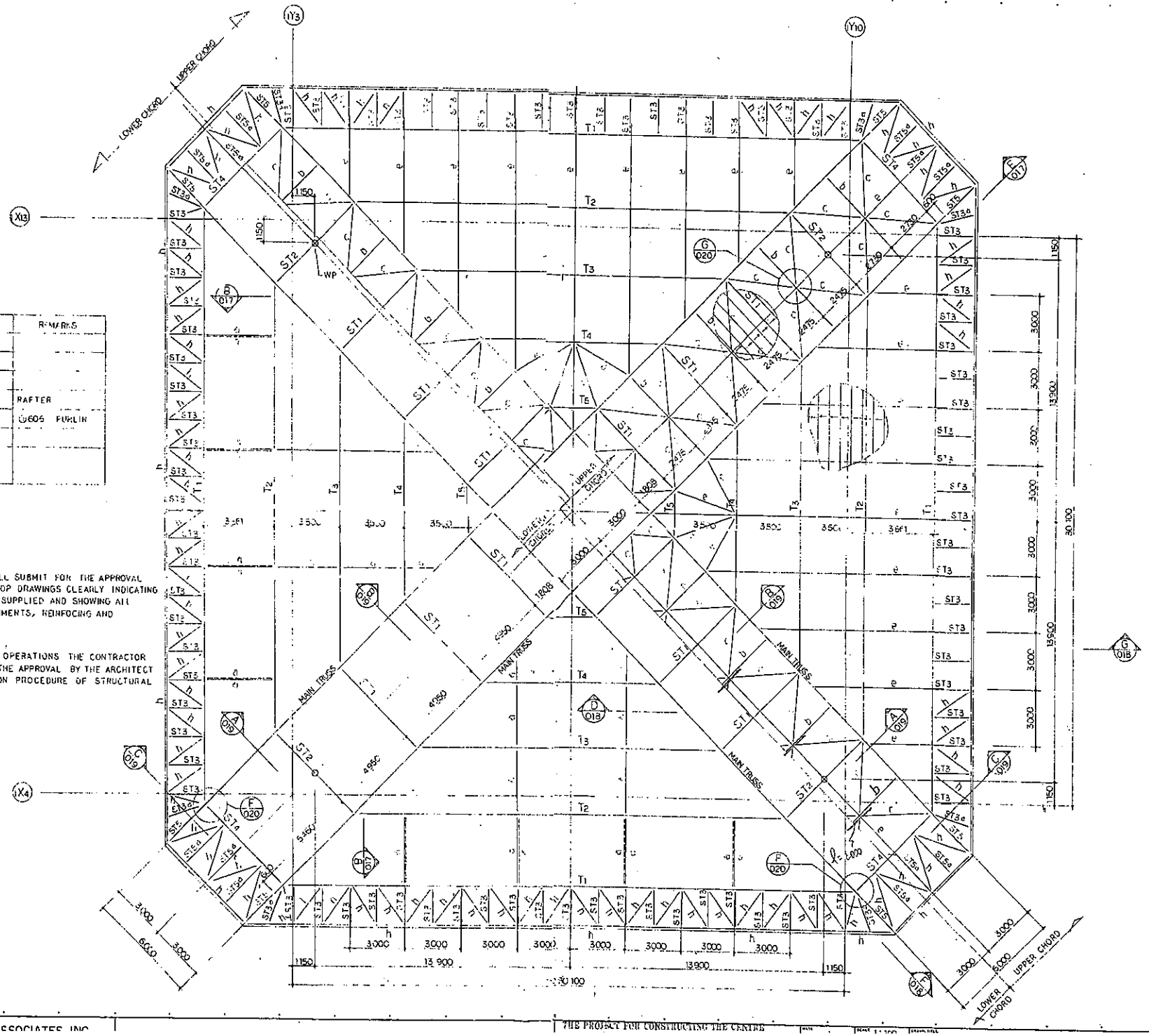
THE PROJECT FOR CONSTRUCTING THE CENTRE FOR S[illegible] PROMOTION IN THE REPUBLIC OF MALDIVES

SCALE 1/50

BEAM, SLAB & WALL SCHEDULE

No. 61

S—11



MARK	MEMBER	REMARKS
a	H [illegible] x 100 x 6 x 8	
b	H 194 x 90 x 45 x 7	
c	L [illegible] x 90 x 6	
e	H 150 x 75 x 5 x 7	RAFTER
f	C 125 x 50 x 20 x 2.5	@606 PURLIN
h	L 75 x 75 x 9	

NOTE

1) THE CONTRACTOR SHALL SUBMIT FOR THE APPROVAL BY THE ARCHITECT SHOP DRAWINGS CLEARLY INDICATING THE MATERIAL BEING SUPPLIED AND SHOWING ALL CONNECTIONS, ATTACHMENTS, REINFORCING AND ANCHORAGES.

2) BEFORE COMMENCING OPERATIONS THE CONTRACTOR SHALL SUBMIT FOR THE APPROVAL BY THE ARCHITECT HIS PROPOSED ERECTION PROCEDURE OF STRUCTURAL STEEL MEMBERS.

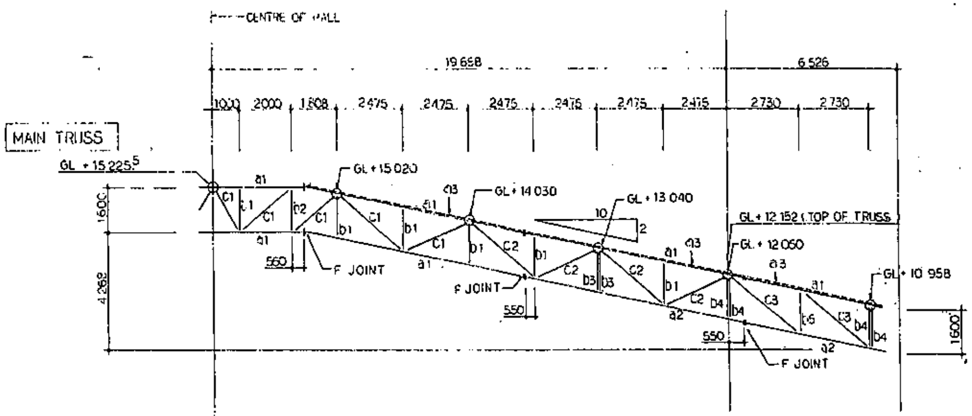
SC-13

SC-13

Archive S-13

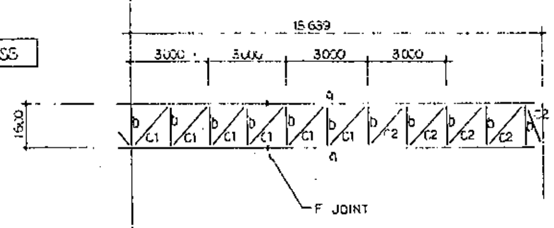
-591

MAIN TRUSS



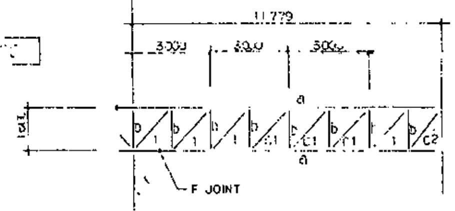
	CHORD		VERTICAL		DIAGONAL
a1	H 200 x 200 x 8 x 12	b1	2C 100 x 50 x 5 x 7.5	C1	2C 100 x 50 x 5 x 7.5
a2	H 250 x 250 x 9 x 14	b2	4L 75 x 75 x 9	C2	2C 125 x 65 x 6 x 8
a3	C 150 x 75 x 6.5	b3	L 75 x 75 x 9	C3	2C 150 x 75 x 6.5 x 10
		b4	C 150 x 75 x 6.5 x 10		
		b5	2C 125 x 65 x 6 x 8		

T1 TRUSS



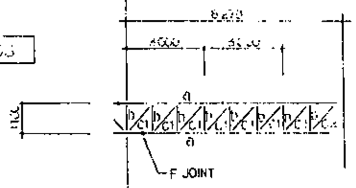
	CHORD		VERTICAL		DIAGONAL
a	H 200 x 200 x 8 x 12	b	2C 125 x 65 x 6 x 8	C1	L 75 x 75 x 9
				C2	2L 75 x 75 x 9

T2 TRUSS



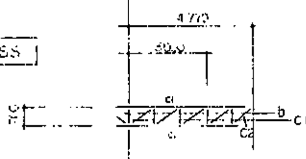
	CHORD		VERTICAL		DIAGONAL
a	H 194 x 150 x 6 x 9	b	L 75 x 75 x 9	C1	L 75 x 75 x 9
				C2	2L 75 x 75 x 9

T3 TRUSS



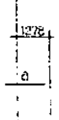
	CHORD		VERTICAL		DIAGONAL
a	CT 175 x 175 x 7 x 11	b	L 65 x 65 x 6	C1	L 65 x 65 x 6
				C2	2L 65 x 65 x 6

T4 TRUSS



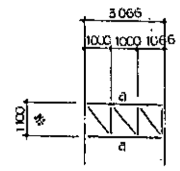
	CHORD		VERTICAL		DIAGONAL
a	2L 75 x 75 x 6	b	L 65 x 65 x 6	C1	L 65 x 65 x 6
				C2	2L 65 x 65 x 6

T5



	CHORD
a	H 200 x 150 x 6.5 x 9

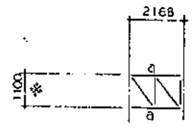
ST5 / ST5a TRUSS



	CHORD	OTHERS
a	L 75 x 75 x 9	L 75 x 75 x 9

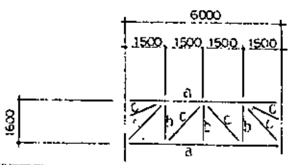
※ TO BE CONFIRMED AGAINST ARCHITECTURAL DRAWINGS

ST3 / ST3a TRUSS



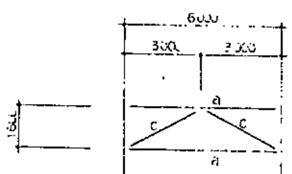
	CHORD	OTHERS
a	L 75 x 75 x 9	L 75 x 75 x 9

ST4 TRUSS



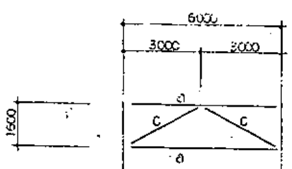
	CHORD		VERTICAL		DIAGONAL
a	H 200 x 200 x 8 x 12	b	2C 125 x 65 x 6 x 8	C	2L 75 x 75 x 9

ST1 TRUSS



	CHORD		VERTICAL		DIAGONAL
a	H 194 x [illegible]	b		C	C 100 x 50 x 5 x 7.5

ST2 TRUSS



	CHORD		VERTICAL		DIAGONAL
a	H 194 x 150 x 6 x 9	b		C	2C 100 x 50 x 5 x 7.5

AS... APPRO... DATE

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MOHRI ARCHITECT & ASSOCIATES, INC.
3-2-17, KYOBASHI, CHUO-KU, TOKYO, JAPAN

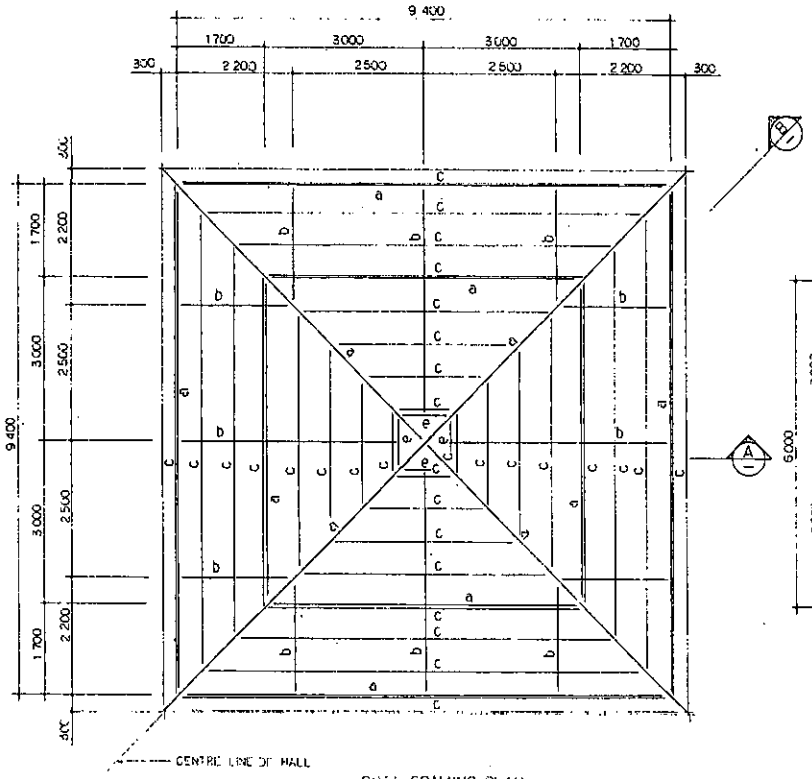
THE PROJECT FOR CONSTRUCTING THE CENTRE FOR SOCIAL EDUCATION IN THE REPUBLIC OF MALDIVES (PHASE-I)

SCALE 1:100

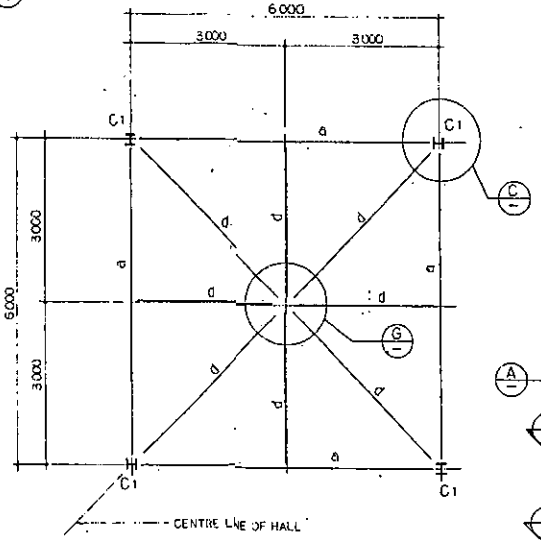
STEEL TRUSS MEMBER LIST

S — 14

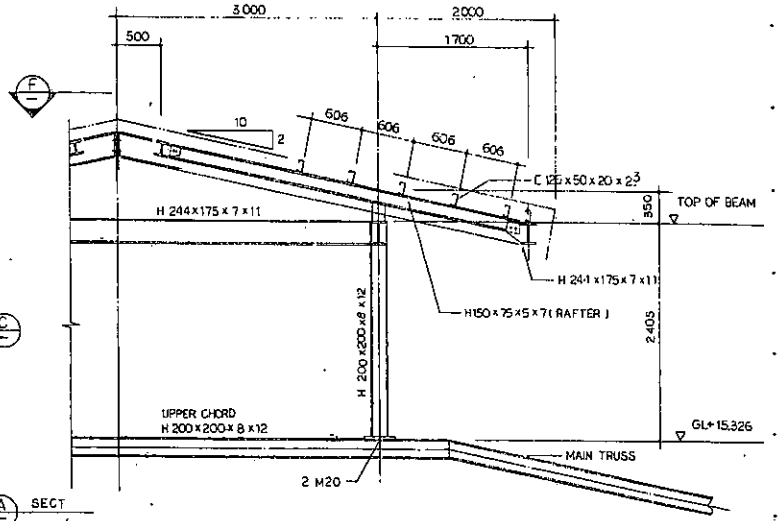
991



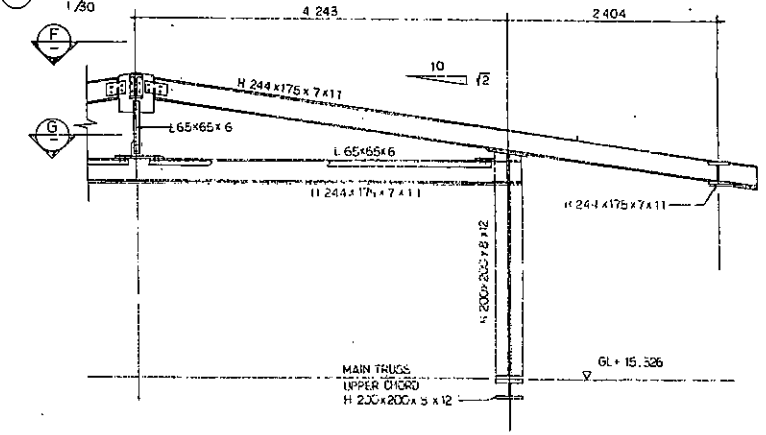
ROOF FRAMING PLAN
1/50



1/50

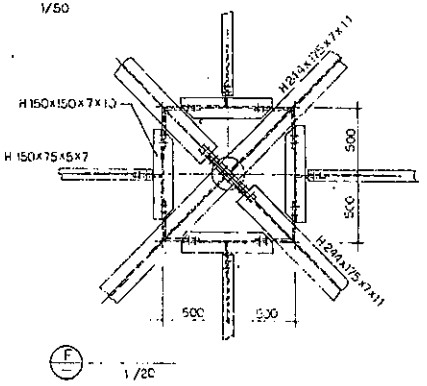


SECT
1/30

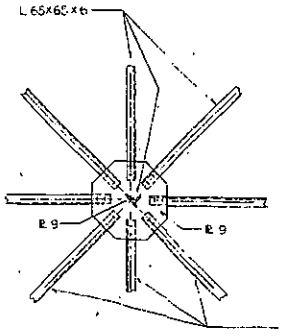


SECT
1/30

MARK	MEMBER	REMARKS
a	H 244 x 175 x 7 x 11	
b	H 150 x 75 x 5 x 7	RAFTER
c	C 125 x 50 x 20 x 2.3	
d	L 65 x 65 x 6	
e	H 150 x 150 x 7 x 10	
C1	H 200 x 200 x 8 x 12	

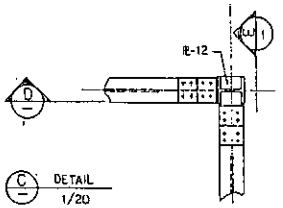


1/20

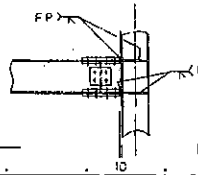


1/20

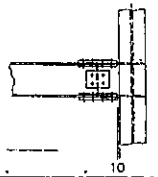
CONNECTION JOINT		
	HTB(F10T)	SPLICE PLATE
FLANGE	16 M20	2 R 9 x 170 x 290
		4 R 9 x 65 x 290
WEB	4 M20	2 R 9 x 140 x 170



DETAIL
1/20



1/20



SC-15

SC-15

MOHRI ARCHITECT & ASSOCIATES, INC.

THE PROJECT FOR CONSTRUCTING THE CENTRE
[illegible] IN THE REPUBLIC OF MALDIVES

1:50
1:30
1:20

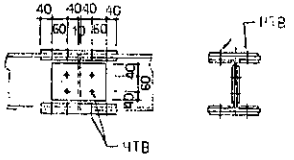
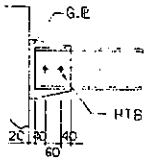
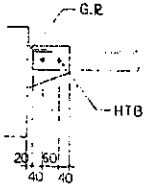
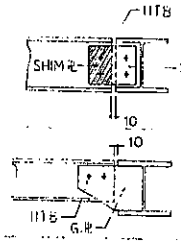
MONITOR ROOF STEEL MEMBER FRAMING PLAN

No 65

JIS G 3101 SS 41

NOTE) UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS, CONNECTION DETAIL SHALL BE AS BELOW.

UNIT : mm

CONNECTION	SHAPE	MEMBER	HTB (F10T) FLANGE	HTB (F10T) WEB	SPLICE PLATE FLANGE	SPLICE PLATE WEB	GUSSET PLATE	REMARKS
	H	H 200×200×8×12	16-M20	4-M20	2 PL 9×195×290 4 PL 9× 70×290	2 PL 6×140×210		
	H	H 250×250×9×14	16-M20	4-M20	2 PL 9×245×290 4 PL 9× 95×290	2 PL 9×140×210		
	C	2C 150×75×6.5×10		2-M20			PL 12	MAX L1 ≦ 1 100
	C	C 150×75×6.5×10		2-M20			PL 9	
	C	2L 125×65×6×8		2-M20			PL 12	MAX L1 ≦ 950
	C	125×65×6×8		2-M20			PL 9	
	C	2C 100×50×5×7.5		2-M20			PL 12	MAX L1 ≦ 700
	C	C 100×50×5×7.5		2-M20			PL 9	
	L	4 L 75×75×9		2-M20			PL 12	SEE DWG NO.S-25 DETAIL
	L	2 L 75×75×9		2-M20			PL 12	MAX L1 ≦ 700
	L	L 75×75×9		2-M20			PL 9	
	L	2 L 65×65×8		2-M20			PL 12	MAX L1 ≦ 600
	L	L 65×65×8		2-M20			PL 9	
	L	2 L 65×65×6		2-M20			PL 12	MAX L1 ≦ 600
	L	L 65×65×6		2-M20			PL 9	
	H	H 200×200×8×12		4-M20		2 PL 9×140×170		
	H	H 194×150×6×9		4-M20		2 PL 9×140×170		
	H	H 198×99×4.5×7		4-M20		2 PL 9×140×170		
	H	H 150×150×7×10		2-M20			PL 9	
	H	H 150×75×5×7		2-M20			PL 9	
	H	H 100×100×6×8		2 M20			PL 9	
		L 90×90×6		2 M20			PL 12	SEE DWG S-020 DETAIL
		C 125×50×20×2.3						TO BE WELDED

NOTE L1 : DISTANCE BETWEEN TIE-PLATES

THE FOLLOWING NOTES AND DETAILS ON THE DRAWINGS ARE APPLICABLE TO ALL STRUCTURAL CONDITIONS, UNLESS OTHERWISE NOTED.

1) STRUCTURAL STEEL WORK

DESCRIPTION	SPECIFICATION
STEEL WORK	DESIGN STANDARD FOR STEEL STRUCTURE (AIJ) *1
STRUCTURAL SHAPES	JIS G 3192 - 1977 *2 JIS G 3350 - 1977
GRADE	SS 41 JIS G 3101 SSC 41 JIS G 3350 OR EQUIVALENT

*1 AIJ : ARCHITECTURAL INSTITUTE OF JAPAN
*2 JIS : JAPANESE INDUSTRIAL STANDARD

2) BOLT

DESCRIPTION	SPECIFICATION
HTB	F10T JIS B 1186 OR EQUIVALENT
BOLT HOLE	d + 1.5 mm *1
BOLT SPACE	M20 — 60 mm M16 — 50 mm
MIN EDGE DISTANCE	M20 — 40 mm M16 — 40 mm
MAX EDGE DISTANCE	12 × t AND ≦ 150 mm *2

ANCHOR BOLT	SS 41 JIS G 3101
BOLT HOLE	d + 10 mm

*1 d : NORMINAL BOLT DIAMETER (mm)
*2 t : THK OF PARTS (PLATES) IN CONTACT WITH ONE ANOTHER (mm)

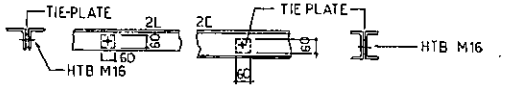
3) WELDING

DESCRIPTION	SPECIFICATION
WELDING WORK	AWS *1
WELDING MATERIAL	AWS OR EQUIVALENT
FILLET-WELD SIZE	0.7 × t (PLATE THICKNESS)

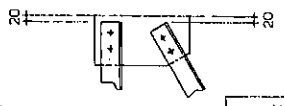
*1 AWS : AMERICAN WELDING SOCIETY

4) ALL STRUCTURAL STEEL MEMBER SHALL BE PAINTED WITH 2 COATS OF RED LEAD PAINT TO JIS.

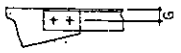
5) TIE-PLATE



6) EDGE CLEARANCE



7) GAUGE



MEMBER	GAUGE G
L 90×90×6	50
L 75×75×9	40
L 65×65×8	35
L 65×65×6	35

SC-16

SC-15

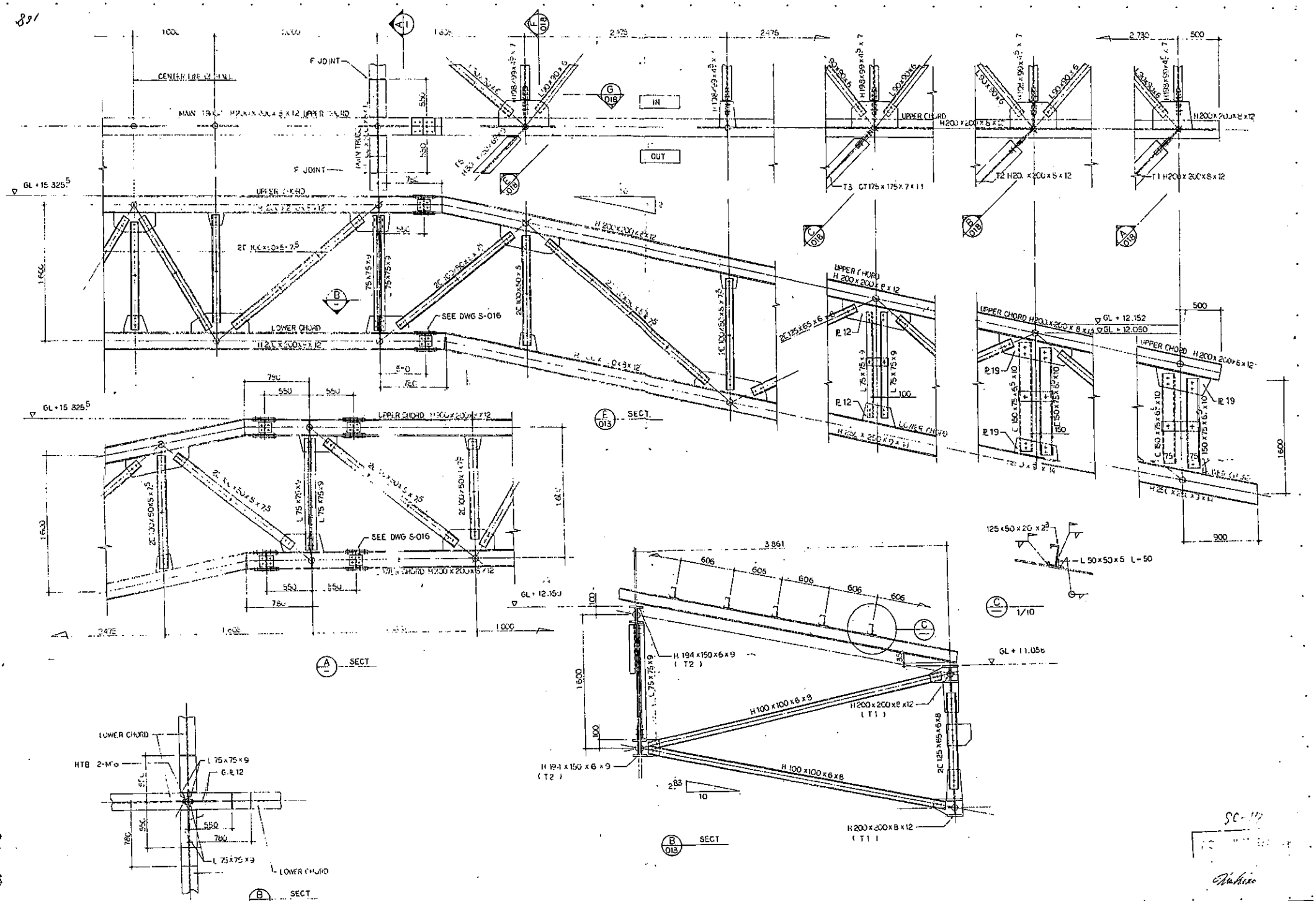
MOHRI ARCHITECT & ASSOCIATES, INC.
3-2-17, KYOBASHI, CHUO-KU, TOKYO, JAPAN

THE PROJECT FOR CONSTRUCTING THE CENTRE FOR SOCIAL EDUCATION IN THE REPUBLIC OF MALDIVES (PMSE-II)

STEEL MEMBER CONNECTION STANDARD

No. 66

S — 16



MOHRI ARCHITECT & ASSOCIATES, INC.
3-2-17, KYOBASHI, CHUO-KU, TOKYO, JAPAN

THE PROJECT FOR CONSTRUCTING THE CENTER
[illegible] LOCATION IN THE REPUBLIC OF MALDIVES

SCALE	1:20
	1:10

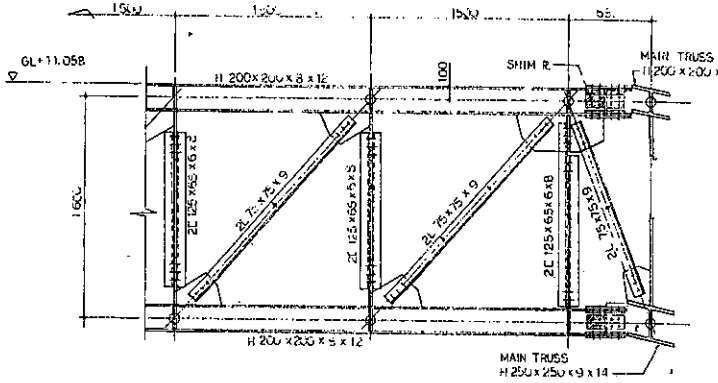
STEEL MEMBER DETAIL (1)

DRAWN
CHECKED
CHECKED

No. 57

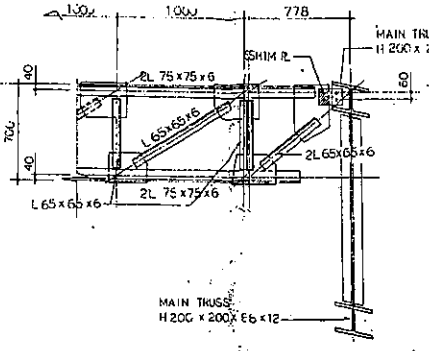
S — 17

691

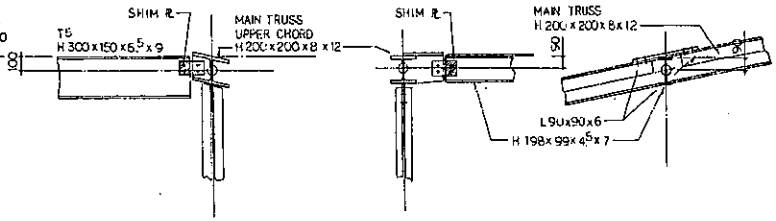


A/017 T1 TRUSS

D/020



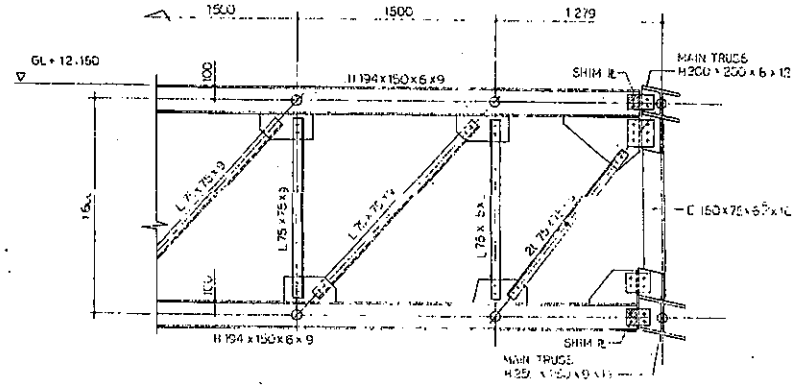
D/013 T4 TRUSS



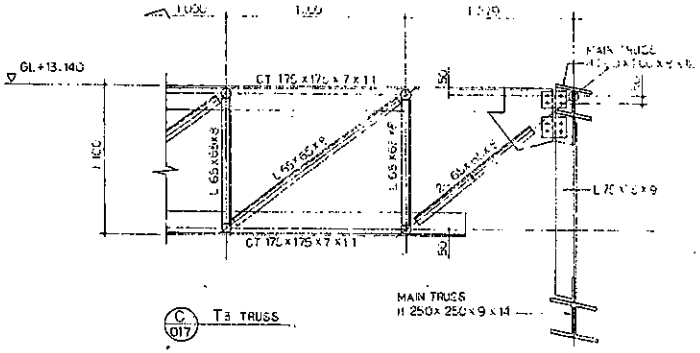
E/017 T5 TRUSS

F/017

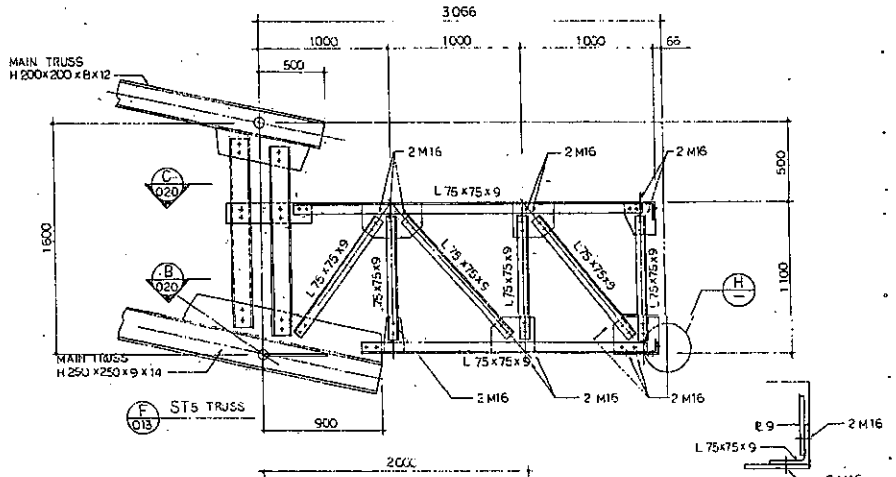
G/017



B/017 T2 TRUSS

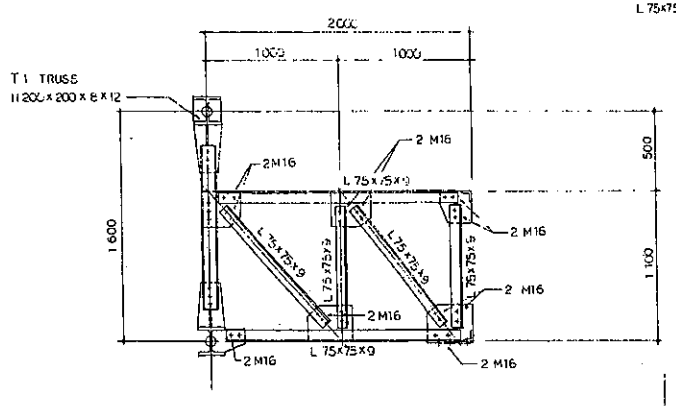


C/017 T3 TRUSS



F/013 ST5 TRUSS

H/— 1/5



G/013 ST3 TRUSS

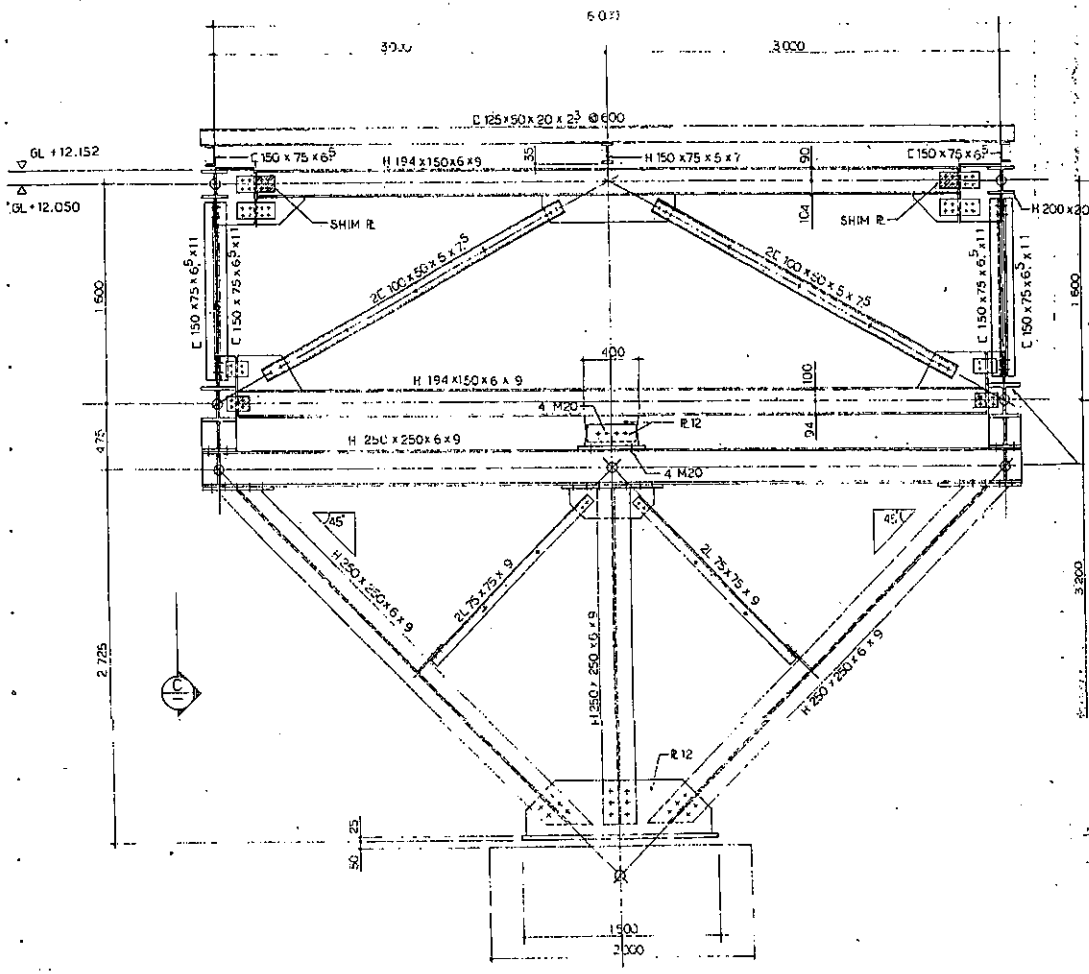
NOTE

UNLESS OTHERWISE NOTED, ALL BOLTS ARE AS M20.

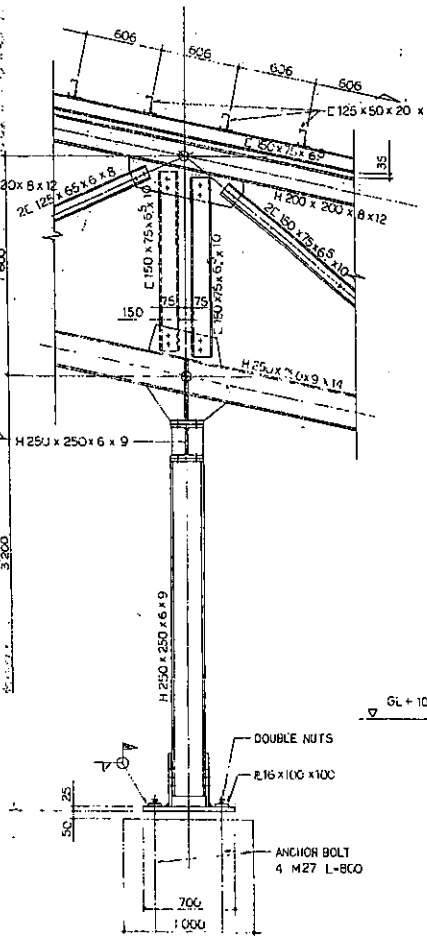
SC-18

SC-18

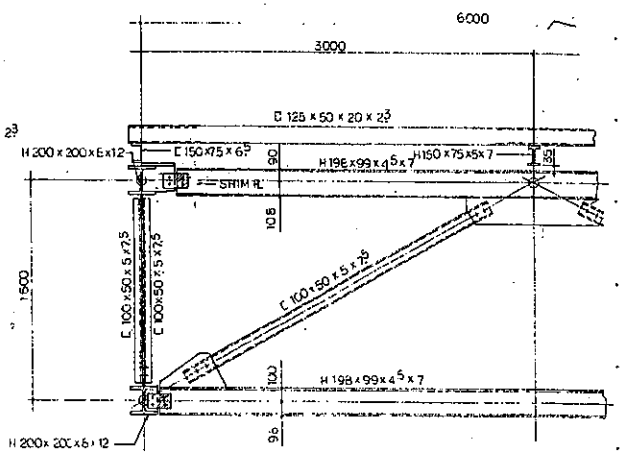
041



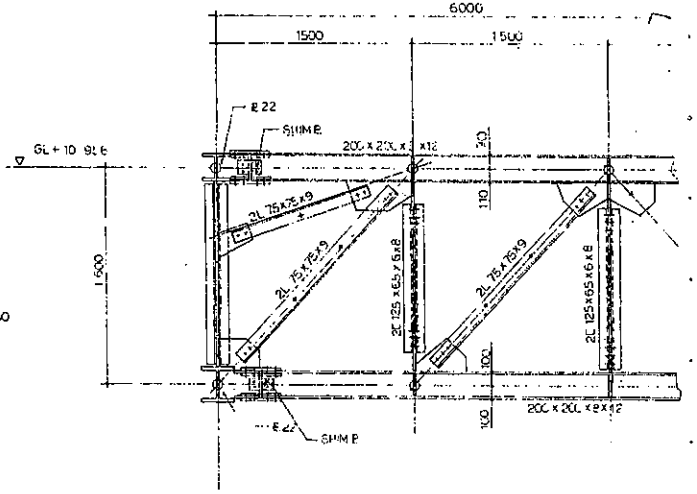
A/013 SUPPORTING FRAME
ST2 TRUSS



C/— SUPPORTING FRAME



B/013 ST1 TRUSS

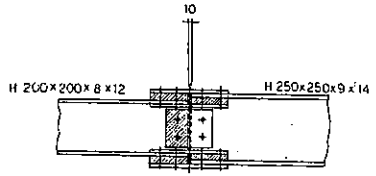


C/013 ST4 TRUSS

61-35

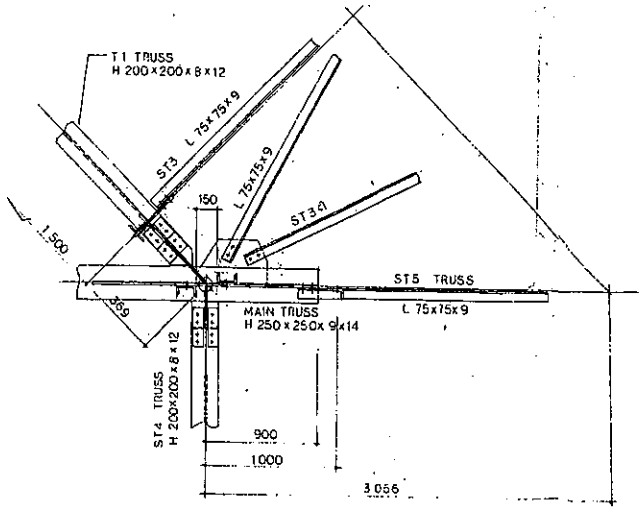
SC-19

AS BUILT

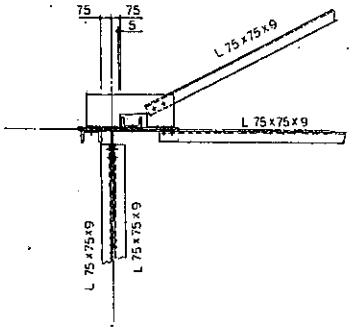


	HTB(F10T)	SPLICE PLATE
FLANGE	16 M20	2 PL 9×195×290 4 PL 9×70×290
WEB	4 M20	2 PL 6×140×170

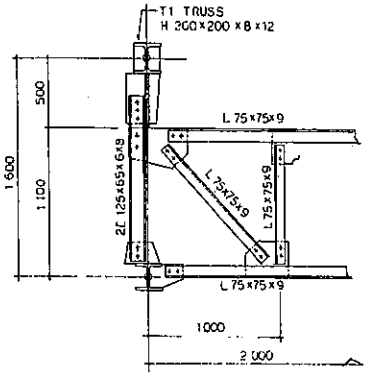
A 014 1/10



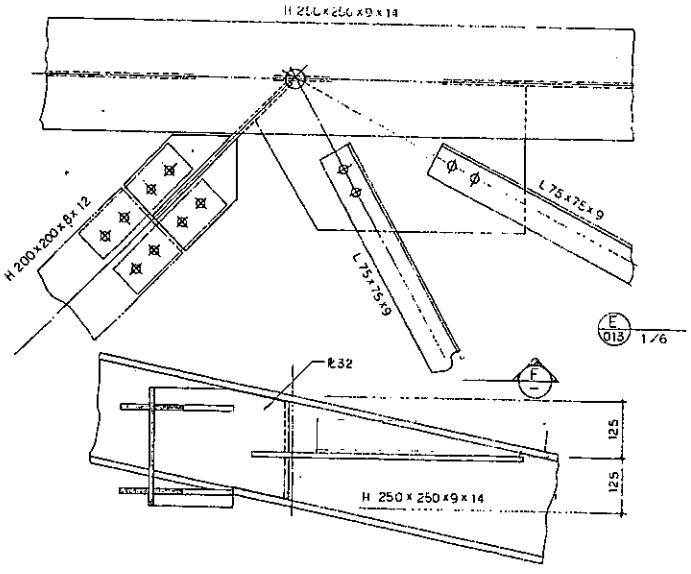
B 018 SECT 1/20



C 018 SECT 1/20

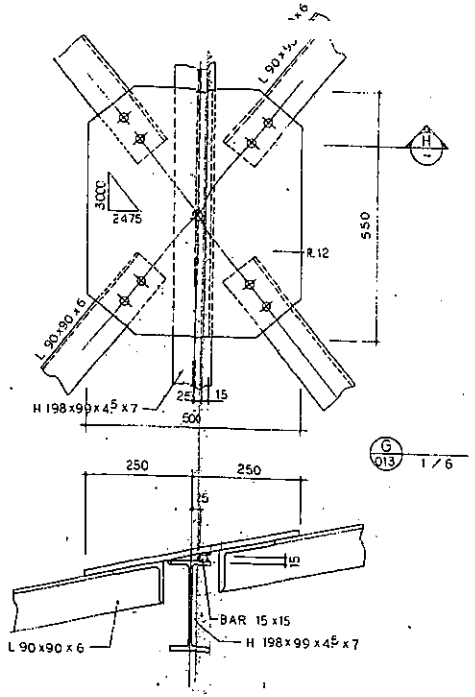


D 018 ST3 TRUSS 1/20



F 013 1/6

F SECT 1/6



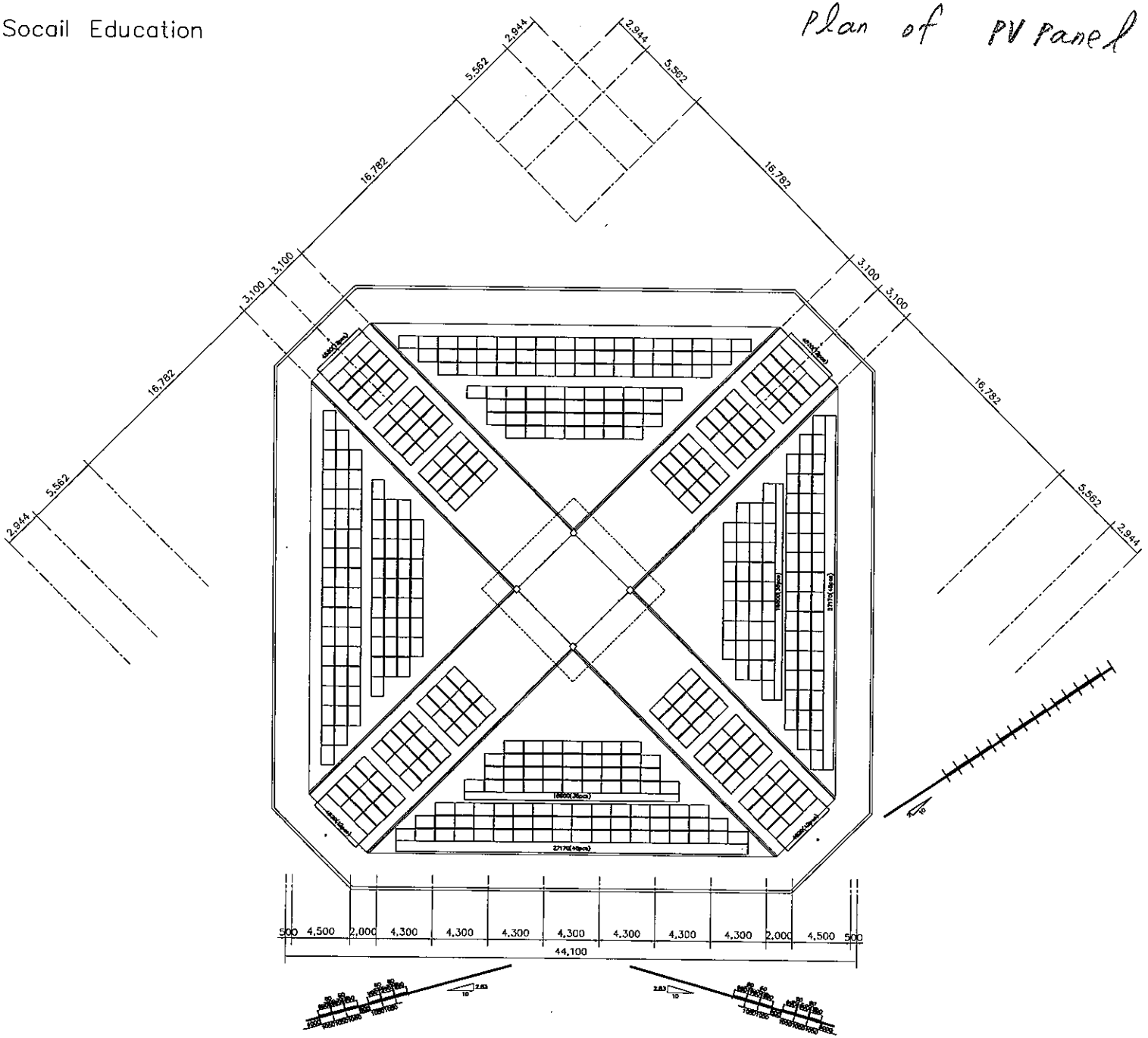
G 013 1/6

H SECT 1/6

SC-20

No.7 Socail Education

Plan of PV panel



S=1:300

Structural Calculation

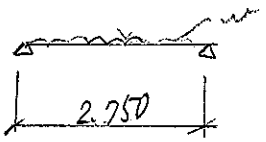
2. 既存部材の検討. The examination of the existent member

(Dead load)

Steel roof (+ board)	250.
Purlin	150
Ceiling	200
	600
PV panel + beam.	500
	1.1 kN/m²

SUB BEAM

[e] see dwg S-13 (Page SC-13)



$w = 1.1\ kN/m^2 \times 3.0\ m + 0.5\ kN/m = 3.8\ kN/m$ (5.2) <1.5.

wind (3000 N/m²)

$M = 1/8 \times 3.8 \times 2.75^2 = 3.6\ kN\cdot m$

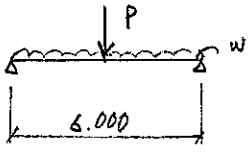
$Q = 1/2 \times 3.8 \times 2.75 = 5.3\ kN$

H-150×75×5×7 $I_x = 666$ $Z_x = 88.8$ $f_b = 157$

$\sigma_b = \frac{3.6 \times 10^3}{88.8} = 41$ $\sigma_b / f_b = 0.27 < 1.0$

$\delta_{max} = \frac{5 \times 3.8 \times 2.75^4 \times 10^{12}}{384 \times 2.05 \times 10^5 \times 666 \times 10^4} = 2.1\ mm = \ell/1309$

[b] see dwg S-13.

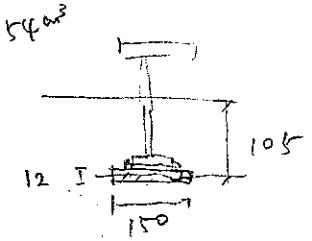


$w = 1.1\ kN/m^2 \times 0.5\ m + 0.5\ kN/m = 1.05\ kN/m$

$P = 5.3\ kN \times 2 = 10.6\ kN$

$M = 1/8 \times 1.05 \times 6.0^2 + 1/4 \times 10.6 \times 6.0 = 20.7\ kN\cdot m$

$Q = 1/2 \times 1.05 \times 6.0 + 1/2 \times 10.6 = 8.5\ kN$



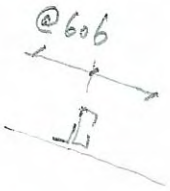
H-198×99×4.5×7 $I_x = 1540$ $Z_x = 156$ $l_b = 3000$ $f_b = 157$

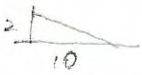
$\sigma_b = \frac{20.7 \times 10^3}{156} = 133\ N/mm^2$ $\sigma_b / f_b = 0.85 < 1.0$

$\delta_{max} = \frac{5 \times 1.05 \times 6.0^4 \times 10}{384 \times 2.05 \times 1540} + \frac{10600 \times 6.0^3}{48 \times 2.05 \times 1540} = 5.62 + 15.11 = 20.73$

$= \ell/189$.

$\ell = 2.0^m$



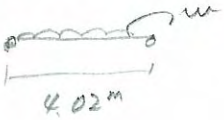


3. 屋根鉄骨部材の算定

母屋 (Purlin)

部材	C - 125	x 50	x 20	x 2.3	
スパン L(m), ピッチ(m)			3.00	0.606	
			3.00		
荷重 Wg (KN/m²) (LOAD)			1.10		
曲げモーメント xMg (KN・m) (Bending Moment)	ω・SIN θ・L²/8 =		0.15		
yMg (KN・m)	ω・COS θ・L²/8 =		0.74		
せん断力 yQg (KN) (Shear)	ω・COS θ・L/2 =		1		
断面性能 Iy (cm⁴)		137			
Ix (cm⁴)		20.6			
Zy (cm³)		21.9			
Zx (cm³)		6.22			
許容曲げ応力度 fb (KN/cm²) Allowable		15.7			
曲げ応力度 x σ b = xM/Zx (KN/cm²)		2.42			
曲げ応力度 y σ b = yM/Zy (KN/cm²)		3.38			
応力度比 (x σ b+y σ b)/fb ≦ 1		0.37	≦	1	OK
撓み δg (cm)		0.49			
δ/L ≧ 300		612	≧	300	OK

(e)



1.1 × 3.0 + 0.5 KN/m = 3.8 KN/m

M = 1/8 × 3.8 × 4.02² = 7.7 KNm

Q = 1/2 × 3.8 × 4.02 = 7.7 KN

H-150×75×5×7

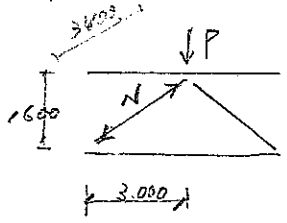
σb = 7.7×10³ / 888 = 87 87/fb = 0.56 ○

δmax = 5 × 3.8 × 4.02⁴ × 10 / 3.84 × 2.05 × 666 = 9.5 mm = l/423

SC-22a

Sub Truss

(ST1) see DWG S-13 S-19



$P = 1.1^{kN/m^2} \times 3.0^{m} \times 2.5^{m} + 0.5^{kN/m} \times 2.5^{m} = 9.5^{kN}$

$N = 1/2 \times 9.5 \times 3.4/1.6 = 10.1^{kN}$

$\underline{[-100\times50\times5\times7.5}$ $A = 11.92^{cm^2}$ $i = 1.48^{cm}$

$lk = 3400$ $\lambda = 230$ $fc = 17.7$

$\sigma c = \frac{10.1\times10^{3}}{1192} = 8.5$ $\sigma c/fc = 0.48$ O.K.

For T2 Truss (LOAD)

T2 トラス 荷重

Truss self weight

トラスは 800 N/m² で見込む、

(3.573.86)×1/2×1.02

集中荷重として $(1.1^{kN/m^2} + 0.8^{kN/m^2}) \times 3.0^{m} \times 3.76^{m} + 0.5^{kN/m} \times 3.76^{m} = 23.4^{kN}$

Point Load.

For Main Truss

メイントラス荷重 (Load)

$P_1 = 1.9^{kN/m^2} \times 2.0^{m} \times 15.0^{m} + 1.9^{kN/m^2} \times 1.5^{m} \times 3.0^{m} = 65.6^{kN}$

$P_2 = 1.9^{kN/m^2} \times 2.75^{m} \times 3.0^{m} = 15.7^{kN}$

$P_3 = 1.9^{kN/m^2} \times 3.75^{m} \times 11.5^{m} + 1.9^{kN/m^2} \times 2.75^{m} \times 3.0^{m} = 97.7^{kN}$

$P_4 = 1.9^{kN/m^2} \times 2.5^{m} \times 3.0^{m} = 14.3^{kN}$ $P_{4a} = 1.4 \times 2.5 \times 3.0 = 10.5^{kN}$

$P_5 = 1.9^{kN/m^2} \times 3.5^{m} \times 8.5^{m} + 1.9^{kN/m^2} \times 2.5^{m} \times 3.0^{m} = 70.8^{kN}$

Purlin → $P_6 = 1.4^{kN/m^2} \times 3.5^{m} \times 5.0^{m} + 1.4^{kN/m^2} \times 2.5^{m} \times 3.0^{m} = 35.0^{kN}$

PV3 → $P_7 = 1.4^{kN/m^2} \times 2.8^{m} \times 1.5^{m} + 1.4^{kN/m^2} \times 2.5^{m} \times 3.0^{m} = 16.4^{kN}$

頂部 Top roof $P_8 = 6.0^{kN/m^2} \times 3.0^{m} \times 3.0^{m} = 54^{kN}$

541

Truss

[T2 コトラス

Main Member

主材材

lower chord

下弦材 $N = 203$ kN. ← SC-27

H-194×150×6×9 $A = 38.11\ cm^2$ $iy = 3.65$ cm

$\ell_k = 300$ mm $\lambda = 83$ $f_c = 10$

$\sigma_c = \frac{2030}{38.11} = 54$ $\sigma_c/f_c = 54/107 = 0.52 < 1.0$

OK.

SC-14, 18

東材 (Post)

$N = 81$ kN ← SC-27

L-75×75×9 $iv = 1.45$ $iy = 2.25$ $\ell_k = 130$ $A = 12.69$

$\lambda = 90$ $\lambda_1 = 58.$

$f_c = 97.1$ $f_c = 129$

$\sigma_c = \frac{810}{12.69} = 64$ $\sigma_c/f_c = 0.66$

OK.

SC-14, 18

ラチス (Web)

$T = 103$ kN ← SC-27

L-75×75×9 $Ae = 1269 - 9 \times 37.5 = 931$

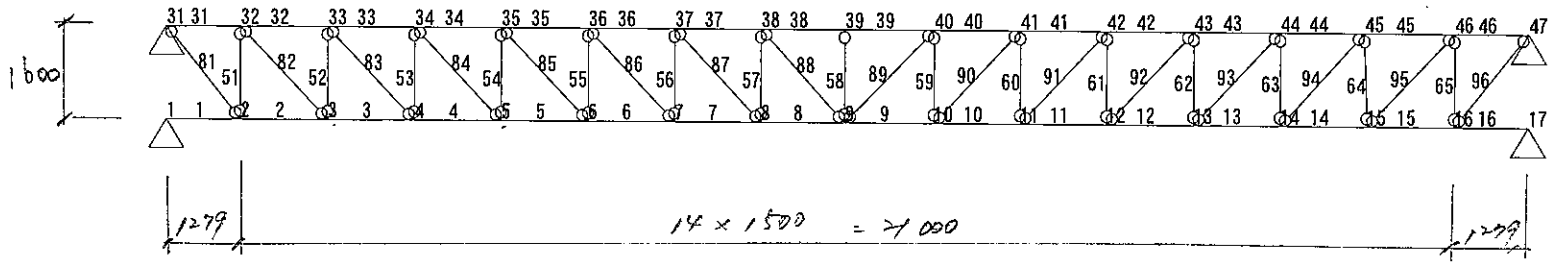
$f_t = 157$

$\sigma_t = \frac{103 \times 10^3}{931} = 111$ $\sigma_t/f_t = 0.71 < 1.0$ OK

SC-14, 18.

*** Super Build／FA1 *** 250780 [NO7T2]
架構図

Frame

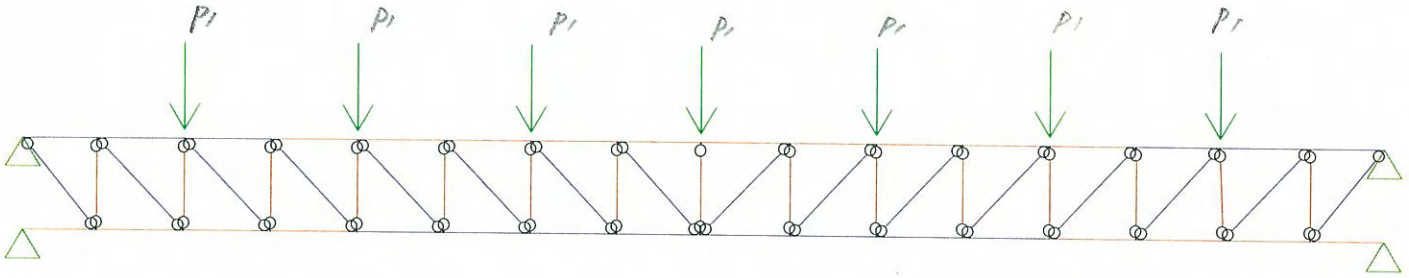


861

*** Super Build／FA1 *** 250780 [NO7T2]
荷重図 [DL+LL]

** UNION SYSTEM ** 3.37 2009/06/12 20:06 PAGE- 1

LOAD



P1 = 23.4 KN.

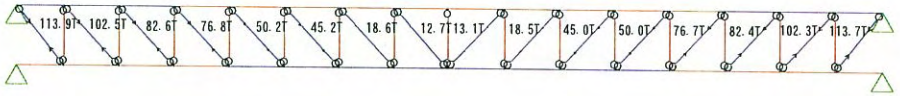
92-05

641

*** Super Build／FA1 *** 250780 [N07T2]
応力図 [DL+LL]

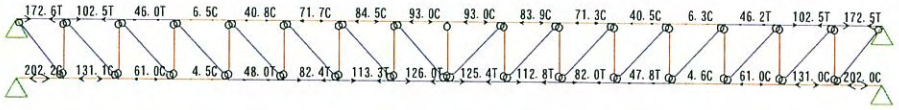
** UNION SYSTEM ** 3.37 2009/06/12 20:18 PAGE- 1

web



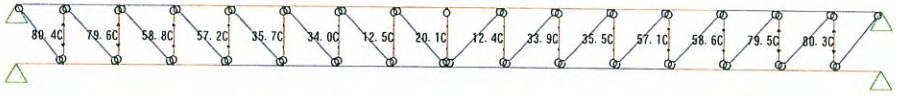
応力図 [DL+LL]

chord



応力図 [DL+LL]

post



43-25

【基本事項・計算条件】

工　事　名：ﾓﾙﾃﾞｨﾌﾞ　No7 T2
略　　称：NO7T2
日　　付：2009/06/04
担　当　者：

・せん断による変形の考慮　：する
・剛域の考慮　：する
・伸縮しない材（Ａを1000倍）　：有
・節点同一変位の指定　：無
・部材毎の増減率の考慮　：無
・バネ材の使用　：しない
・結合状態の共通指定　：部材毎に指定
・応力着目点の追加　：しない
・接合部ﾊﾟﾈﾙ変形の考慮　：しない
・剛域・ﾊﾟﾈﾙの軸変形の考慮　：しない
・剛域を考慮した固定端ﾓｰﾒﾝﾄの計算：しない
・部材端と節点のズレ　：無
・分布ﾊﾞﾈ　：無

・出力単位　：ＳＩ単位

【節点座標】　[m]

No	Ｘ座標	Ｙ座標	No	Ｘ座標	Ｙ座標	No	Ｘ座標	Ｙ座標	No	Ｘ座標	Ｙ座標
1	0.000	0.000	11	14.779	0.000	34	4.279	1.600	44	19.279	1.600
2	1.279	0.000	12	16.279	0.000	35	5.779	1.600	45	20.779	1.600
3	2.779	0.000	13	17.779	0.000	36	7.279	1.600	46	22.279	1.600
4	4.279	0.000	14	19.279	0.000	37	8.779	1.600	47	23.558	1.600
5	5.779	0.000	15	20.779	0.000	38	10.279	1.600			
6	7.279	0.000	16	22.279	0.000	39	11.729	1.600			
7	8.779	0.000	17	23.558	0.000	40	13.279	1.600			
8	10.279	0.000	31	0.000	1.600	41	14.779	1.600			
9	11.729	0.000	32	1.279	1.600	42	16.279	1.600			
10	13.279	0.000	33	2.779	1.600	43	17.779	1.600			

【支点データ】　[kN／cm]　[kNm／rad]　（０は自由、１は拘束を表します。）

No	節点No. <1>	<2>	<3>	Ｘ方向ﾊﾞﾈ	Ｙ方向ﾊﾞﾈ	回転ﾊﾞﾈ
1	1	31		1.0	1.0	0.0
2	17	47		1.0	1.0	0.0

【材質】　[kN／mm2]

No	E	G
1	205.00	79.00

【断面性能】

No	A [cm2]	I [cm4]	κ	断面名
1	38.11	2625	3.61	H-194*150*6*9*8
2	12.69	64	3.00	L-75*75*9
3	25.38	129	3.00	2L-75*75*9

【部材配置】（ 断面No.が負値の材は、伸縮しない材を表します。）

No	節点No i端	節点No j端	断面No	材質No	結合No i端	結合No j端	剛域 [cm] i端	剛域 [cm] j端
1	1	2	1	1	0	0	0.0	0.0
2	2	3	1	1	0	0	0.0	0.0
3	3	4	1	1	0	0	0.0	0.0
4	4	5	1	1	0	0	0.0	0.0
5	5	6	1	1	0	0	0.0	0.0

No	/--節点No--/ i端	j端	断面No	材質No	/--結合No --/ i端	j端	/--剛域 [cm] --/ i端	j端
6	6	7	1	1	0	0	0.0	0.0
7	7	8	1	1	0	0	0.0	0.0
8	8	9	1	1	0	0	0.0	0.0
9	9	10	1	1	0	0	0.0	0.0
10	10	11	1	1	0	0	0.0	0.0
11	11	12	1	1	0	0	0.0	0.0
12	12	13	1	1	0	0	0.0	0.0
13	13	14	1	1	0	0	0.0	0.0
14	14	15	1	1	0	0	0.0	0.0
15	15	16	1	1	0	0	0.0	0.0
16	16	17	1	1	0	0	0.0	0.0
31	31	32	1	1	0	0	0.0	0.0
32	32	33	1	1	0	0	0.0	0.0
33	33	34	1	1	0	0	0.0	0.0
34	34	35	1	1	0	0	0.0	0.0
35	35	36	1	1	0	0	0.0	0.0
36	36	37	1	1	0	0	0.0	0.0
37	37	38	1	1	0	0	0.0	0.0
38	38	39	1	1	0	0	0.0	0.0
39	39	40	1	1	0	0	0.0	0.0
40	40	41	1	1	0	0	0.0	0.0
41	41	42	1	1	0	0	0.0	0.0
42	42	43	1	1	0	0	0.0	0.0
43	43	44	1	1	0	0	0.0	0.0
44	44	45	1	1	0	0	0.0	0.0
45	45	46	1	1	0	0	0.0	0.0
46	46	47	1	1	0	0	0.0	0.0
51	2	32	2	1	1	1	0.0	0.0
52	3	33	2	1	1	1	0.0	0.0
53	4	34	2	1	1	1	0.0	0.0
54	5	35	2	1	1	1	0.0	0.0
55	6	36	2	1	1	1	0.0	0.0
56	7	37	2	1	1	1	0.0	0.0
57	8	38	2	1	1	1	0.0	0.0
58	9	39	2	1	1	1	0.0	0.0
59	10	40	2	1	1	1	0.0	0.0
60	11	41	2	1	1	1	0.0	0.0
61	12	42	2	1	1	1	0.0	0.0
62	13	43	2	1	1	1	0.0	0.0
63	14	44	2	1	1	1	0.0	0.0
64	15	45	2	1	1	1	0.0	0.0
65	16	46	2	1	1	1	0.0	0.0
81	31	2	3	1	1	1	0.0	0.0
82	32	3	2	1	1	1	0.0	0.0
83	33	4	2	1	1	1	0.0	0.0
84	34	5	2	1	1	1	0.0	0.0
85	35	6	2	1	1	1	0.0	0.0
86	36	7	2	1	1	1	0.0	0.0
87	37	8	2	1	1	1	0.0	0.0
88	38	9	2	1	1	1	0.0	0.0
89	9	40	2	1	1	1	0.0	0.0
90	10	41	2	1	1	1	0.0	0.0
91	11	42	2	1	1	1	0.0	0.0
92	12	43	2	1	1	1	0.0	0.0
93	13	44	2	1	1	1	0.0	0.0
94	14	45	2	1	1	1	0.0	0.0
95	15	46	2	1	1	1	0.0	0.0
96	16	47	3	1	1	1	0.0	0.0

【荷重ケース 1 】DL+LL

No	節点,部材No.〈1〉	〈2〉	〈3〉	TYPE	方向	P1	P2	P3	P4	P5	P6
1	33	35	37	0		0.000kN	-23.400kN	0.000kNm			
2	39	41	43	0		0.000kN	-23.400kN	0.000kNm			
3	45			0		0.000kN	-23.400kN	0.000kNm			

【支点反力】

※※ 荷重ケース 1 ※※ DL+LL

節点No	Rx [kN]	Ry [kN]	Rm [kNm]
1	202.2	-4.3	0.0
17	-202.0	-4.3	0.0
31	-243.7	86.2	0.0
47	243.5	86.1	0.0
合計	0.0	163.8	0.0

【節点変位】

※※ 荷重ケース 1 ※※ DL+LL

節点No	δx [cm]	δy [cm]	θ [rad]
1	0.000000	0.000000	-0.00048999
2	-0.033102	-0.083853	-0.00114086
3	-0.058273	-0.332915	-0.00178422
4	-0.069981	-0.587852	-0.00167229
5	-0.070848	-0.832453	-0.00150841
6	-0.061624	-1.035490	-0.00122649
7	-0.045808	-1.197286	-0.00086937
8	-0.024060	-1.294109	-0.00045933
9	-0.000670	-1.332634	-0.00001143
10	0.024218	-1.292635	0.00046302
11	0.045874	-1.195719	0.00086874
12	0.061622	-1.034050	0.00122525
13	0.070802	-0.831264	0.00150641
14	0.069914	-0.586997	0.00166991
15	0.058208	-0.332435	0.00178162
16	0.033062	-0.083729	0.00113922
17	0.000000	0.000000	0.00048926
31	0.000000	0.000000	-0.00093827
32	0.028262	-0.133322	-0.00134747
33	0.047945	-0.381889	-0.00169035
34	0.056786	-0.623990	-0.00163620
35	0.055536	-0.867646	-0.00145877
36	0.047694	-1.057427	-0.00118001
37	0.033920	-1.218206	-0.00081811
38	0.017698	-1.301808	-0.00043081
39	0.000438	-1.344993	-0.00001293
40	-0.018011	-1.300270	0.00043252
41	-0.034122	-1.216570	0.00081795
42	-0.047803	-1.055905	0.00117873
43	-0.055577	-0.866376	0.00145677
44	-0.056783	-0.623055	0.00163380
45	-0.047921	-0.381329	0.00168781
46	-0.028240	-0.133119	0.00134551
47	0.000000	0.000000	0.00093681

【部材応力】

※※ 荷重ケース 1 ※※ DL+LL

部材No	節点No i端	節点No j端	M [kNm] i端	M [kNm] 中央	M [kNm] j端	Q [kN] i端	Q [kN] j端	N [kN] i端	N [kN] j端
1	1	2	0.0	-2.7	-5.5	-4.3	4.3	202.2	-202.2
2	2	3	5.5	-2.3	0.9	4.2	-4.2	131.1	-131.1
3	3	4	-0.9	0.4	-0.1	-0.6	0.6	61.0	-61.0
4	4	5	0.1	0.6	1.2	0.9	-0.9	4.5	-4.5
5	5	6	-1.2	1.0	0.8	-0.3	0.3	-48.0	48.0
6	6	7	-0.8	1.3	1.8	0.7	-0.7	-82.4	82.4
7	7	8	-1.8	1.5	1.2	-0.4	0.4	-113.3	113.3
8	8	9	-1.2	1.7	2.2	0.7	-0.7	-126.0	126.0
9	9	10	-2.2	1.6	1.1	-0.7	0.7	-125.4	125.4
10	10	11	-1.1	1.5	1.8	0.4	-0.4	-112.8	112.8
11	11	12	-1.8	1.3	0.8	-0.7	0.7	-82.0	82.0
12	12	13	-0.8	1.0	1.2	0.3	-0.3	-47.8	47.8
13	13	14	-1.2	0.6	-0.1	-0.9	0.9	4.6	-4.6
14	14	15	0.1	0.4	0.9	0.6	-0.6	61.0	-61.0
15	15	16	-0.9	-2.3	-5.5	-4.2	4.2	131.0	-131.0

部材No	節点No i端	節点No j端	M [kNm] i端	M [kNm] 中央	M [kNm] j端	Q [kN] i端	Q [kN] j端	N [kN] i端	N [kN] j端
16	16	17	5.5	-2.7	0.0	4.3	-4.3	202.0	-202.0
31	31	32	0.0	-1.7	-3.4	-2.7	2.7	-172.6	172.6
32	32	33	3.4	-1.2	1.0	3.0	-3.0	-102.5	102.5
33	33	34	-1.0	0.2	-0.6	-1.1	1.1	-46.0	46.0
34	34	35	0.6	0.6	1.9	1.6	-1.6	6.5	-6.5
35	35	36	-1.9	1.0	0.1	-1.2	1.2	40.8	-40.8
36	36	37	-0.1	1.3	2.5	1.6	-1.6	71.7	-71.7
37	37	38	-2.5	1.4	0.3	-1.4	1.4	84.5	-84.5
38	38	39	-0.3	1.6	2.8	1.7	-1.7	93.0	-93.0
39	39	40	-2.8	1.5	0.3	-1.6	1.6	93.0	-93.0
40	40	41	-0.3	1.4	2.5	1.4	-1.4	83.9	-83.9
41	41	42	-2.5	1.3	0.1	-1.6	1.6	71.3	-71.3
42	42	43	-0.1	1.0	1.9	1.2	-1.2	40.5	-40.5
43	43	44	-1.9	0.6	-0.6	-1.6	1.6	6.3	-6.3
44	44	45	0.6	0.2	1.0	1.1	-1.1	-46.2	46.2
45	45	46	-1.0	-1.2	-3.4	-2.9	2.9	-102.5	102.5
46	46	47	3.4	-1.7	0.0	2.7	-2.7	-172.5	172.5
51	2	32	0.0	0.0	0.0	0.0	0.0	80.4	-80.4
52	3	33	0.0	0.0	0.0	0.0	0.0	79.6	-79.6
53	4	34	0.0	0.0	0.0	0.0	0.0	58.8	-58.8
54	5	35	0.0	0.0	0.0	0.0	0.0	57.2	-57.2
55	6	36	0.0	0.0	0.0	0.0	0.0	35.7	-35.7
56	7	37	0.0	0.0	0.0	0.0	0.0	34.0	-34.0
57	8	38	0.0	0.0	0.0	0.0	0.0	12.5	-12.5
58	9	39	0.0	0.0	0.0	0.0	0.0	20.1	-20.1
59	10	40	0.0	0.0	0.0	0.0	0.0	12.4	-12.4
60	11	41	0.0	0.0	0.0	0.0	0.0	33.9	-33.9
61	12	42	0.0	0.0	0.0	0.0	0.0	35.5	-35.5
62	13	43	0.0	0.0	0.0	0.0	0.0	57.1	-57.1
63	14	44	0.0	0.0	0.0	0.0	0.0	58.6	-58.6
64	15	45	0.0	0.0	0.0	0.0	0.0	79.5	-79.5
65	16	46	0.0	0.0	0.0	0.0	0.0	80.3	-80.3
81	31	2	0.0	0.0	0.0	0.0	0.0	-113.9	113.9
82	32	3	0.0	0.0	0.0	0.0	0.0	-102.5	102.5
83	33	4	0.0	0.0	0.0	0.0	0.0	-82.6	82.6
84	34	5	0.0	0.0	0.0	0.0	0.0	-76.8	76.8
85	35	6	0.0	0.0	0.0	0.0	0.0	-50.2	50.2
86	36	7	0.0	0.0	0.0	0.0	0.0	-45.2	45.2
87	37	8	0.0	0.0	0.0	0.0	0.0	-18.6	18.6
88	38	9	0.0	0.0	0.0	0.0	0.0	-12.7	12.7
89	9	40	0.0	0.0	0.0	0.0	0.0	-13.1	13.1
90	10	41	0.0	0.0	0.0	0.0	0.0	-18.5	18.5
91	11	42	0.0	0.0	0.0	0.0	0.0	-45.0	45.0
92	12	43	0.0	0.0	0.0	0.0	0.0	-50.0	50.0
93	13	44	0.0	0.0	0.0	0.0	0.0	-76.7	76.7
94	14	45	0.0	0.0	0.0	0.0	0.0	-82.4	82.4
95	15	46	0.0	0.0	0.0	0.0	0.0	-102.3	102.3
96	16	47	0.0	0.0	0.0	0.0	0.0	-113.7	113.7

Main Truss
[メイントラス]

主材 lower chord
N = 644 kN ↙ SC-34

H-250×250×9×14 iy = 6.32 A = 91.43 lk = 500 λ = 80 fc = 108

$\sigma_c = \frac{6440}{91.43} = 71$ $\sigma_c/f_c = 0.66 < 1.0$

東材 post
N = 294 kN ↙ SC-34

2L-150×75×6.5×10 A = 23.71 cm² × 2 iy = 2.22

lk = 150 cm λ = 68 fc = 119

$\sigma_c = \frac{2940}{23.71 \times 2} = 62$ $\sigma_c/f_c = 0.52 < 1.0$

ラチス web
N = 243 kN ↙ SC-34

2L-125×65×6×8 iy = 1.9×2 = 3.8 cm A = 17.11×2 = 34.22

lk = 240 cm λ = 64 fc = 123

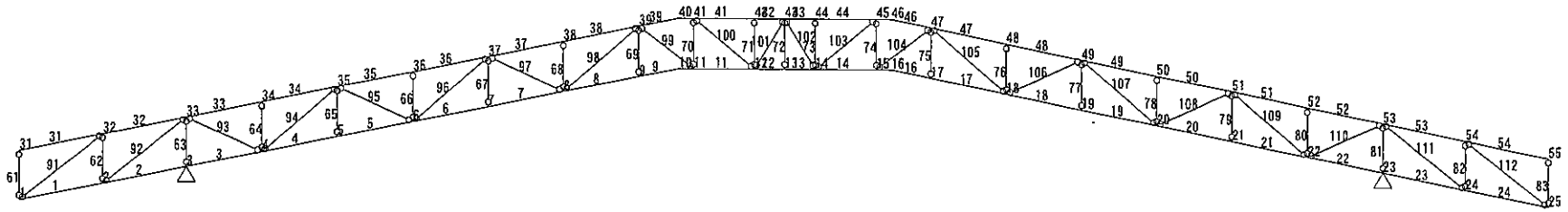
$\sigma_c = \frac{2430}{34.22} = 72$ $\sigma_c/f_c = 0.59 < 1.0$

Ref.
SC-14, 17

dB1

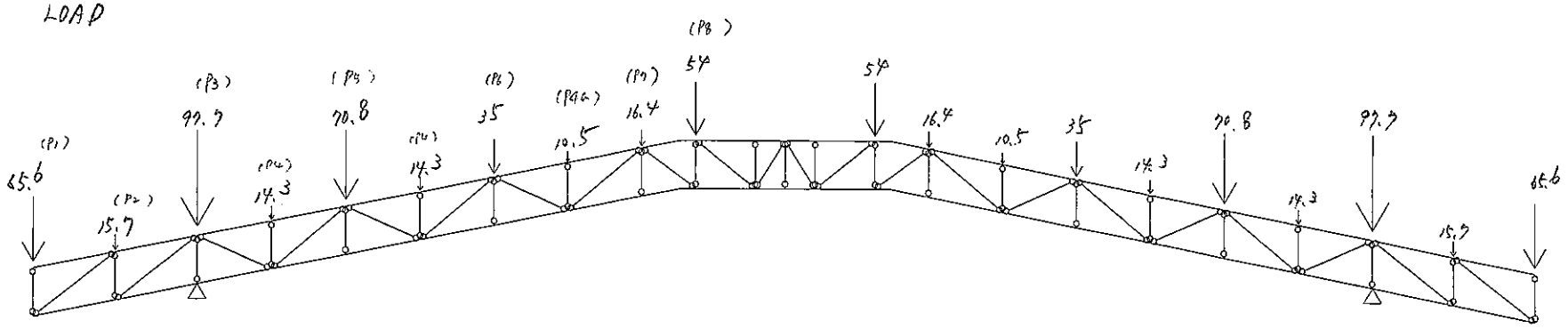
架構図

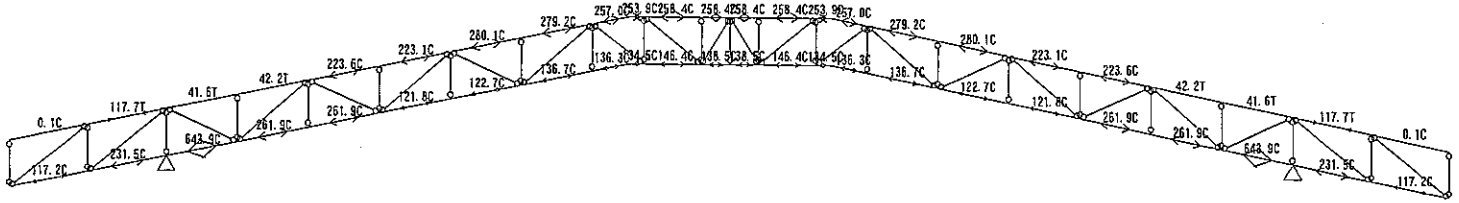
Frame



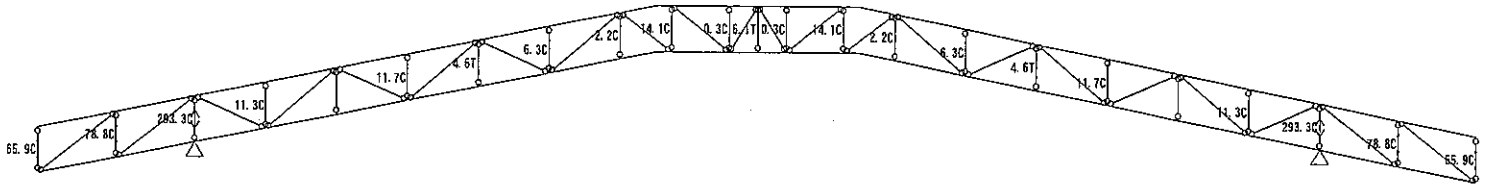
荷重図 [DL+LL]

LOAD

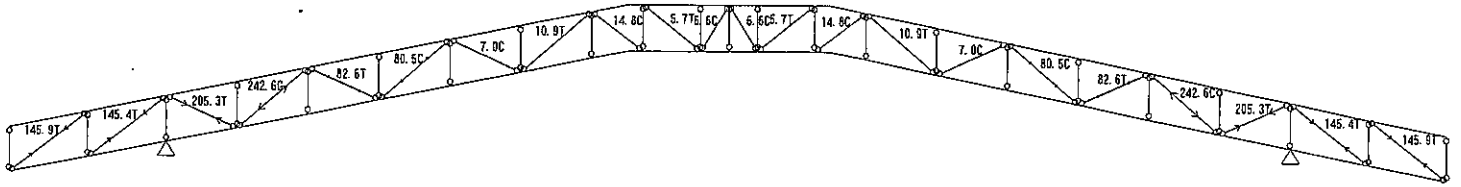




応力図 [DL+LL]



応力図 [DL+LL]



【基本事項・計算条件】

工　事　名：ﾓﾙﾃﾞｨﾌﾞﾒｲﾝﾄﾗｽ
略　　称：NO7MAINE
日　　付：2009/05/21
担　当　者：yec

・せん断による変形の考慮　：する
・剛域の考慮　：する
・伸縮しない材（Ａを1000倍）　：有
・節点同一変位の指定　：有
・部材毎の増減率の考慮　：無
・バネ材の使用　：しない
・結合状態の共通指定　：部材毎に指定
・応力着目点の追加　：しない
・接合部ﾊﾟﾈﾙ変形の考慮　：しない
・剛域・ﾊﾟﾈﾙの軸変形の考慮　：しない
・剛域を考慮した固定端ﾓｰﾒﾝﾄの計算：しない
・部材端と節点のズレ　：無
・分布ﾊﾞﾈ　：無

・出力単位　：ＳＩ単位

【節点座標】　[m]

No	Ｘ座標	Ｙ座標	No	Ｘ座標	Ｙ座標	No	Ｘ座標	Ｙ座標	No	Ｘ座標	Ｙ座標
1	0.000	0.000	16	28.613	4.320	36	12.885	4.175	51	39.816	3.680
2	2.730	0.544	17	29.916	4.060	37	15.360	4.670	52	42.291	3.185
3	5.460	1.090	18	32.391	3.565	38	17.835	5.165	53	44.766	2.690
4	7.935	1.585	19	34.866	3.070	39	20.310	5.660	54	47.496	2.144
5	10.410	2.080	20	37.341	2.575	40	21.613	5.920	55	50.226	1.600
6	12.885	2.575	21	39.816	2.080	41	22.113	5.920			
7	15.360	3.070	22	42.291	1.585	42	24.113	5.920			
8	17.835	3.565	23	44.766	1.090	43	25.113	5.920			
9	20.310	4.060	24	47.496	0.544	44	26.113	5.920			
10	21.613	4.320	25	50.226	0.000	45	28.113	5.920			
11	22.113	4.320	31	0.000	1.600	46	28.613	5.920			
12	24.113	4.320	32	2.730	2.144	47	29.916	5.660			
13	25.113	4.320	33	5.460	2.690	48	32.391	5.165			
14	26.113	4.320	34	7.935	3.185	49	34.866	4.670			
15	28.113	4.320	35	10.410	3.680	50	37.341	4.175			

【支点データ】　[kN／cm] [kNm／rad]　（０は自由、１は拘束を表します。）

No	節点No. <1>	<2>	<3>	Ｘ方向ﾊﾞﾈ	Ｙ方向ﾊﾞﾈ	回転ﾊﾞﾈ
1	3			1.0	1.0	0.0
2	23			1.0	1.0	0.0

【節点同一変位】

---- 入力値なし ----

【材質】　[kN／mm2]

No	E	G
1	205.00	79.00

【断面性能】

No	A [cm2]	I [cm4]	κ	断面名
1	91.43	10748	4.58	H-250*250*9*14*13
2	63.53	4716	4.51	H-200*200*8*12*13
3	47.42	1722	3.00	2[-150*75*6.5*10
4	34.22	848	3.00	2[-125*65*6*8
5	23.84	376	3.00	2[-100*50*5*7.5
6	25.38	129	3.00	2L-75*75*9

SC-35

【結合状態】 [kNm／rad] (登録No.0は剛接)

No	回転バネ係数
1	0.0

【部材配置】 (断面No.が負値の材は、伸縮しない材を表します。)

No	節点No i端	節点No j端	断面No	材質No	結合No i端	結合No j端	剛域 [cm] i端	剛域 [cm] j端
1	1	2	1	1	0	0	0.0	0.0
2	2	3	1	1	0	0	0.0	0.0
3	3	4	1	1	0	0	0.0	0.0
4	4	5	1	1	0	0	0.0	0.0
5	5	6	1	1	0	0	0.0	0.0
6	6	7	2	1	0	0	0.0	0.0
7	7	8	2	1	0	0	0.0	0.0
8	8	9	2	1	0	0	0.0	0.0
9	9	10	2	1	0	0	0.0	0.0
10	10	11	2	1	0	0	0.0	0.0
11	11	12	2	1	0	0	0.0	0.0
12	12	13	2	1	0	0	0.0	0.0
13	13	14	2	1	0	0	0.0	0.0
14	14	15	2	1	0	0	0.0	0.0
15	15	16	2	1	0	0	0.0	0.0
16	16	17	2	1	0	0	0.0	0.0
17	17	18	2	1	0	0	0.0	0.0
18	18	19	2	1	0	0	0.0	0.0
19	19	20	2	1	0	0	0.0	0.0
20	20	21	1	1	0	0	0.0	0.0
21	21	22	1	1	0	0	0.0	0.0
22	22	23	1	1	0	0	0.0	0.0
23	23	24	1	1	0	0	0.0	0.0
24	24	25	1	1	0	0	0.0	0.0
31	31	32	2	1	0	0	0.0	0.0
32	32	33	2	1	0	0	0.0	0.0
33	33	34	2	1	0	0	0.0	0.0
34	34	35	2	1	0	0	0.0	0.0
35	35	36	2	1	0	0	0.0	0.0
36	36	37	2	1	0	0	0.0	0.0
37	37	38	2	1	0	0	0.0	0.0
38	38	39	2	1	0	0	0.0	0.0
39	39	40	2	1	0	0	0.0	0.0
40	40	41	2	1	0	0	0.0	0.0
41	41	42	2	1	0	0	0.0	0.0
42	42	43	2	1	0	0	0.0	0.0
43	43	44	2	1	0	0	0.0	0.0
44	44	45	2	1	0	0	0.0	0.0
45	45	46	2	1	0	0	0.0	0.0
46	46	47	2	1	0	0	0.0	0.0
47	47	48	2	1	0	0	0.0	0.0
48	48	49	2	1	0	0	0.0	0.0
49	49	50	2	1	0	0	0.0	0.0
50	50	51	2	1	0	0	0.0	0.0
51	51	52	2	1	0	0	0.0	0.0
52	52	53	2	1	0	0	0.0	0.0
53	53	54	2	1	0	0	0.0	0.0
54	54	55	2	1	0	0	0.0	0.0
61	1	31	3	1	1	1	0.0	0.0
62	2	32	4	1	1	1	0.0	0.0
63	3	33	3	1	1	1	0.0	0.0
64	4	34	5	1	1	1	0.0	0.0
65	5	35	6	1	1	1	0.0	0.0
66	6	36	5	1	1	1	0.0	0.0
67	7	37	5	1	1	1	0.0	0.0

No	/--節点No--/ i端	j端	断面No	材質No	/--結合No --/ i端	j端	/--剛域 [cm] --/ i端	j端
68	8	38	5	1	1	1	0.0	0.0
69	9	39	5	1	1	1	0.0	0.0
70	11	41	5	1	1	1	0.0	0.0
71	12	42	5	1	1	1	0.0	0.0
72	13	43	5	1	1	1	0.0	0.0
73	14	44	5	1	1	1	0.0	0.0
74	15	45	5	1	1	1	0.0	0.0
75	17	47	5	1	1	1	0.0	0.0
76	18	48	5	1	1	1	0.0	0.0
77	19	49	5	1	1	1	0.0	0.0
78	20	50	5	1	1	1	0.0	0.0
79	21	51	6	1	1	1	0.0	0.0
80	22	52	5	1	1	1	0.0	0.0
81	23	53	3	1	1	1	0.0	0.0
82	24	54	4	1	1	1	0.0	0.0
83	25	55	3	1	1	1	0.0	0.0
91	1	32	3	1	1	1	0.0	0.0
92	2	33	3	1	1	1	0.0	0.0
93	33	4	4	1	1	1	0.0	0.0
94	4	35	4	1	1	1	0.0	0.0
95	35	6	4	1	1	1	0.0	0.0
96	6	37	4	1	1	1	0.0	0.0
97	37	8	5	1	1	1	0.0	0.0
98	8	39	5	1	1	1	0.0	0.0
99	39	11	5	1	1	1	0.0	0.0
100	41	12	5	1	1	1	0.0	0.0
101	12	43	5	1	1	1	0.0	0.0
102	43	14	5	1	1	1	0.0	0.0
103	14	45	5	1	1	1	0.0	0.0
104	15	47	5	1	1	1	0.0	0.0
105	47	18	5	1	1	1	0.0	0.0
106	18	49	5	1	1	1	0.0	0.0
107	49	20	4	1	1	1	0.0	0.0
108	20	51	4	1	1	1	0.0	0.0
109	51	22	4	1	1	1	0.0	0.0
110	22	53	4	1	1	1	0.0	0.0
111	53	24	3	1	1	1	0.0	0.0
112	54	25	3	1	1	1	0.0	0.0

【荷重ケース 1 】DL+LL

No	/--節点,部材No.-/ 〈1〉	〈2〉	〈3〉	TYPE	方向	P1	P2	P3	P4	P5	P6
1	31	55		0		0.000kN	-65.600kN	0.000kNm			
2	32	54		0		0.000kN	-15.700kN	0.000kNm			
3	33	53		0		0.000kN	-97.700kN	0.000kNm			
4	34	52		0		0.000kN	-14.300kN	0.000kNm			
5	35	51		0		0.000kN	-70.800kN	0.000kNm			
6	36	50		0		0.000kN	-14.300kN	0.000kNm			
7	37	49		0		0.000kN	-35.000kN	0.000kNm			
8	38	48		0		0.000kN	-10.500kN	0.000kNm			
9	39	47		0		0.000kN	-16.400kN	0.000kNm			
10	41	45		0		0.000kN	-54.000kN	0.000kNm			

【支点反力】

※※ 荷重ケース 1 ※※ DL+LL

節点No	Rx [kN]	Ry [kN]	Rm [kNm]
3	400.4	394.3	0.0
23	-400.4	394.3	0.0
合計	0.0	788.6	0.0

【節点変位】

※※ 荷重ケース 1 ※※ DL+LL

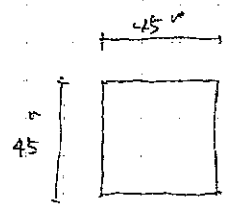
節点No	δx [cm]	δy [cm]	θ [rad]	節点No	δx [cm]	δy [cm]	θ [rad]
1	0.154574	-0.509803	0.00095865	31	0.071204	-0.520649	0.00095163
2	0.081641	-0.232885	0.00118792	32	0.017428	-0.250847	0.00106958
3	0.000000	0.000000	-0.00016793	33	0.002578	-0.048274	-0.00018560
4	-0.026723	-0.308493	-0.00156620	34	0.063591	-0.312190	-0.00150639
5	0.013054	-0.687217	-0.00140175	35	0.146944	-0.687226	-0.00146050
6	0.040451	-1.004040	-0.00106771	36	0.166890	-1.007882	-0.00096381
7	0.057010	-1.207184	-0.00080179	37	0.162360	-1.205662	-0.00078889
8	0.071337	-1.400066	-0.00040184	38	0.146301	-1.402128	-0.00041095
9	0.047220	-1.414586	0.00001618	39	0.093745	-1.415296	0.00016561
10	0.038283	-1.440861	-0.00059538	40	0.069269	-1.426596	-0.00073952
11	0.033118	-1.485455	-0.00069212	41	0.059521	-1.490084	-0.00089556
12	0.010631	-1.556004	-0.00007553	42	0.019840	-1.556115	-0.00001387
13	0.000000	-1.554373	0.00000000	43	0.000000	-1.552363	0.00000000
14	-0.010631	-1.556004	0.00007553	44	-0.019840	-1.556115	0.00001387
15	-0.033118	-1.485455	0.00069212	45	-0.059521	-1.490084	0.00089556
16	-0.038283	-1.440861	0.00059538	46	-0.069269	-1.426596	0.00073952
17	-0.047220	-1.414586	-0.00001618	47	-0.093745	-1.415296	-0.00016561
18	-0.071337	-1.400066	0.00040184	48	-0.146301	-1.402128	0.00041095
19	-0.057010	-1.207184	0.00080179	49	-0.162360	-1.205662	0.00078889
20	-0.040451	-1.004040	0.00106771	50	-0.166890	-1.007882	0.00096381
21	-0.013054	-0.687217	0.00140175	51	-0.146944	-0.687226	0.00146050
22	0.026723	-0.308493	0.00156620	52	-0.063591	-0.312190	0.00150639
23	0.000000	0.000000	0.00016793	53	-0.002578	-0.048274	0.00018560
24	-0.081641	-0.232885	-0.00118792	54	-0.017428	-0.250847	-0.00106958
25	-0.154574	-0.509803	-0.00095865	55	-0.071204	-0.520649	-0.00095163

【部材応力】

※※ 荷重ケース 1 ※※ DL+LL

部材No	節点No i端	節点No j端	M [kNm] i端	M [kNm] 中央	M [kNm] j端	Q [kN] i端	Q [kN] j端	N [kN] i端	N [kN] j端
1	1	2	0.0	1.8	3.6	1.3	-1.3	117.2	-117.2
2	2	3	-3.6	-10.7	-25.1	-10.3	10.3	231.5	-231.5
3	3	4	25.1	-12.2	0.7	10.2	-10.2	643.9	-643.9
4	4	5	-0.7	1.4	2.2	0.6	-0.6	261.9	-261.9
5	5	6	-2.2	2.9	3.6	0.6	-0.6	261.9	-261.9
6	6	7	-3.6	1.0	-1.6	-2.1	2.1	121.8	-121.8
7	7	8	1.6	1.5	4.7	2.5	-2.5	122.7	-122.7
8	8	9	-4.7	1.6	-1.5	-2.4	2.4	136.7	-136.7
9	9	10	1.5	-4.4	-7.4	-4.5	4.5	136.3	-136.3
10	10	11	7.4	-1.9	3.7	22.3	-22.3	134.5	-134.5
11	11	12	-3.7	3.0	2.3	-0.7	0.7	146.4	-146.4
12	12	13	-2.3	0.7	-0.8	-3.1	3.1	138.5	-138.5
13	13	14	0.8	0.7	2.3	3.1	-3.1	138.5	-138.5
14	14	15	-2.3	3.0	3.7	0.7	-0.7	146.4	-146.4
15	15	16	-3.7	-1.9	-7.4	-22.3	22.3	134.5	-134.5
16	16	17	7.4	-4.4	-1.5	4.5	-4.5	136.3	-136.3
17	17	18	1.5	1.6	4.7	2.4	-2.4	136.7	-136.7
18	18	19	-4.7	1.5	-1.6	-2.5	2.5	122.7	-122.7
19	19	20	1.6	1.0	3.6	2.1	-2.1	121.8	-121.8
20	20	21	-3.6	2.9	2.2	-0.6	0.6	261.9	-261.9
21	21	22	-2.2	1.4	0.7	-0.6	0.6	261.9	-261.9
22	22	23	-0.7	-12.2	-25.1	-10.2	10.2	643.9	-643.9
23	23	24	25.1	-10.7	3.6	10.3	-10.3	231.5	-231.5
24	24	25	-3.6	1.8	0.0	-1.3	1.3	117.2	-117.2
31	31	32	0.0	0.4	0.8	0.3	-0.3	0.1	-0.1
32	32	33	-0.8	-4.4	-9.5	-3.7	3.7	-117.7	117.7
33	33	34	9.5	-5.1	-0.6	3.5	-3.5	-41.6	41.6
34	34	35	0.6	0.2	0.9	0.6	-0.6	-42.2	42.2
35	35	36	-0.9	1.9	2.9	0.8	-0.8	223.6	-223.6
36	36	37	-2.9	0.7	-1.5	-1.7	1.7	223.1	-223.1

部材No	節点No i端	節点No j端	M [kNm] i端	M [kNm] 中央	M [kNm] j端	Q [kN] i端	Q [kN] j端	N [kN] i端	N [kN] j端
37	37	38	1.5	1.4	4.4	2.4	-2.4	280.1	-280.1
38	38	39	-4.4	2.2	0.0	-1.8	1.8	279.2	-279.2
39	39	40	0.0	-6.6	-13.2	-9.9	9.9	257.0	-257.0
40	40	41	13.2	-3.0	7.1	40.6	-40.6	253.9	-253.9
41	41	42	-7.1	4.3	1.4	-2.9	2.9	258.4	-258.4
42	42	43	-1.4	0.1	-1.1	-2.5	2.5	258.4	-258.4
43	43	44	1.1	0.1	1.4	2.5	-2.5	258.4	-258.4
44	44	45	-1.4	4.3	7.1	2.9	-2.9	258.4	-258.4
45	45	46	-7.1	-3.0	-13.2	-40.6	40.6	253.9	-253.9
46	46	47	13.2	-6.6	0.0	9.9	-9.9	257.0	-257.0
47	47	48	0.0	2.2	4.4	1.8	-1.8	279.2	-279.2
48	48	49	-4.4	1.4	-1.5	-2.4	2.4	280.1	-280.1
49	49	50	1.5	0.7	2.9	1.7	-1.7	223.1	-223.1
50	50	51	-2.9	1.9	0.9	-0.8	0.8	223.6	-223.6
51	51	52	-0.9	0.2	-0.6	-0.6	0.6	-42.2	42.2
52	52	53	0.6	-5.1	-9.5	-3.5	3.5	-41.6	41.6
53	53	54	9.5	-4.4	0.8	3.7	-3.7	-117.7	117.7
54	54	55	-0.8	0.4	0.0	-0.3	0.3	0.1	-0.1
61	1	31	0.0	0.0	0.0	0.0	0.0	65.9	-65.9
62	2	32	0.0	0.0	0.0	0.0	0.0	78.8	-78.8
63	3	33	0.0	0.0	0.0	0.0	0.0	293.3	-293.3
64	4	34	0.0	0.0	0.0	0.0	0.0	11.3	-11.3
65	5	35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
66	6	36	0.0	0.0	0.0	0.0	0.0	11.7	-11.7
67	7	37	0.0	0.0	0.0	0.0	0.0	-4.6	4.6
68	8	38	0.0	0.0	0.0	0.0	0.0	6.3	-6.3
69	9	39	0.0	0.0	0.0	0.0	0.0	2.2	-2.2
70	11	41	0.0	0.0	0.0	0.0	0.0	14.1	-14.1
71	12	42	0.0	0.0	0.0	0.0	0.0	0.3	-0.3
72	13	43	0.0	0.0	0.0	0.0	0.0	-6.1	6.1
73	14	44	0.0	0.0	0.0	0.0	0.0	0.3	-0.3
74	15	45	0.0	0.0	0.0	0.0	0.0	14.1	-14.1
75	17	47	0.0	0.0	0.0	0.0	0.0	2.2	-2.2
76	18	48	0.0	0.0	0.0	0.0	0.0	6.3	-6.3
77	19	49	0.0	0.0	0.0	0.0	0.0	-4.6	4.6
78	20	50	0.0	0.0	0.0	0.0	0.0	11.7	-11.7
79	21	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	22	52	0.0	0.0	0.0	0.0	0.0	11.3	-11.3
81	23	53	0.0	0.0	0.0	0.0	0.0	293.3	-293.3
82	24	54	0.0	0.0	0.0	0.0	0.0	78.8	-78.8
83	25	55	0.0	0.0	0.0	0.0	0.0	65.9	-65.9
91	1	32	0.0	0.0	0.0	0.0	0.0	-145.9	145.9
92	2	33	0.0	0.0	0.0	0.0	0.0	-145.4	145.4
93	33	4	0.0	0.0	0.0	0.0	0.0	-205.3	205.3
94	4	35	0.0	0.0	0.0	0.0	0.0	242.6	-242.6
95	35	6	0.0	0.0	0.0	0.0	0.0	-82.6	82.6
96	6	37	0.0	0.0	0.0	0.0	0.0	80.5	-80.5
97	37	8	0.0	0.0	0.0	0.0	0.0	7.0	-7.0
98	8	39	0.0	0.0	0.0	0.0	0.0	-10.9	10.9
99	39	11	0.0	0.0	0.0	0.0	0.0	14.8	-14.8
100	41	12	0.0	0.0	0.0	0.0	0.0	-5.7	5.7
101	12	43	0.0	0.0	0.0	0.0	0.0	6.6	-6.6
102	43	14	0.0	0.0	0.0	0.0	0.0	6.6	-6.6
103	14	45	0.0	0.0	0.0	0.0	0.0	-5.7	5.7
104	15	47	0.0	0.0	0.0	0.0	0.0	14.8	-14.8
105	47	18	0.0	0.0	0.0	0.0	0.0	-10.9	10.9
106	18	49	0.0	0.0	0.0	0.0	0.0	7.0	-7.0
107	49	20	0.0	0.0	0.0	0.0	0.0	80.5	-80.5
108	20	51	0.0	0.0	0.0	0.0	0.0	-82.6	82.6
109	51	22	0.0	0.0	0.0	0.0	0.0	242.6	-242.6
110	22	53	0.0	0.0	0.0	0.0	0.0	-205.3	205.3
111	53	24	0.0	0.0	0.0	0.0	0.0	-145.4	145.4
112	54	25	0.0	0.0	0.0	0.0	0.0	-145.9	145.9



Roof load.

finish	600	2,300 N/m²
Roof frame	1,200	
PV	500	

$45 \times 45 \times 2.3 = 4658\ kN$

2 Floor load. $8.0\ kN/m^2 \times 2 = 16\ kN/m^2$

FO Foundation. $5^m \times 5^m$

Total axial force. $4658/4/25 + 16 = 62.6\ kN/m^2$

$< 100\ kN/m^2$

SC-7.

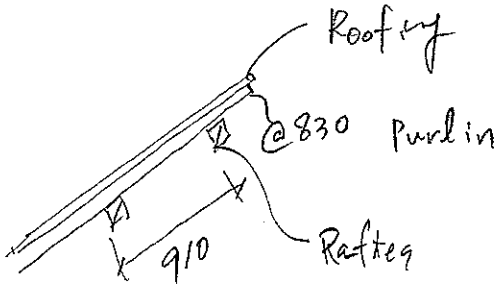
No. 22. President office.

- PV panel and support frame : Weight is 0.5kN/㎡
- Purlin and Rafter are confirmed with the existent member.
- There is no problem in the safety because additional weight is 0.5kN/㎡ with the main structure member.

1. 既存部材の検討

President Office.

The examination of the existent member



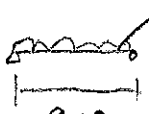
Weight.

Roofing + bord.	150 N/m²	
Purlin	50	
Rafters	100	200
		300

PV panel + Support 500

800 N/m².

for Purlin



$w = 0.7\ kN/m^2 \times 0.83 = 0.6\ kN/m$

$M = 1/8 \times 0.6 \times 0.91^2 = 0.062\ kN\cdot m$

$Q = 1/2 \times 0.6 \times 0.91 = 0.28\ kN$

□-50×50 mm　$I_x = \frac{50 \times 50^3}{12} = 520830\ mm^4$　$Z_x = \frac{50 \times 50^2}{6} = 20830\ mm^3$

E = 8000 N/mm²　A = 2500 mm²　$f_b = 21/3 \times 1.1 = 7.7$

$f_t = 2.1$

$\sigma_b = \frac{0.062 \times 10^6}{20830} = 3.0\ N/mm^2$ ✓

$\sigma_b / f_b = 0.4 < 1.0$

$\tau_s = \frac{0.28 \times 10^3}{2500} = 0.12 < 2.1$ ok

ok

$\delta_{max} = \frac{5 \times 0.6 \times 910^4}{384 \times 8000 \times 520830} = 1.3\ mm = l/700\ m$

PO-1

~~3. 屋根鉄骨部材の算定~~

~~母屋~~ Rafters　　Timber

部材　□ - 150 x 50

			Span	Pitch	
Span スパン	L（m）, ピッチ（m）		2.80	0.91	
Load 荷重	Wg (KN/m²)		2.00		
			0.80		
Bending Moment 曲げモーメント	xMg (KN·m)	ω·SINθ·L²/8 =	0.18		
	yMg (KN·m)	ω·COSθ·L²/8 =	0.62		
Shear force せん断力	yQg (KN)	ω·COSθ·L/2 =	0.90		
断面性能	Iy (cm⁴)		1400		
	Ix (cm⁴)		155		
	Zy (cm³)		185		
	Zx (cm³)		62		
許容曲げ応力度	fb (KN/cm²)		0.77		
曲げ応力度	xσb = xM/Zx (KN/cm²)		0.3		
曲げ応力度	yσb = yM/Zy (KN/cm²)		0.34		
応力度比	(xσb+yσb)/fb ≦ 1		0.83	≦ 1	OK
撓み	δg (cm)		0.67		
	δ/L ≧ 300		418	≧ 300	OK

~~母屋~~

15° Type

部材　□ - 150 x 50

スパン　L（m），ピッチ（m）			2.80		0.91
			2.00		
荷重	Wg	(KN/m^2)	0.80		
曲げモーメント	xMg	(KN・m)	$\omega \cdot SIN\theta \cdot L^2/8$ =	0.09	
	yMg	(KN・m)	$\omega \cdot COS\theta \cdot L^2/8$ =	0.69	
せん断力	yQg	(KN)	$\omega \cdot COS\theta \cdot L/2$ =	1.00	
断面性能	Iy	(cm^4)		1400	
	Ix	(cm^4)		155	
	Zy	(cm^3)		185	
	Zx	(cm^3)		62	
許容曲げ応力度	fb	(KN/cm^2)		0.77	
曲げ応力度	$x\sigma b = xM/Zx$	(KN/cm^2)		0.15	
曲げ応力度	$y\sigma b = yM/Zy$	(KN/cm^2)		0.38	
応力度比	$(x\sigma b+y\sigma b)/fb \leqq 1$			0.69	≦ 1 OK
撓み	δg	(cm)		0.85	
	$\delta/L \geqq 300$			329	≧ 300 OK

PO-3

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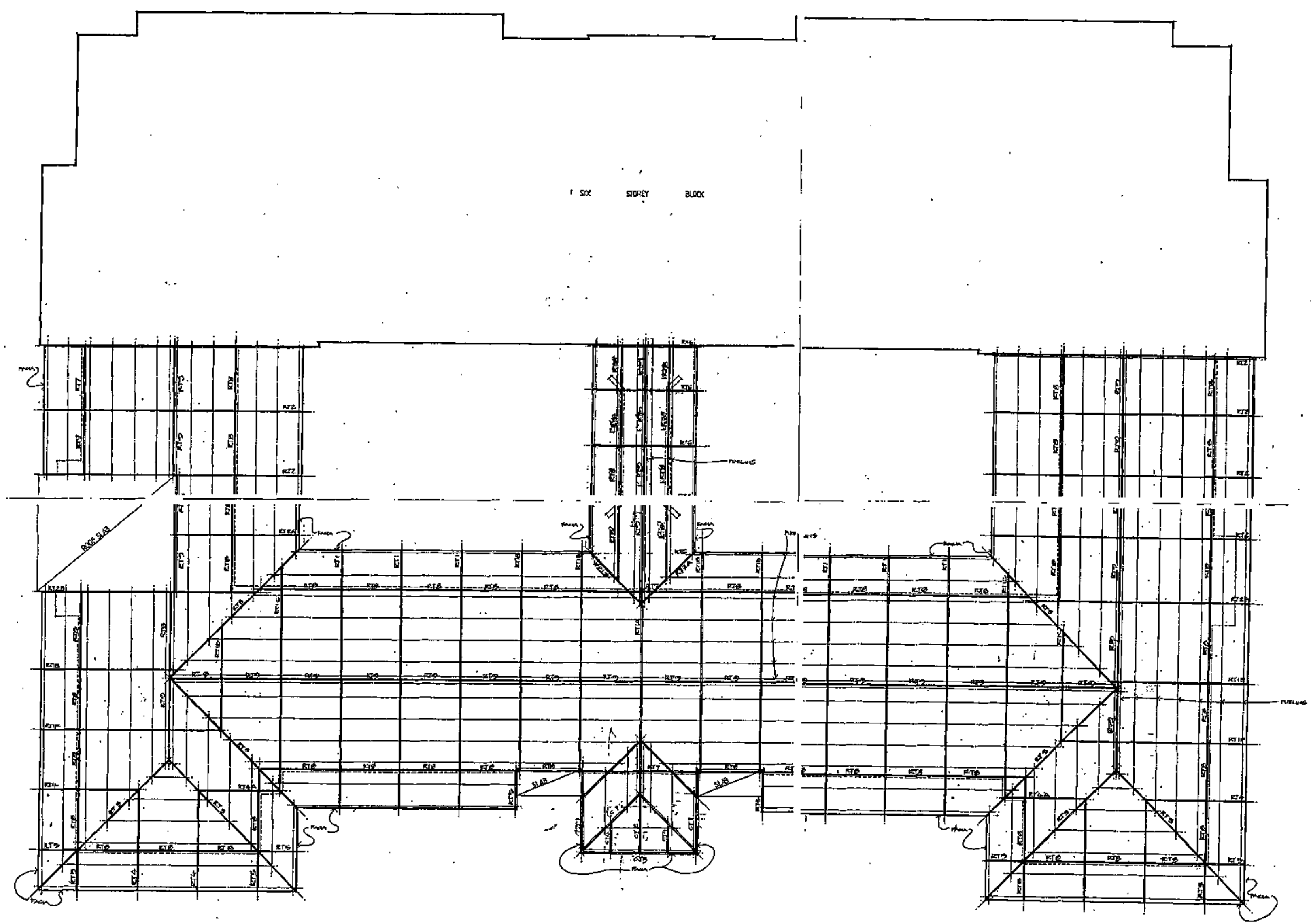


PLAN OF ROOF STRUCTURE OVER THREE STOREY BLOCK 1:100

PB-4

2. AS- Build DWG

AMMENDMENTS:

CONTENTS:
PLAN OF ROOF STRUCTURE
OVER THREE STOREY BLOCK

DWG NO: S 7/16

PROJECT:
PROPOSED NEW BUILDING
FOR THE PRESIDENT'S OFFICE

CLIENT:
THE PRESIDENT'S OFFICE

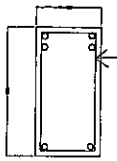
DESIGNED BY: SHIYAZ/HANNAN
DRAWN BY: HANNAN
DATE: AUGUST 96

CHECKED BY:

DATE:	FILE:
FILE NO:	DRAWER NO:

PHYSICAL PLANNING AND
CONSTRUCTION SECTION
MINISTRY OF CONSTRUCTION AND PUBLIC WORKS
REPUBLIC OF MALDIVES

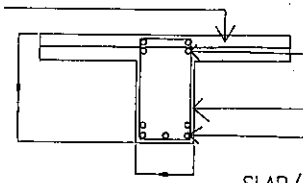
861



4Y18 top
2Y18 bottom
2R6 @150 c/c stirrup

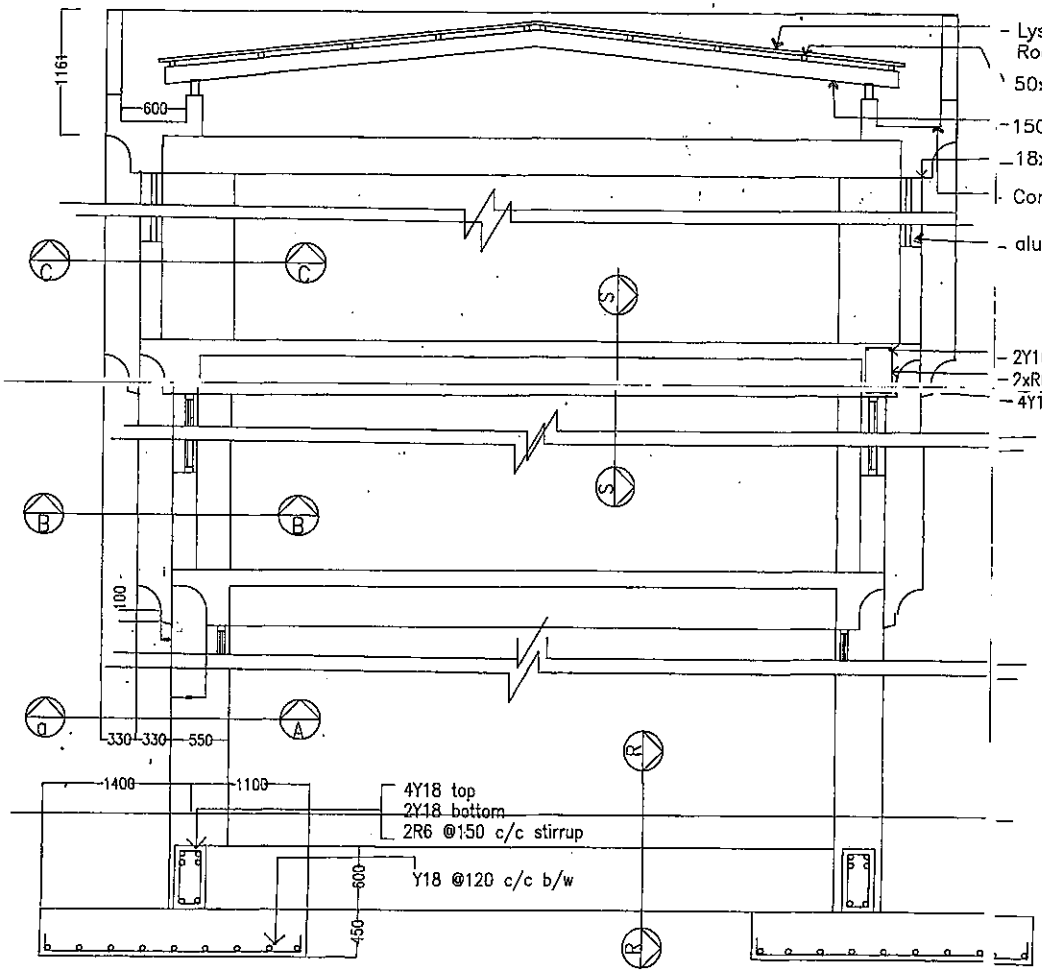
FOUNDATION BEAM SECTION R-R (1:15)

SLAB RFMT: Y12 @150 c/c short span
Y12 @200 c/c long span



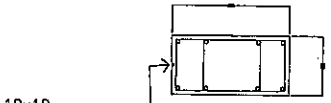
4Y16
2xR6 @150 c/c stirrup
5Y16

SLAB/BEAM SECTION S-S
(1:15)



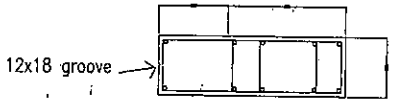
Lysaght Clip Lok Roofing Sheet
50x50 purlins @830
150x50 Raftes @900
18x12 groove
Concrete Gutter
aluminium Window
2Y16
2xR6 A150 c/c
4Y16
4Y18 top
2Y18 bottom
2R6 @150 c/c stirrup
Y18 @120 c/c b/w

DETAIL CROSS SECTION (1:25)



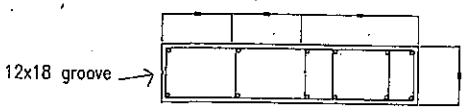
12x18 groove
Rfmt: 8Y16 vertical
4R6 @150 c/c stirrup

COLUMN SECTION A-A
(1:15)



12x18 groove
Rfmt: 10Y16 vertical
6R6 @150 c/c stirrup

COLUMN SECTION B-B
(1:15)



12x18 groove
Rfmt: 12Y16 vertical
8R6 @150 c/c stirrup

COLUMN SECTION C-C
(1:15)

NOTES / CHANGES:

CLIENT:
PRESIDENT'S OFFICE

PROJECT:
PRESIDENT'S OFFICE
FOUR-STOREY EXTENSION

CONTENTS:
STRUCTURAL DETAILS

ARCHITECT:

ENGINEER:

DESIGNED BY:

DRAWN BY:

SCALE: AS GIVEN

DATE: MARCH 92

FILENAME: RAEES3.DWG

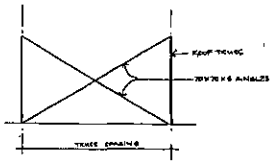
CHECKED BY:

FILE NO:

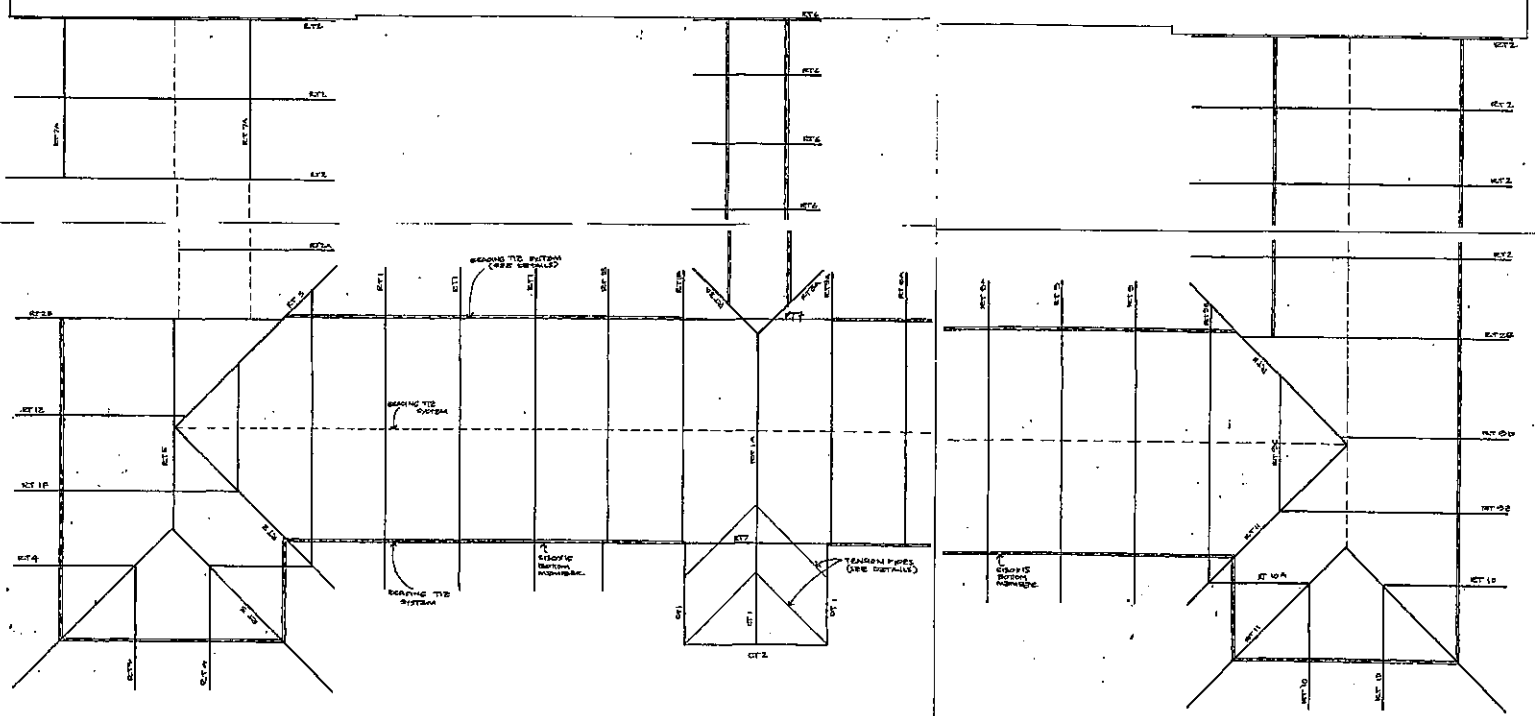
DWG NO: 3/3

OPPD
OFFICE FOR PHYSICAL PLANNING AND DESIGN
MARINE DRIVE, MALE 20402, MALDIVES
TEL: 323473, 323474, 323475, 320713

661



BRACING SYSTEM DETAIL 1:50



PLAN OF ROOF STRUCTURE
1:100

P0-6

AMMENDMENTS:

CONTENTS:
PLAN OF ROOF STRUCTURE

DWG NO:

PROJECT:
PROPOSED NEW BUILDING FOR THE PRESIDENT'S OFFICE

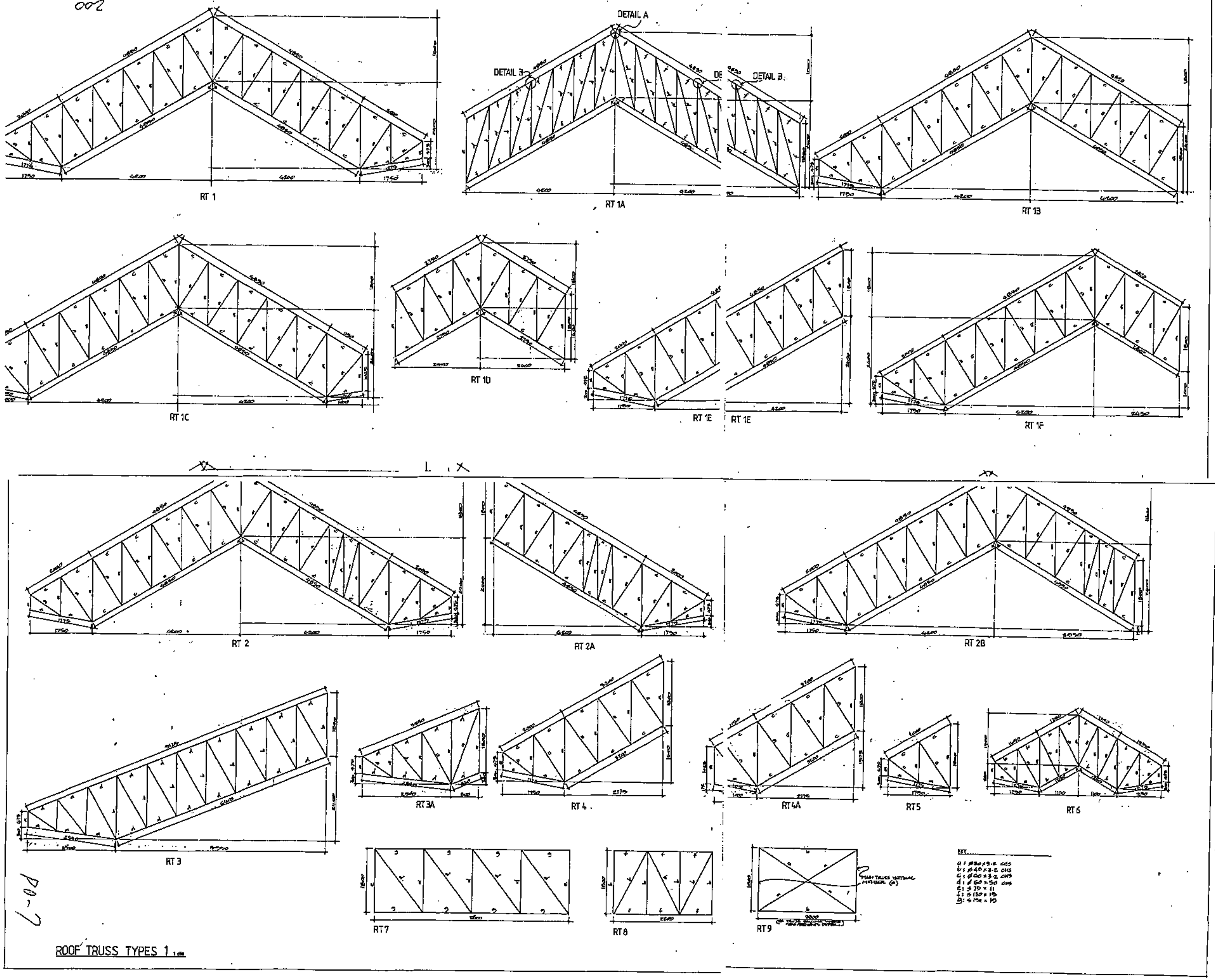
CLIENT:
THE PRESIDENT'S OFFICE

DESIGNED BY: SHIYAZ
DRAWN BY: TAL
DATE: MARCH 1998

CHECKED BY:

DATE: | FILE:
FILE NO: | DRAWER NO:

PHYSICAL PLANNING AND CONSTRUCTION SECTION
MINISTRY OF CONSTRUCTION AND PUBLIC WORKS
REPUBLIC OF MALDIVES
TEL:323234, 323474, FAX:326300



ROOF TRUSS TYPES 1

AMMENDMENTS:

CONTENTS: ROOF TRUSS TYPES 1

DWG NO: 515/16

PROJECT: PROPOSED NEW BUILDING FOR THE PRESIDENT'S OFFICE

CLIENT: THE PRESIDENT'S OFFICE

DESIGNED BY: SHIYAZ

DRAWN BY: HANNAN

DATE: AUGUST 96'

CHECKED BY:

DATE:

FILE:

FILE NO:

DRAWER NO:

PHYSICAL PLANNING AND CONSTRUCTION SECTION
MINISTRY OF CONSTRUCTION AND PUBLIC WORKS
REPUBLIC OF MALDIVES

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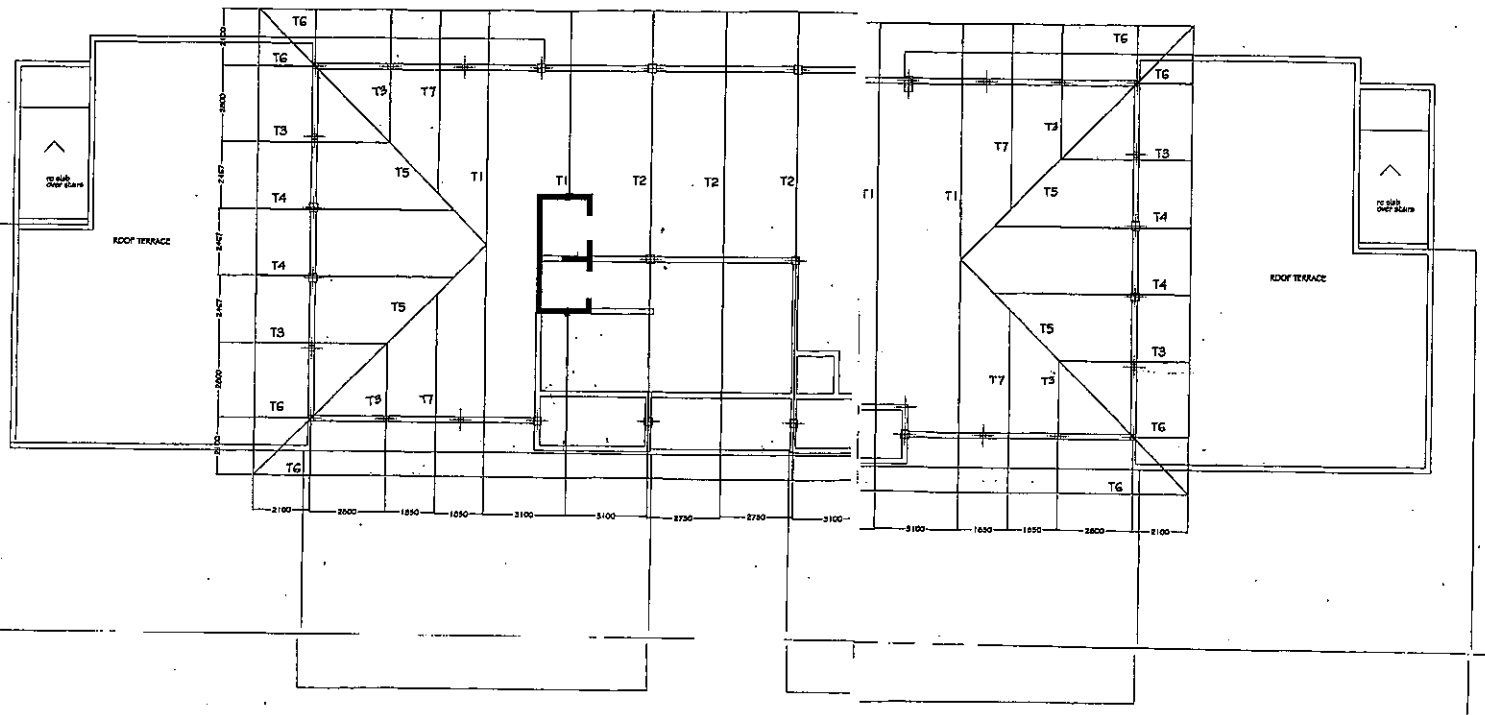


ROOF TERRACE TRUSS LAYOUT

PD-8

AMMENDMENTS:

CONTENTS;
ROOF TERRACE TRUSS LAYOUT

DWG NO:

PROJECT:
PROPOSED NEW BUILDING FOR THE PRESIDEN'S OFFICE

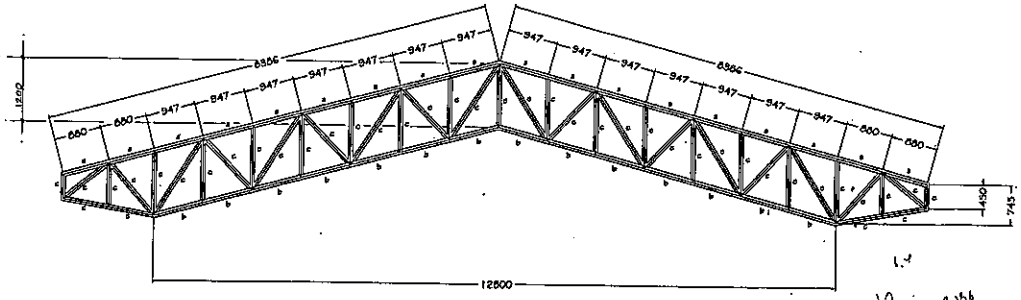
CLIENT:
THE PRESIDENT'S OFFICE

DESIGNED BY: AB
DRAWN BY: NM
DATE: NOVEMBER 09

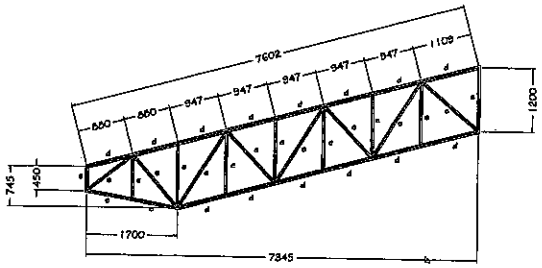
CHECKED BY:

DATE: | FILE:
FILE NO: | DRAWER NO:

CONSTRUCTION AND PHYSICAL PLANNING SECTION
MINISTRY OF CONSTRUCTION AND PUBLIC WORKS
REPUBLIC OF MALDIVES



TRUSS-T1



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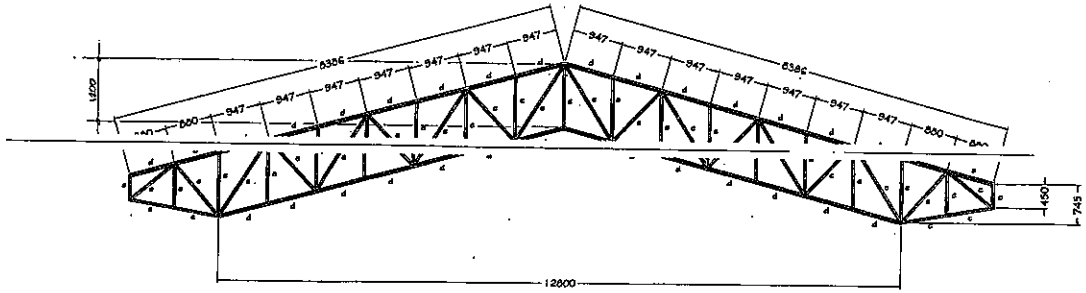

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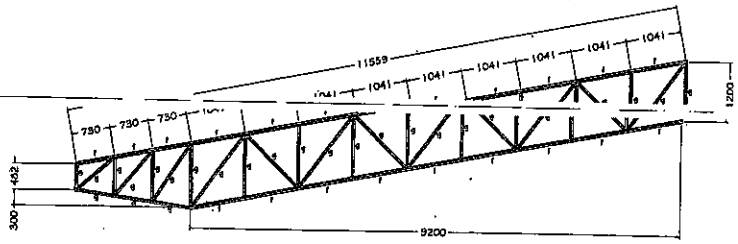

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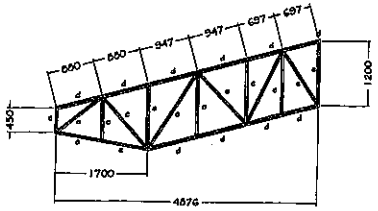

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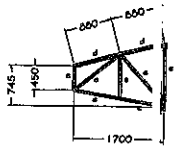

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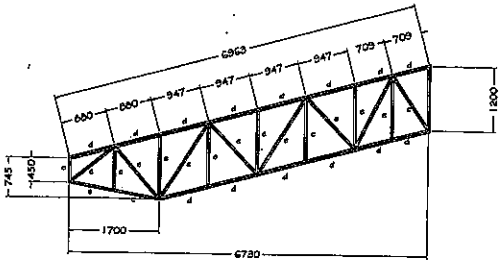

TRUSS-T7

SCALE 1 : 50

AMMENDMENTS:

CONTENTS:

TRUSS DETAILS

DWG NO:

PROJECT:

PROPOSED NEW BUILDING FOR THE PRESIDEN'S OFFICE

CLIENT:

THE PRESIDENT'S OFFICE

DESIGNED BY:	IS
DRAWN BY:	MM
DATE:	NOVEMBER 08

CHECKED BY:

DATE:	FILE:
FILE NO:	DRAWER NO:

CONSTRUCTION AND PHYSICAL PLANNING SECTION
MINISTRY OF CONSTRUCTION AND PUBLIC WORKS
REPUBLIC OF MALDIVES