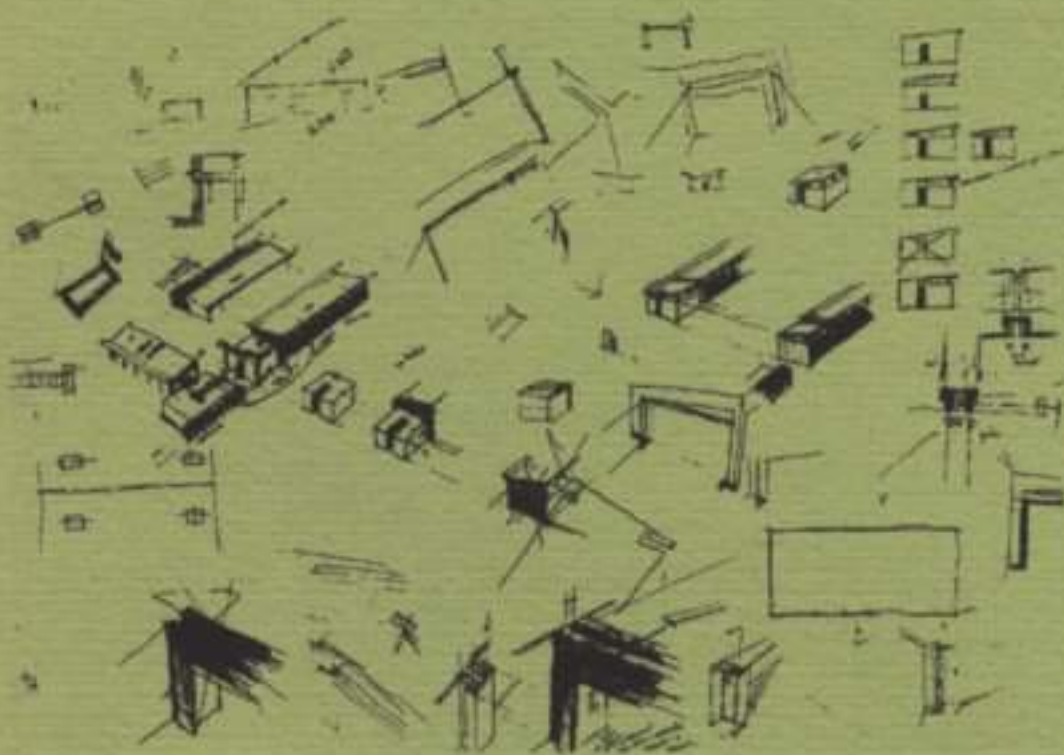


Relatório de Estágio

Cademo II / Processo

Maria João Reduto dos Reis



Estágio Curricular de Arquitectura

Fevereiro/ Agosto 1998

Faculdade de Arquitectura da U.T.L.

RECARQ1-45.A

Relatório - 45.A

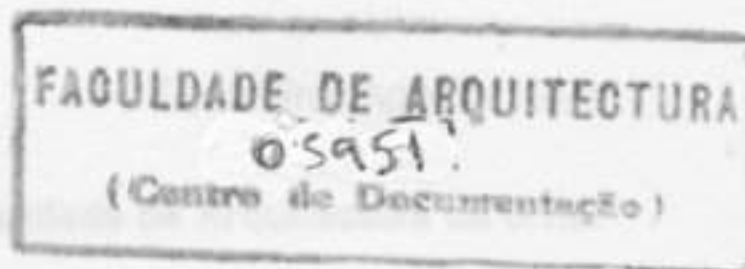
FACULDADE DE ARQUITECTURA
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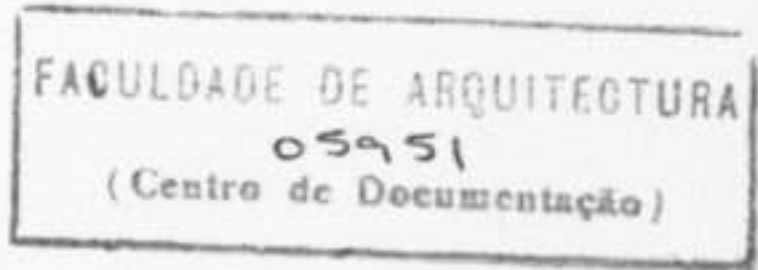
Relatório de Estágio

Caderno 1 / 1º Semestre

Maria João Reduto dos Reis

Estágio Curricular de Arquitectura





Relatório de Estágio

Caderno II / Processo

Estágio Curricular

Maria João Reduto dos Reis
Faculdade de Arquitectura da Universidade
Técnicas de Livro (F.A.U.T.L.)

Emprego

S.T.A. - Sagalães Távora & Associados,
Engenheiros e Arquitectura Criativa, Lda

Assessoria

Arq. João Lúcio Lopes (Director de Estudos
e Arq. Mário da Costa Freire, Paulo Pereira
Lima e Vítor Coutinho Lopes

Responsáveis de serviço técnico

Eng.º Fernando Alves (Estruturas), Eng.º Carlos
Palma (Água e Energia), Eng.º Vítor Pereira
(Electrónica), Abel Gonçalves (Desenho)

Supervisor de estágio

Prof. Arq. Carlos Abel Lameiro (coordenador da
F.A.U.T.L.)

Disciplinas do estágio

Fevereiro - Estágio Curricular de Arquitectura
Março - Setembro
Junho - redacção do relatório de estágio

Responsáveis de avaliação

Maria João Reduto dos Reis
Aluno da F.A.U.T.L. de 1996/97 e 1997/98 com o
n.º matriculário 12711

Fevereiro/ Agosto 1998

Faculdade de Arquitectura da U.T.L.

Relatório de Estágio

6.º ano - estágio curricular:

Estágio Curricular de Architecta de Projecto e
de Architecta de Obra
Faculdade de Architectura da Universidade
Técnica de Lisboa (F.A.U.T.L.)

realizado na:

S.T.A. - Segadães Tavares & Associados,
Engenheiros e Architectos Consultores, Lda.

sob orientação:

Arq.to João Lúcio Lopes (Orientador de Estágio)
e Arq.tos Mário da Costa Freire, Paulo Pereira
Lima e Vitor Coutinho Lopes

e acompanhamento da equipa técnica:

Eng.º Fernando Alves (Estrutura); Eng.º Carlos
Palma (Águas e Esgotos); Eng.º Vieira Pereira
(Electricidade); Abel Gonçalves (Desenho)

supervisor de estágio:

Prof. Arq.to Carlos Silva Lameiro (docente da
F.A.U.T.L.):

duração do estágio:

Fevereiro a Agosto de 1998
6 meses - formação
1 mês - redacção do relatório de estágio

a estagiária de arquitectura:

Maria João Reduto dos Reis
(aluna da F.A.U.T.L. de 1992/93 a 1997/98 com o
n.º mecanográfico 1974)

Lisboa, Agosto 1998

Nota explicativa

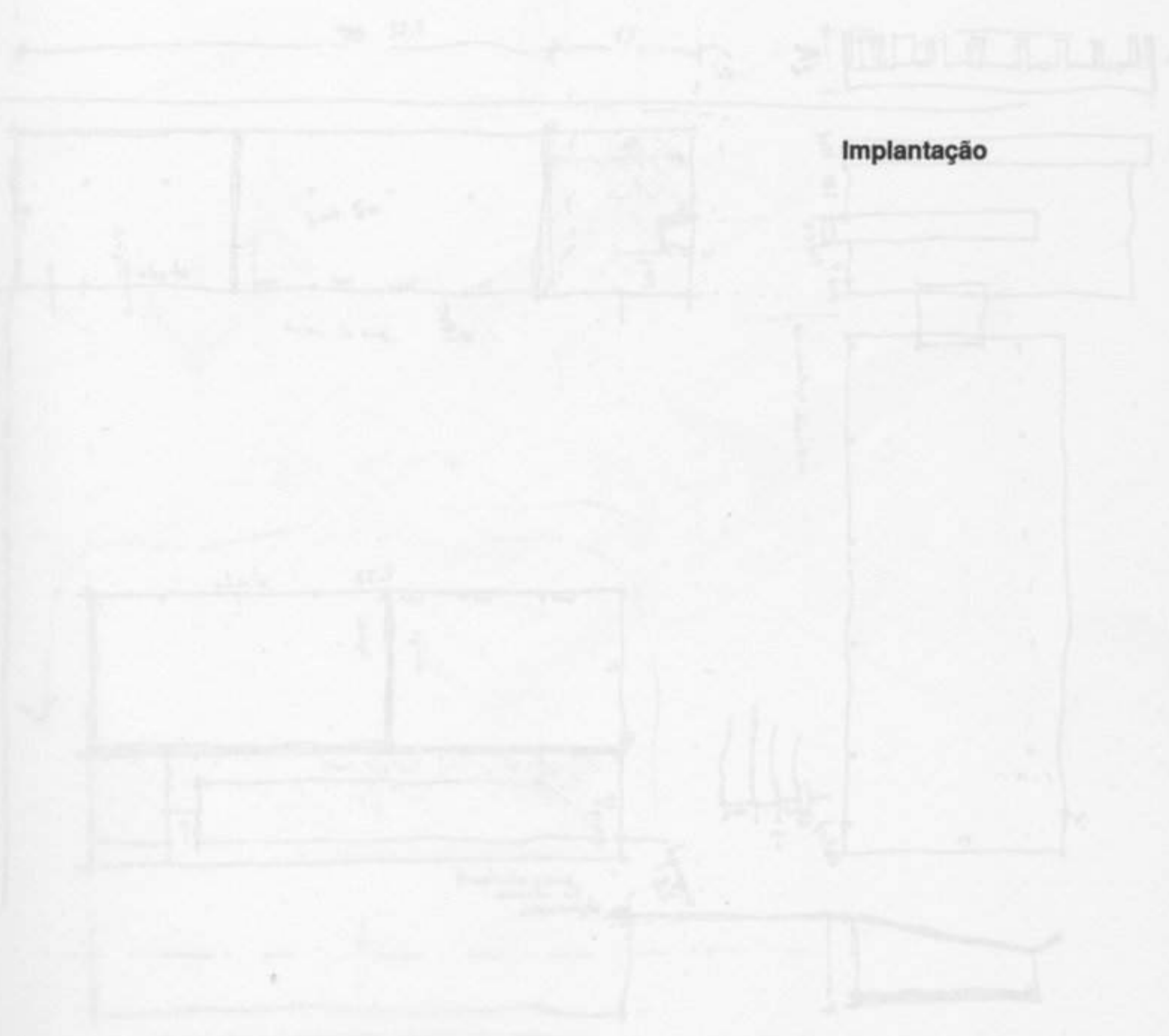
Caderno II

O presente documento constitui-se como exposição escrita de síntese e apresentação da formação desenvolvida durante o período de estágio.

Estrutura-se e é entregue em dois volumes correspondentes ao *Relatório* (caderno I) - que segue a norma e organização indicada pelo gabinete de estágios da F.A.U.T.L. - e ao *Processo* (caderno II) - que documenta o decurso da prática e método projectual ao longo da formação.

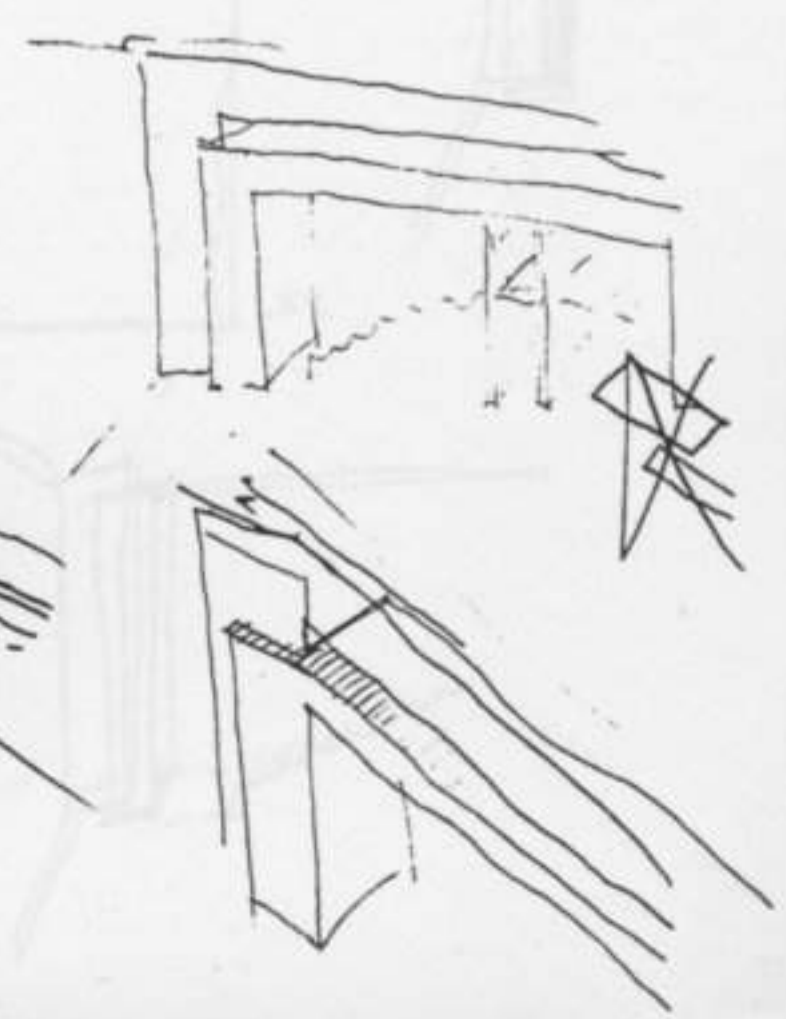
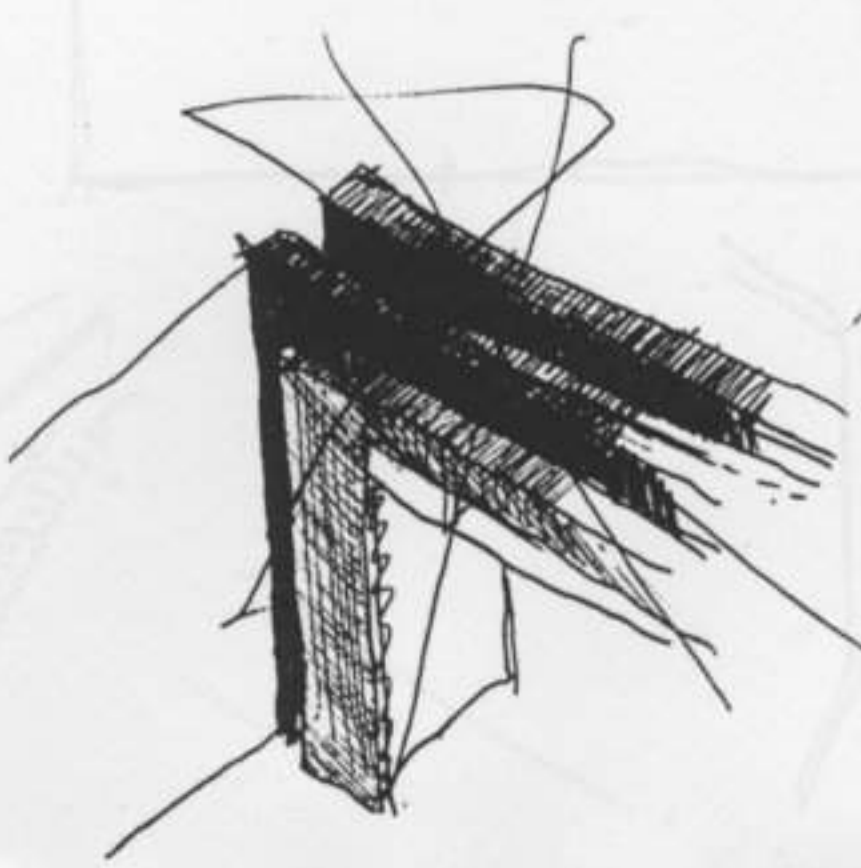
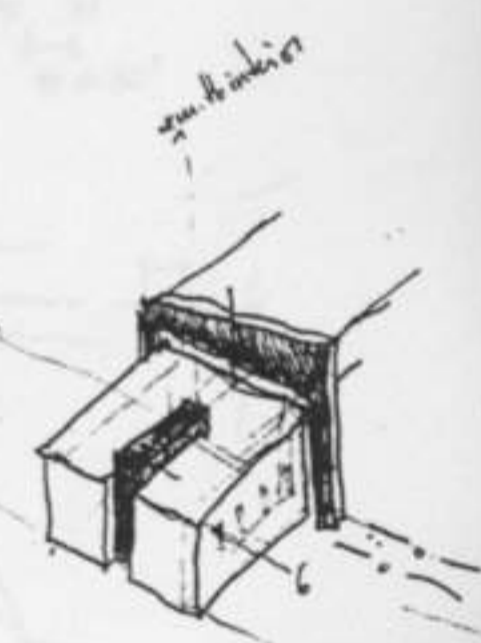
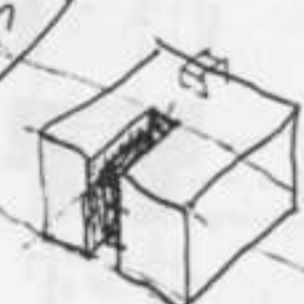
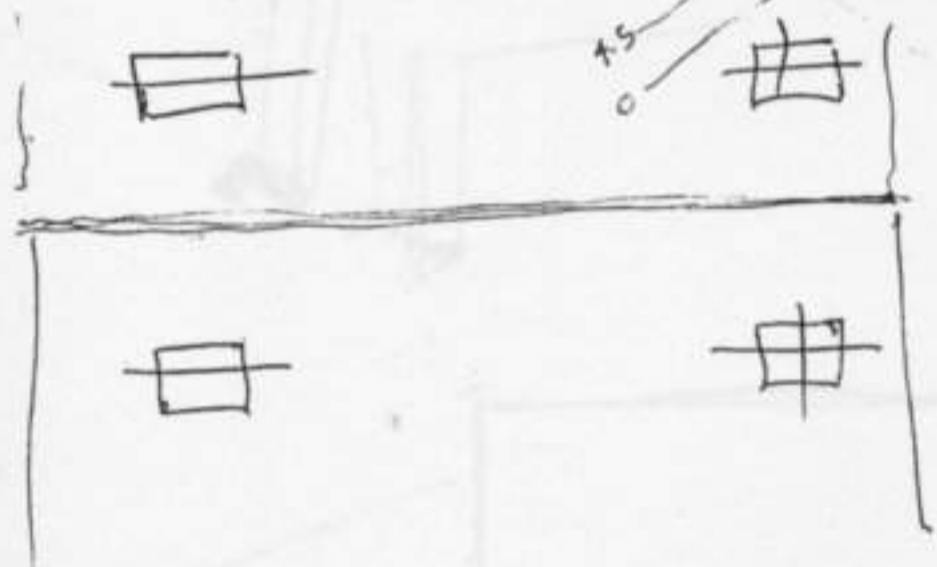
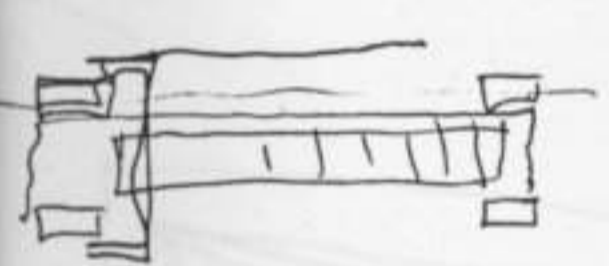
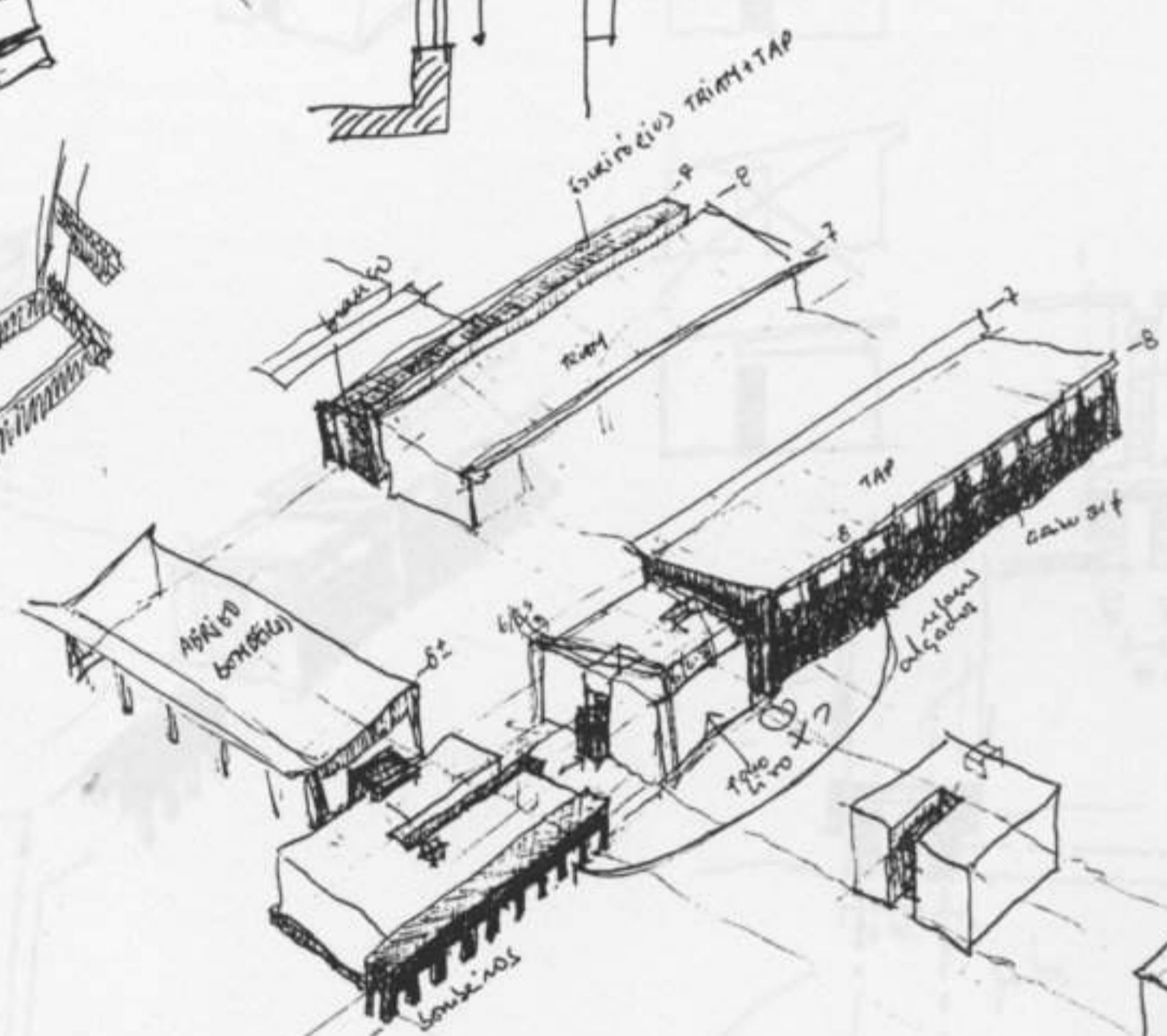
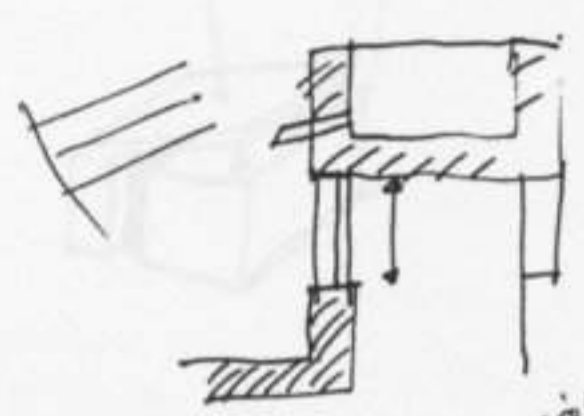
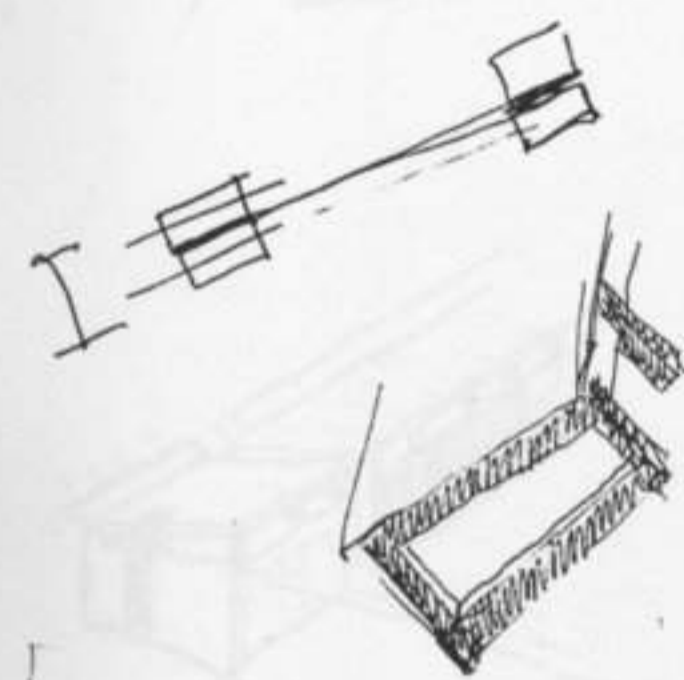
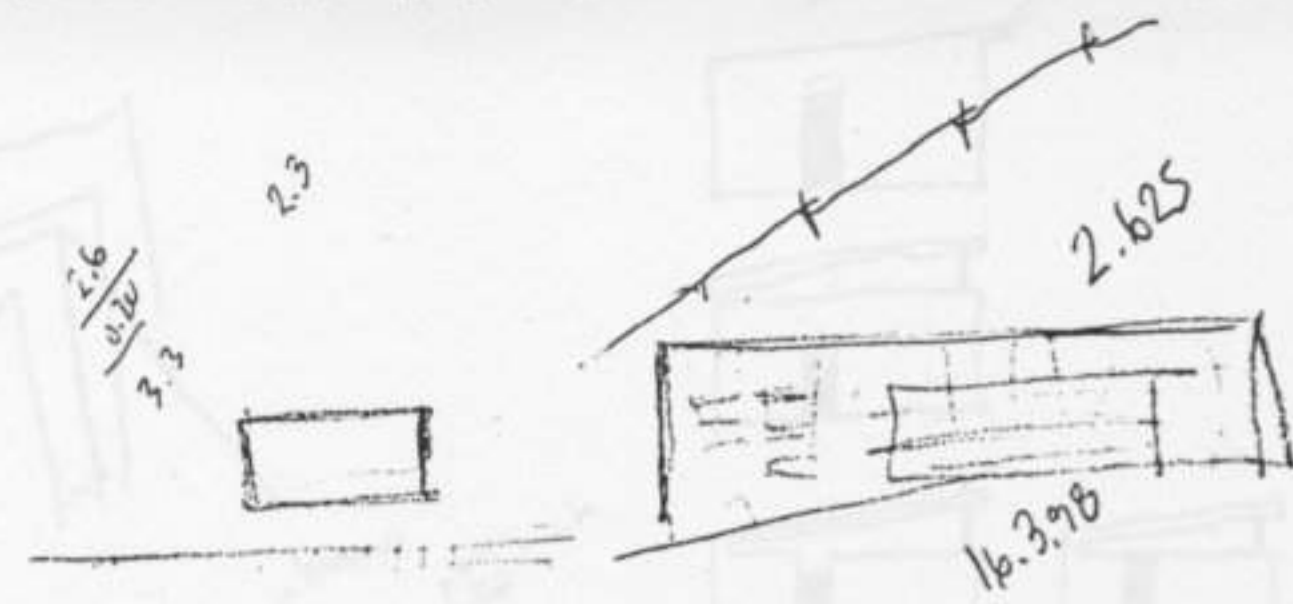
Caderno II

Processo



Implantação

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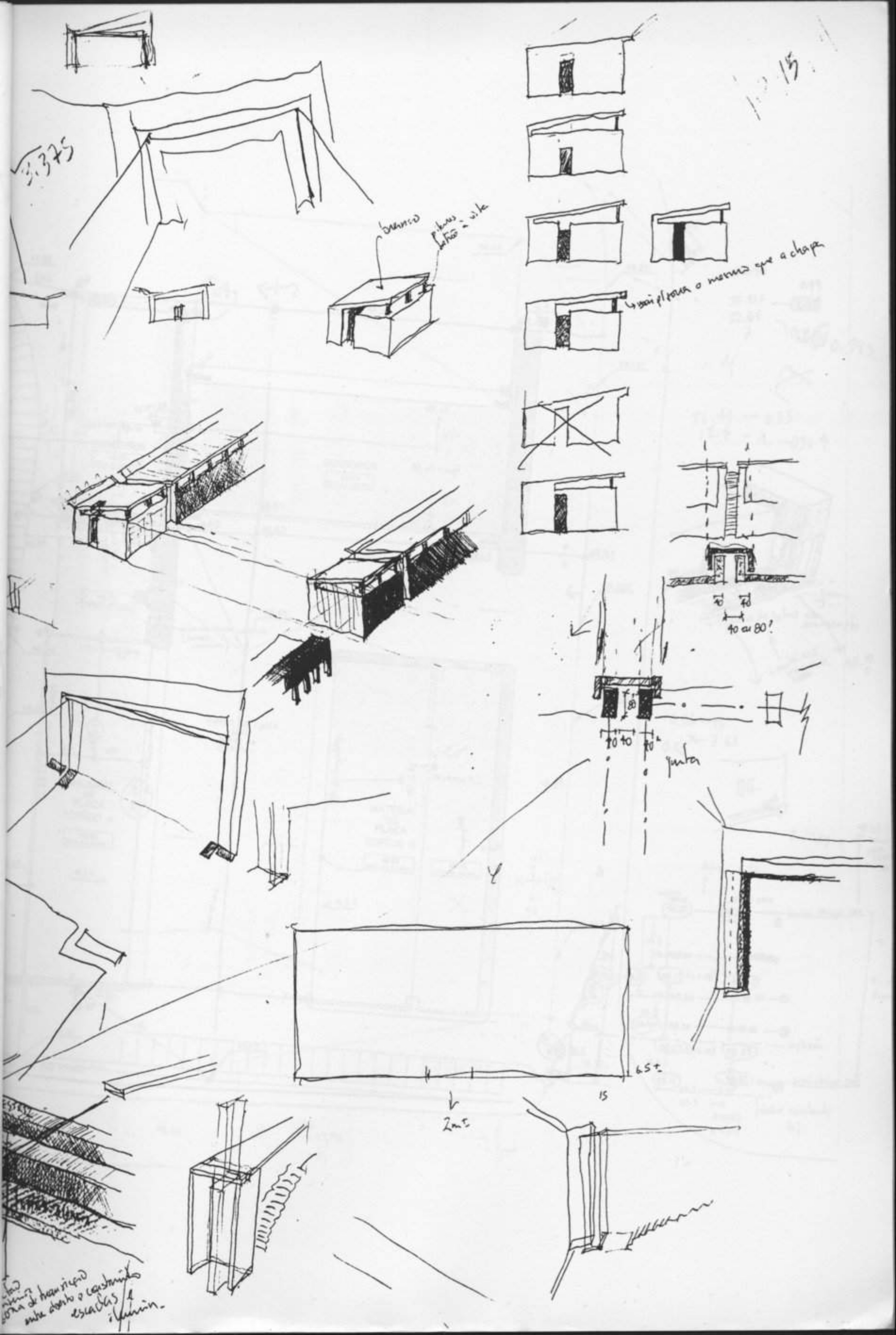
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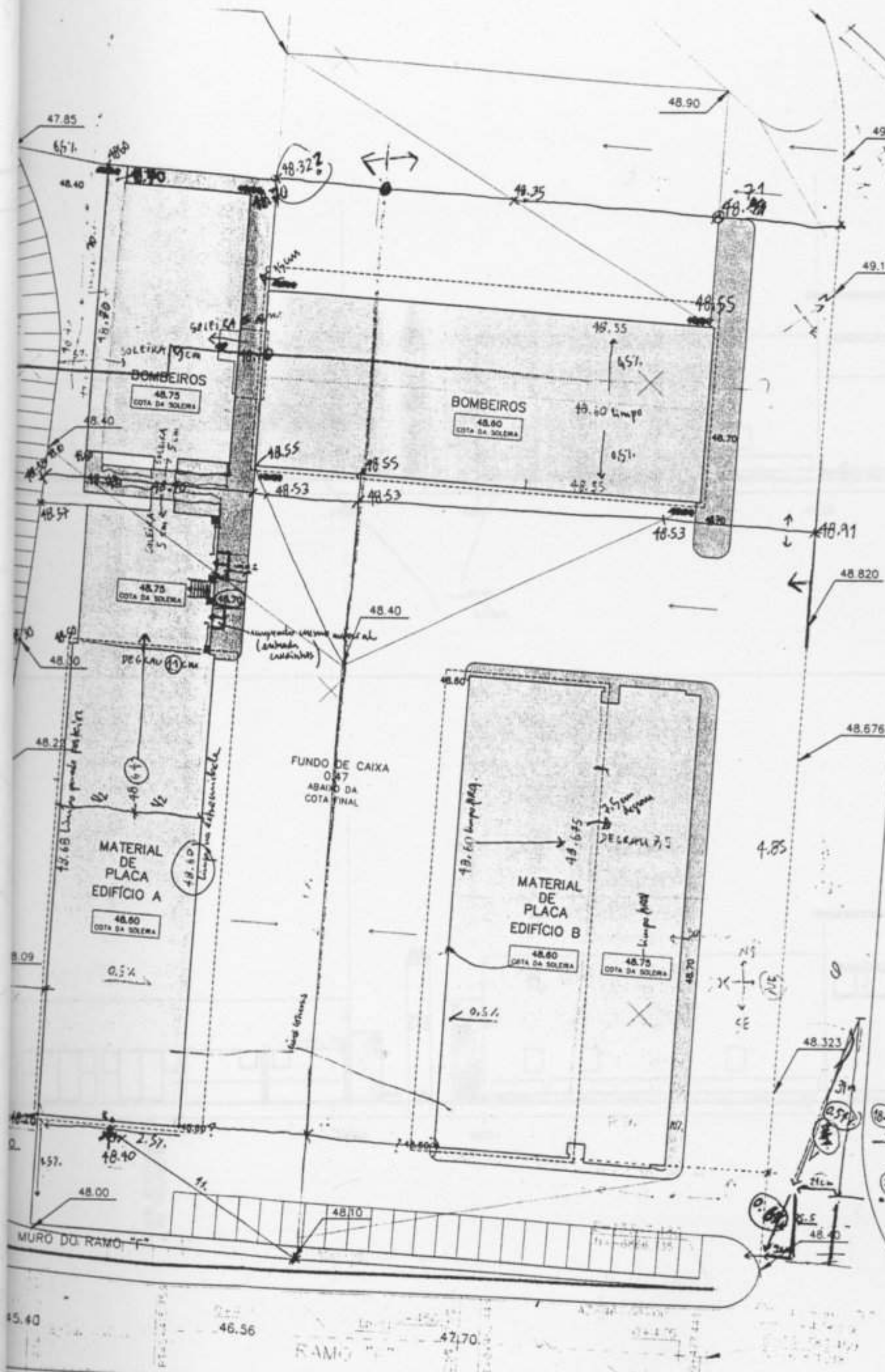
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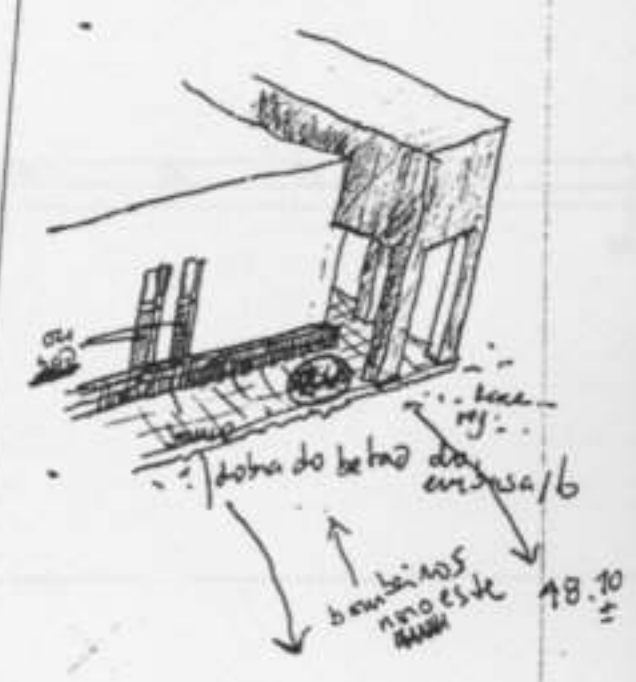
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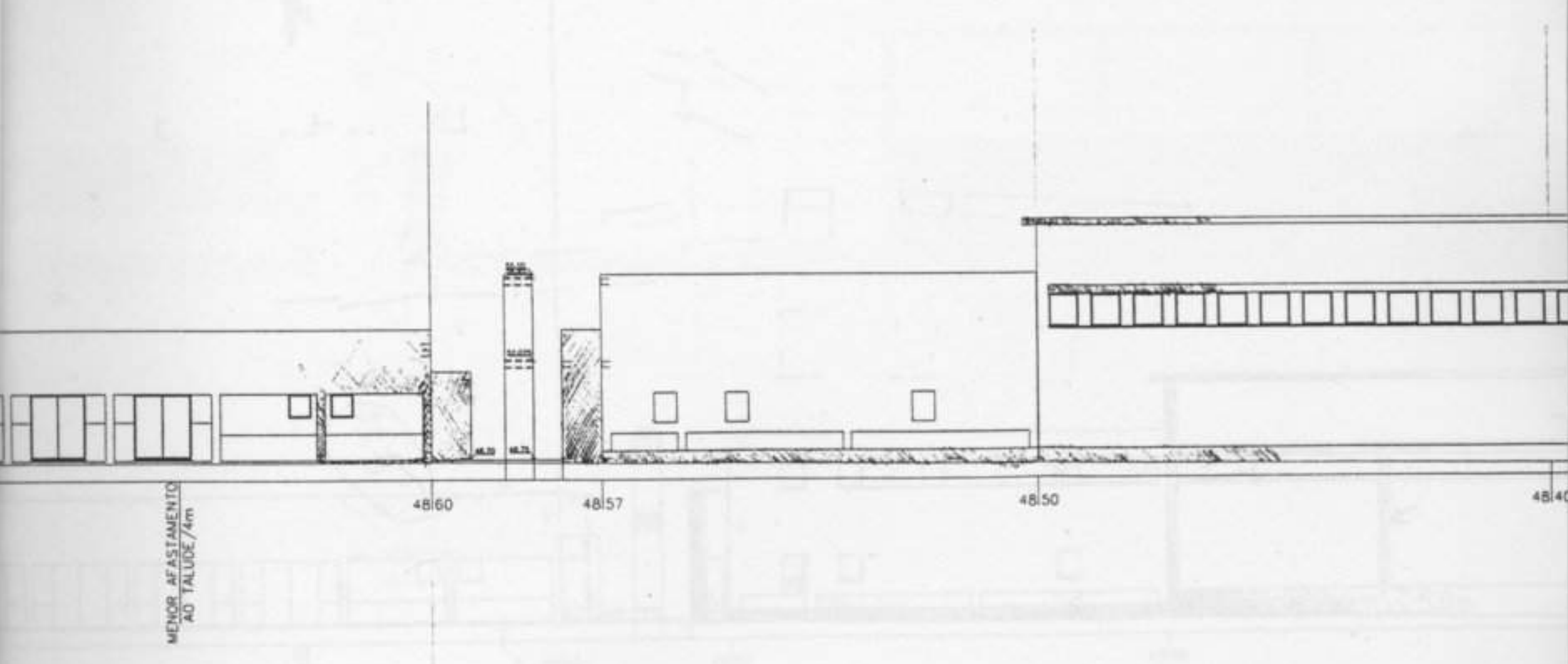
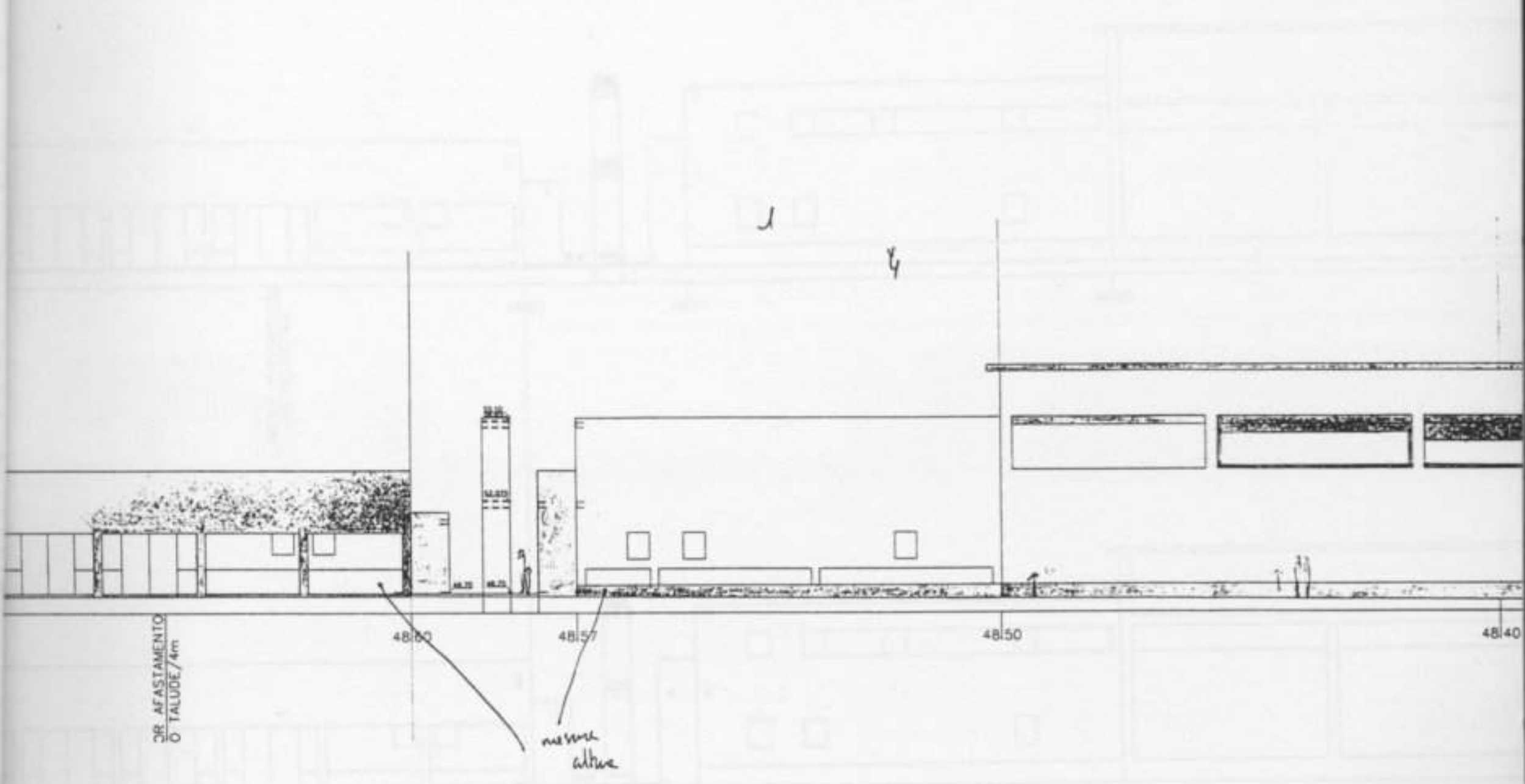
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 56.937 - 0.49
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 26.44 - 0.35
 12.4 - 0.164

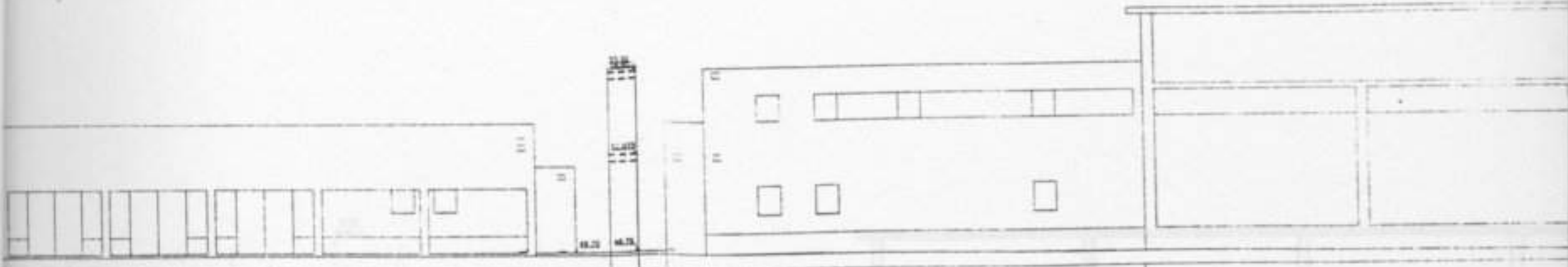


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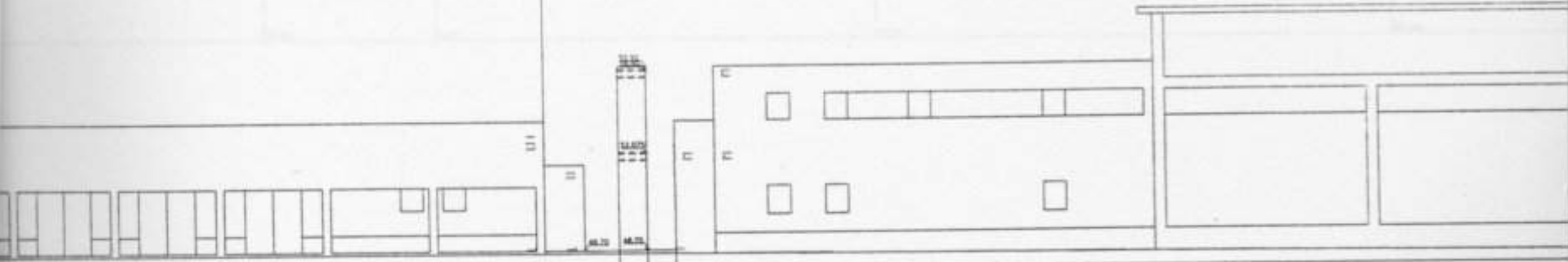
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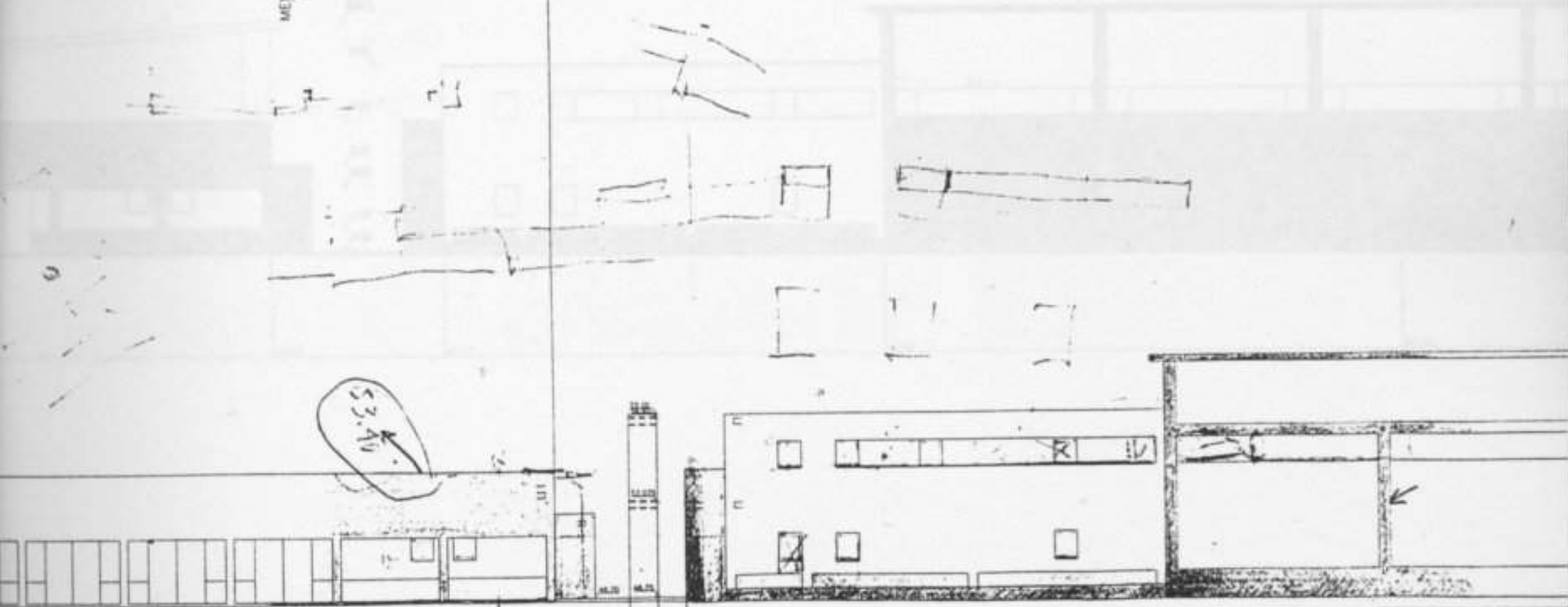
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AO TALUDE/4m

4860 4857 4850



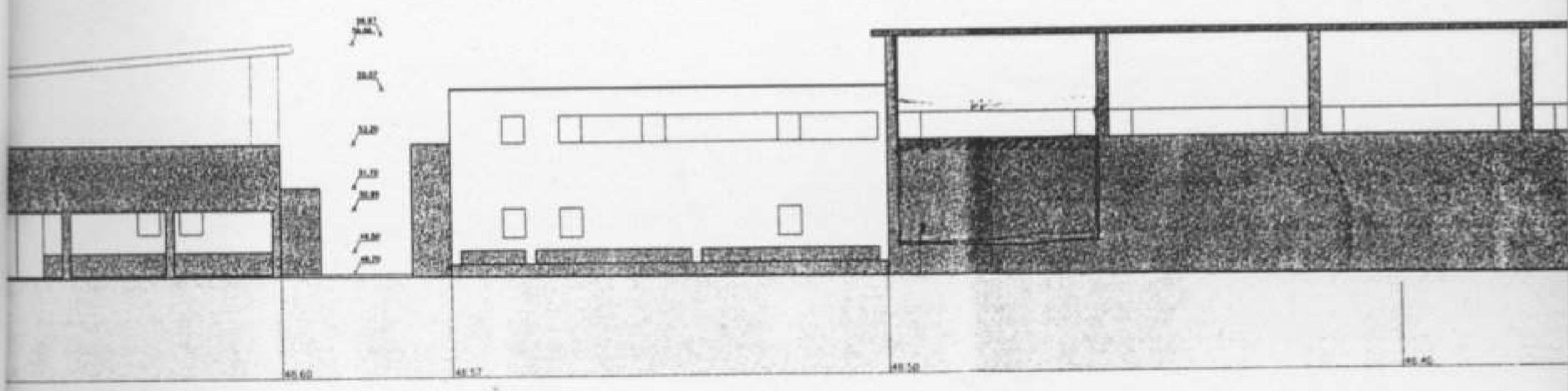
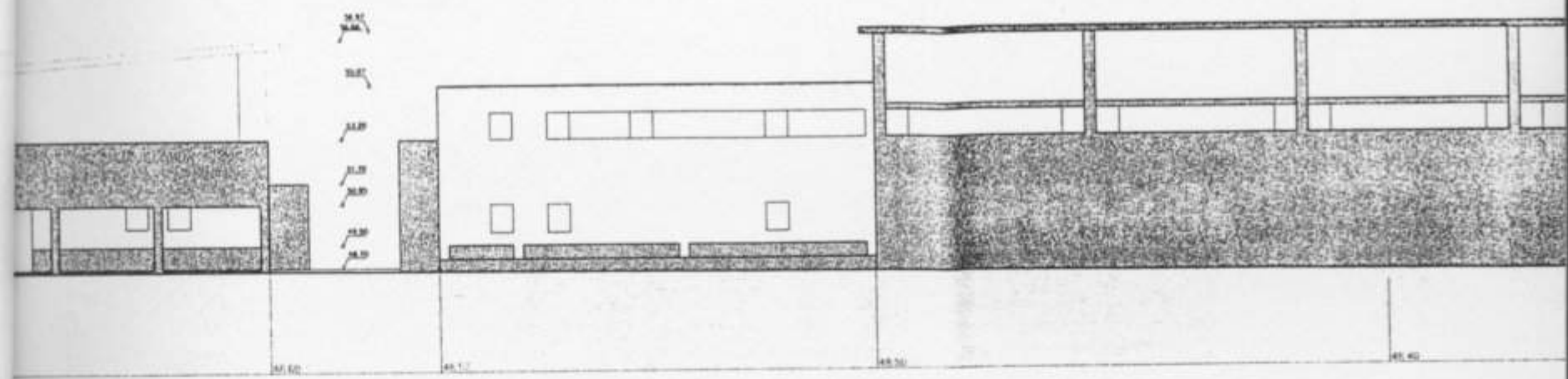
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MENOR AFASTAMENTO
AO TALUDE/4m

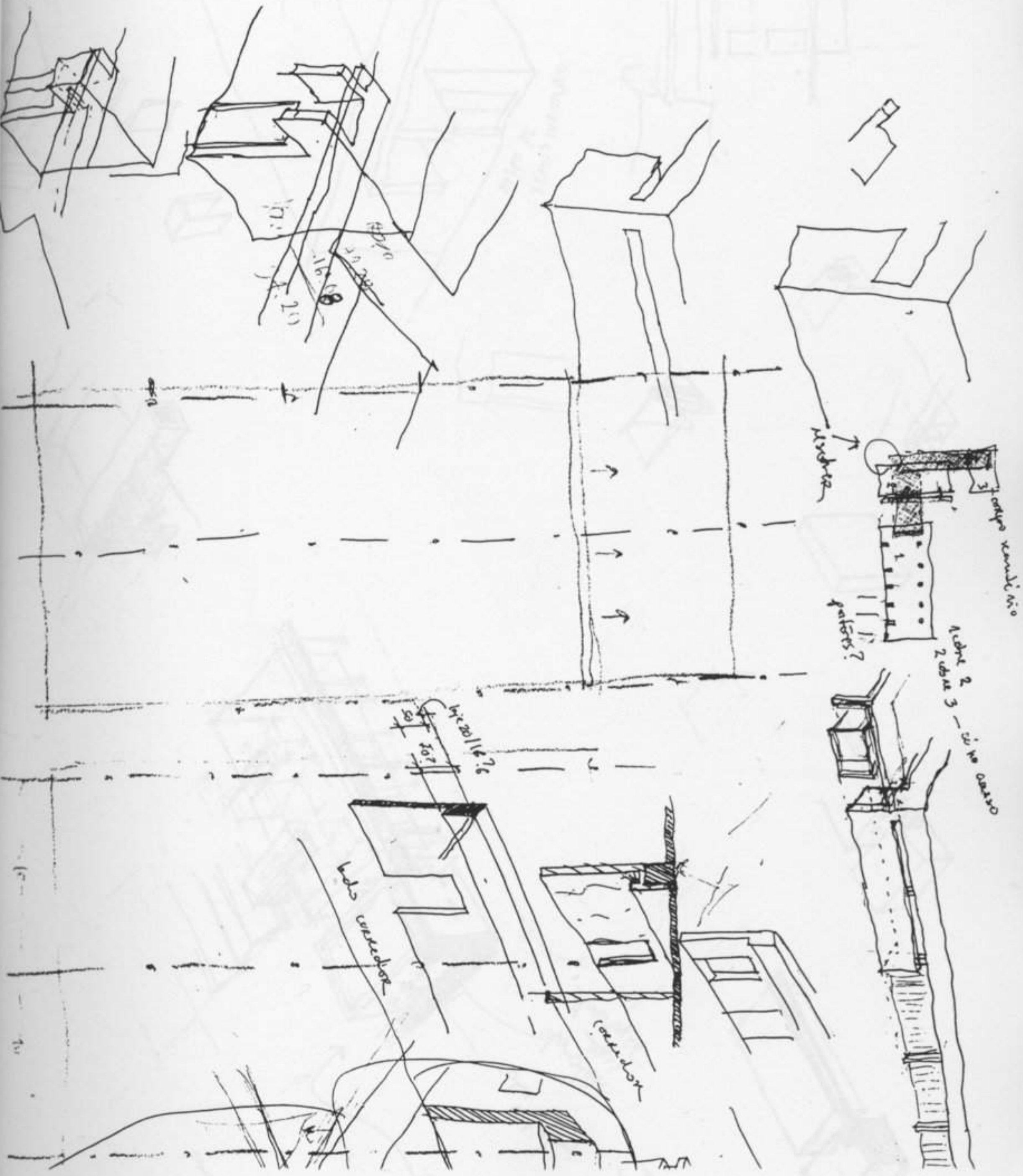
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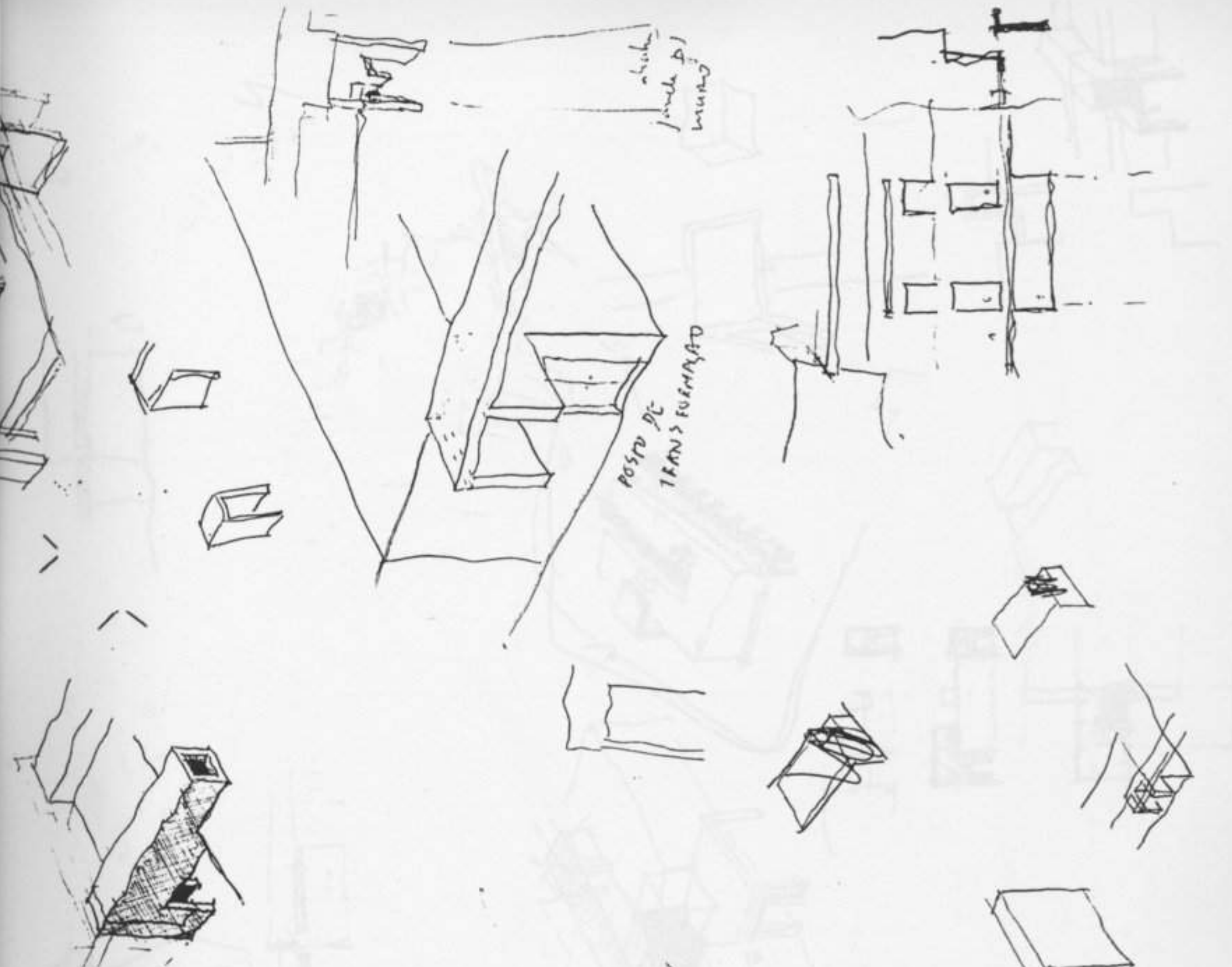


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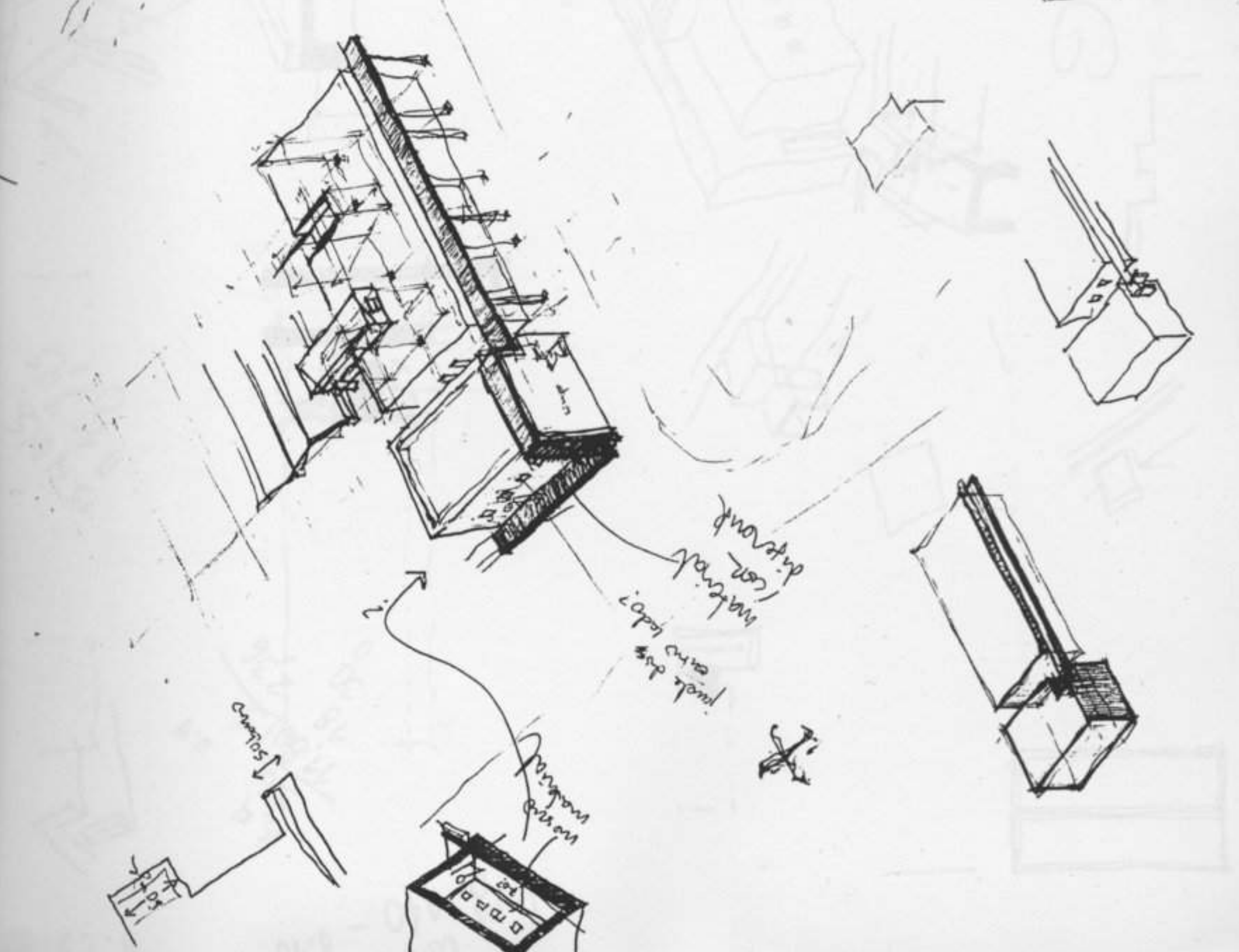






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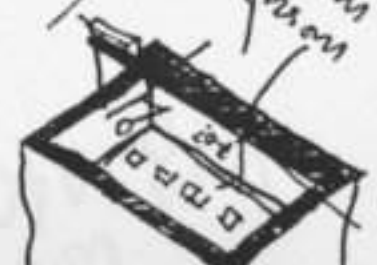
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TRANSFORMAÇÃO

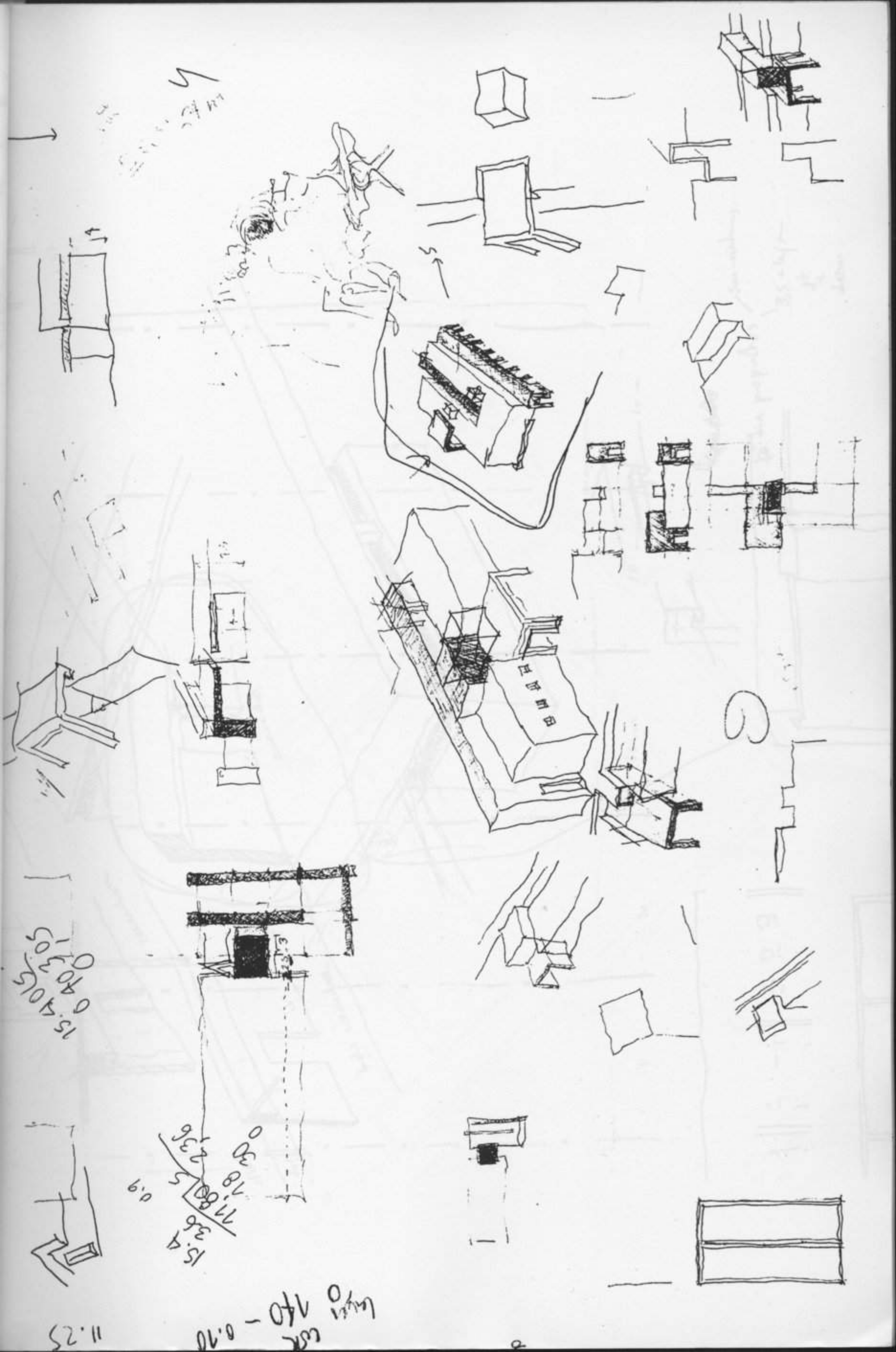


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6

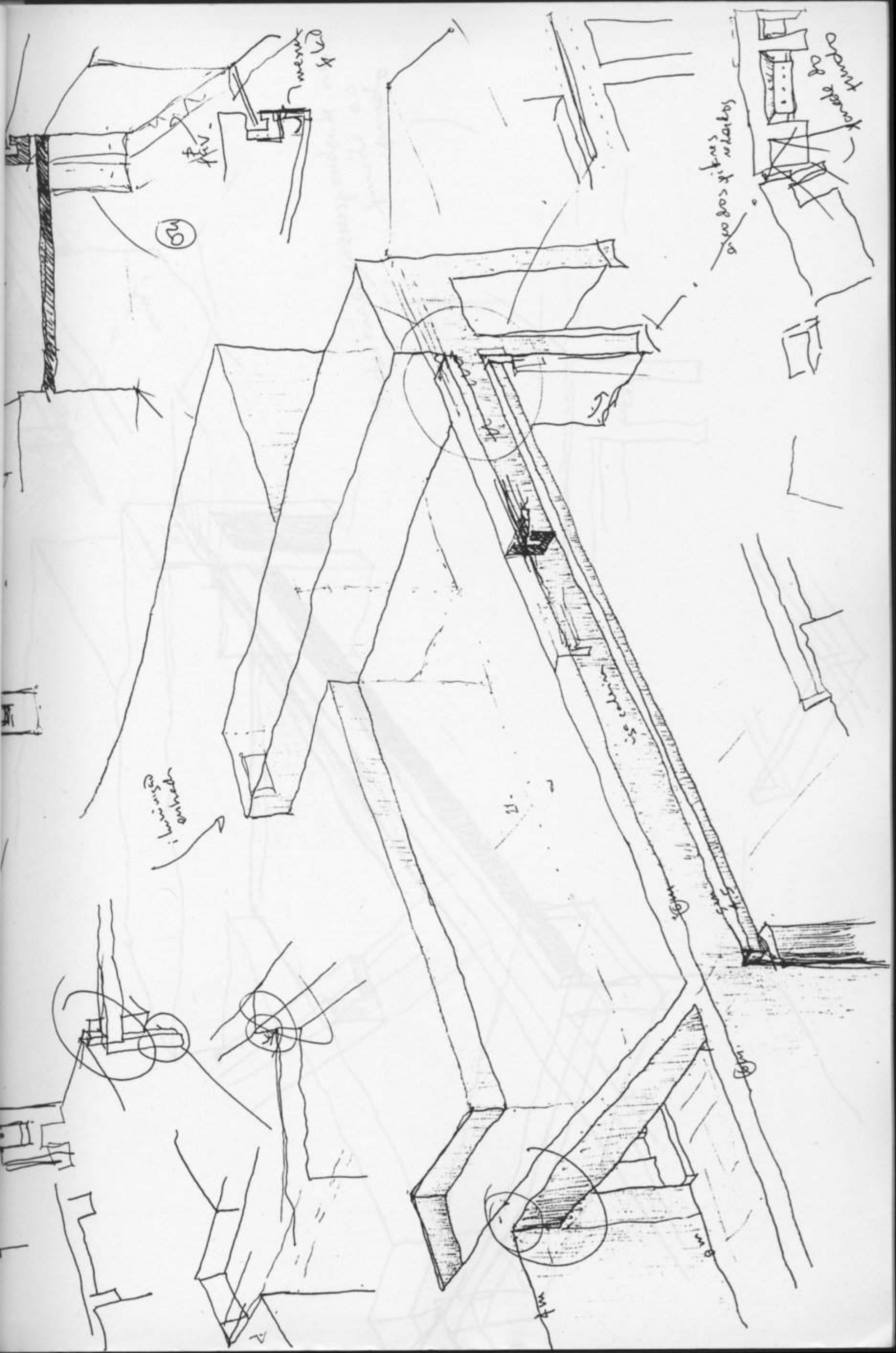
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menor x 120

piv.

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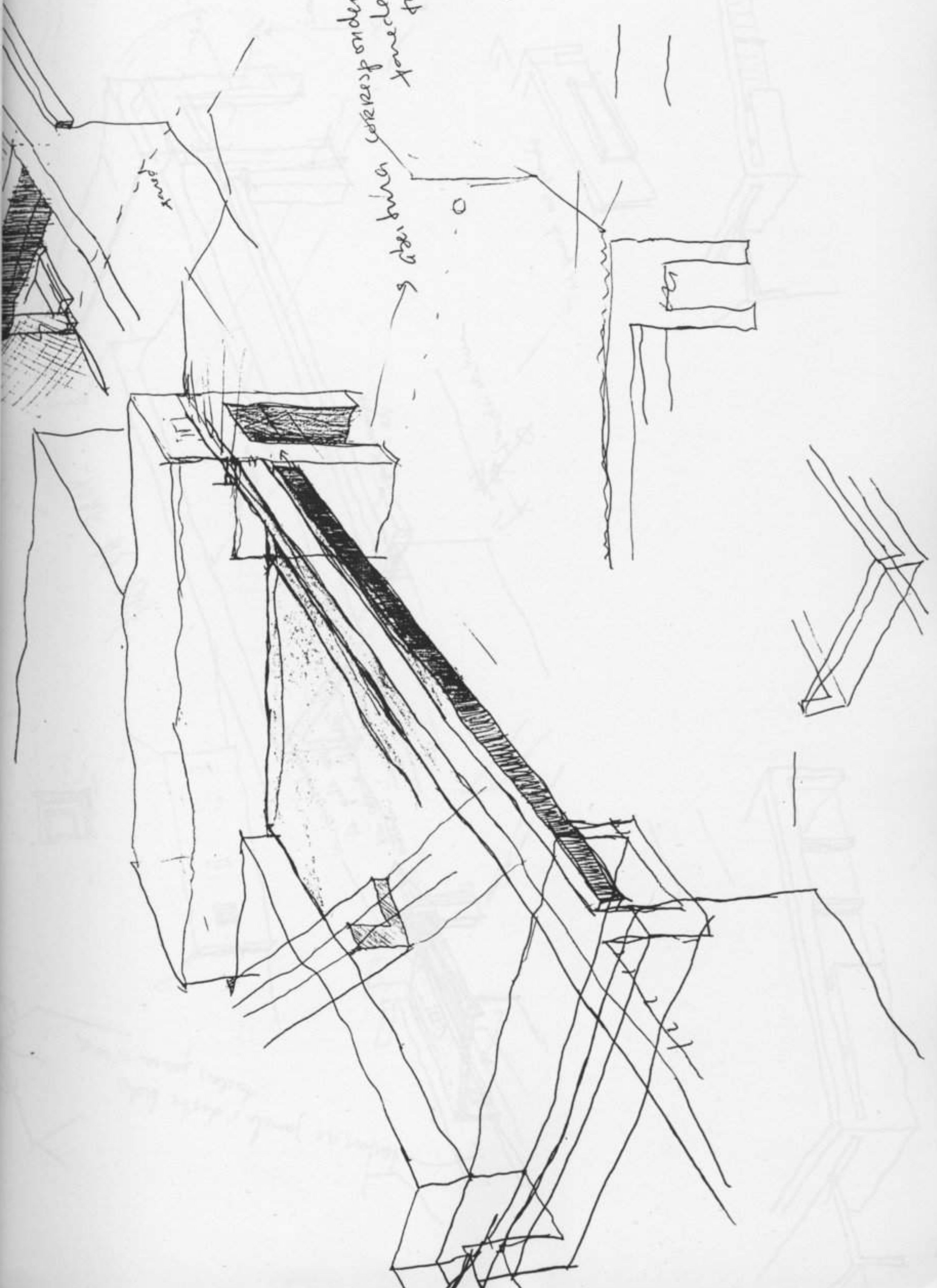
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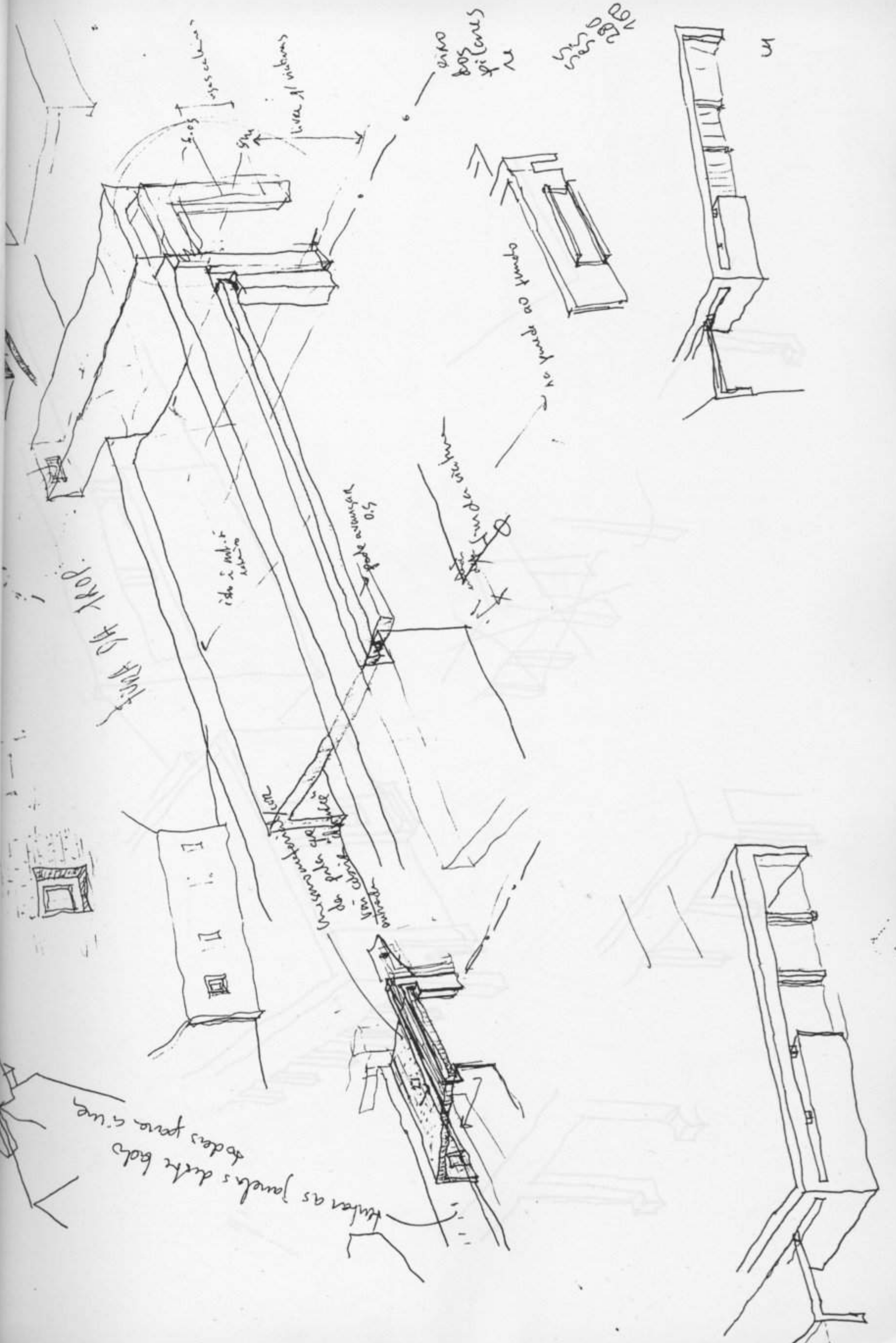
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Alto de la Troja

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5.00

Trincheras en hormigón

compuerta para el cableado de fibra óptica

5.00

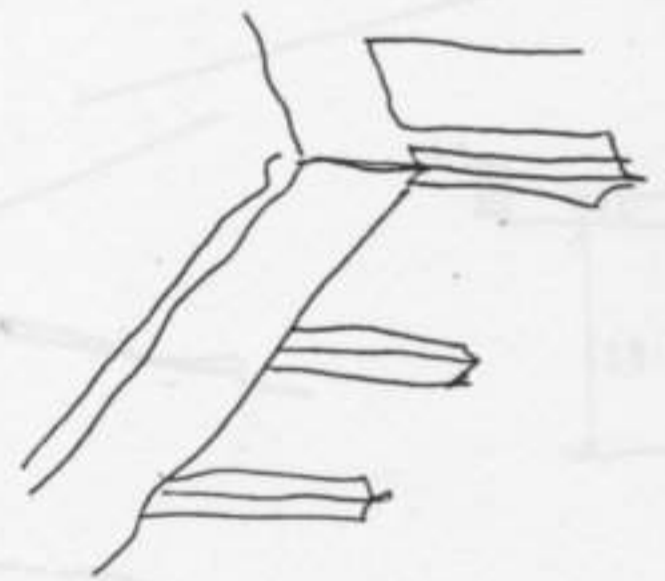
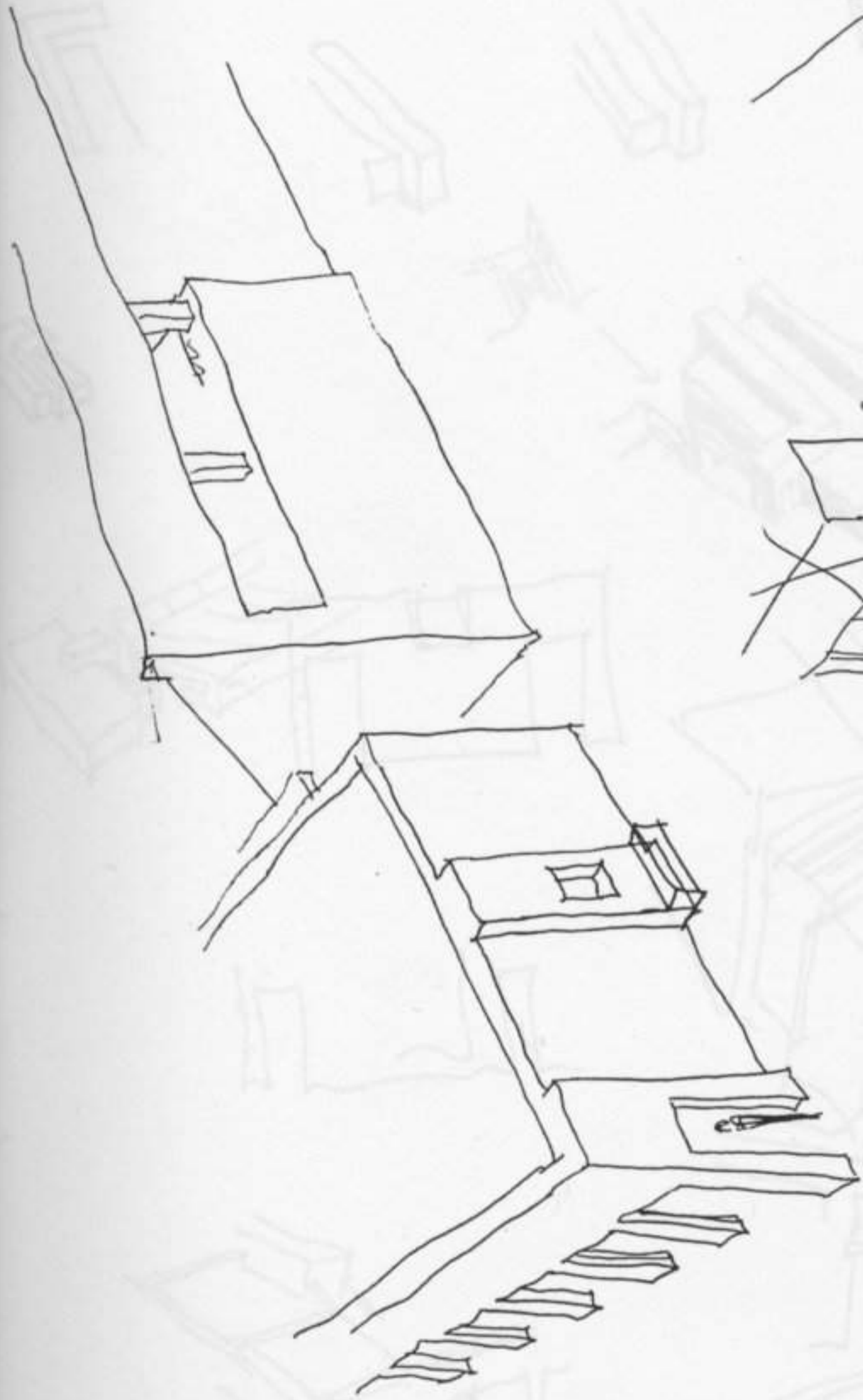
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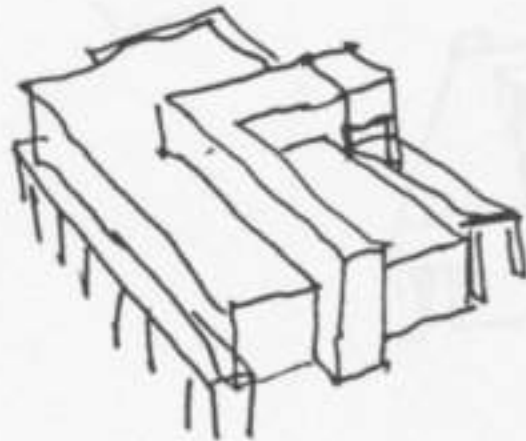
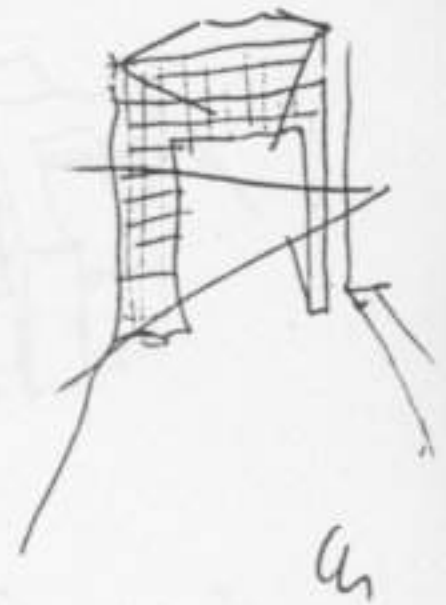
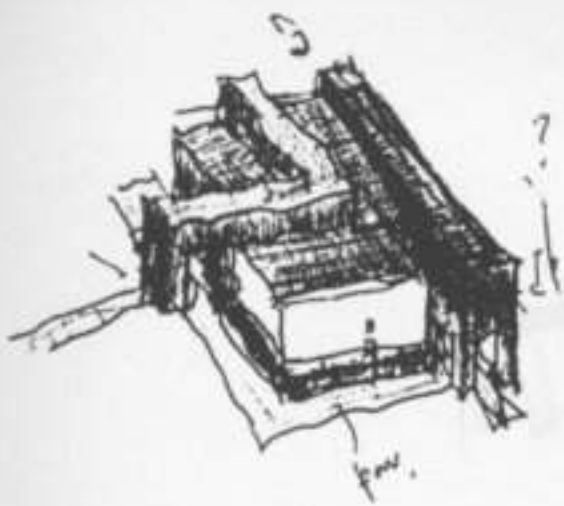
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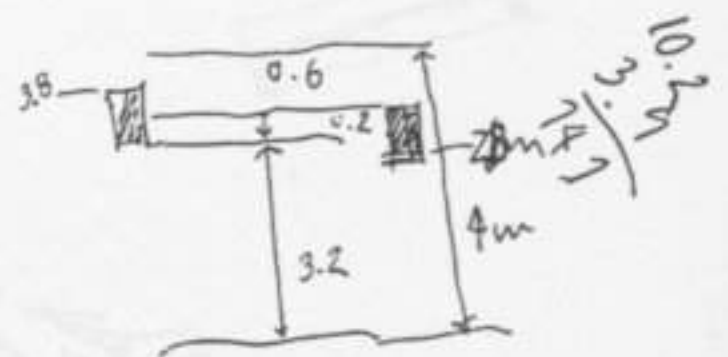
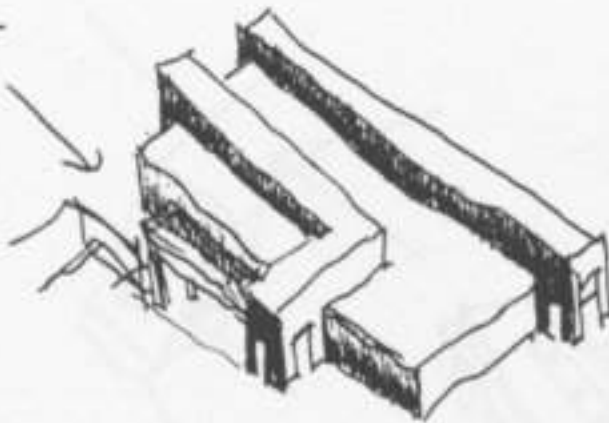
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apuntalado de madera

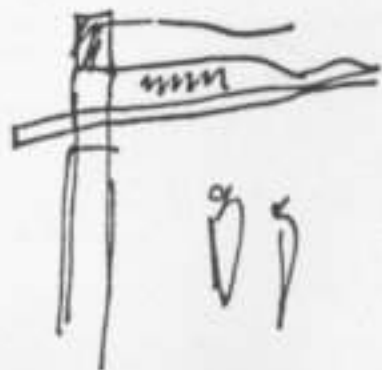
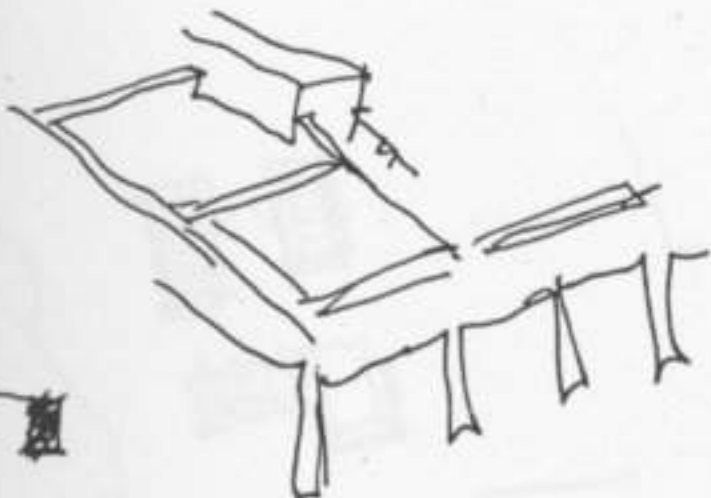
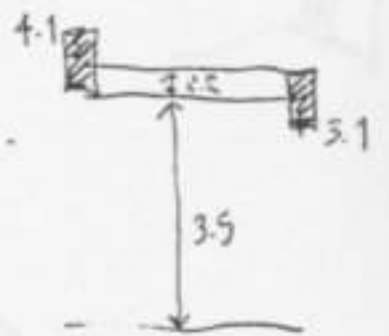




36



12.84
10.5
233.4

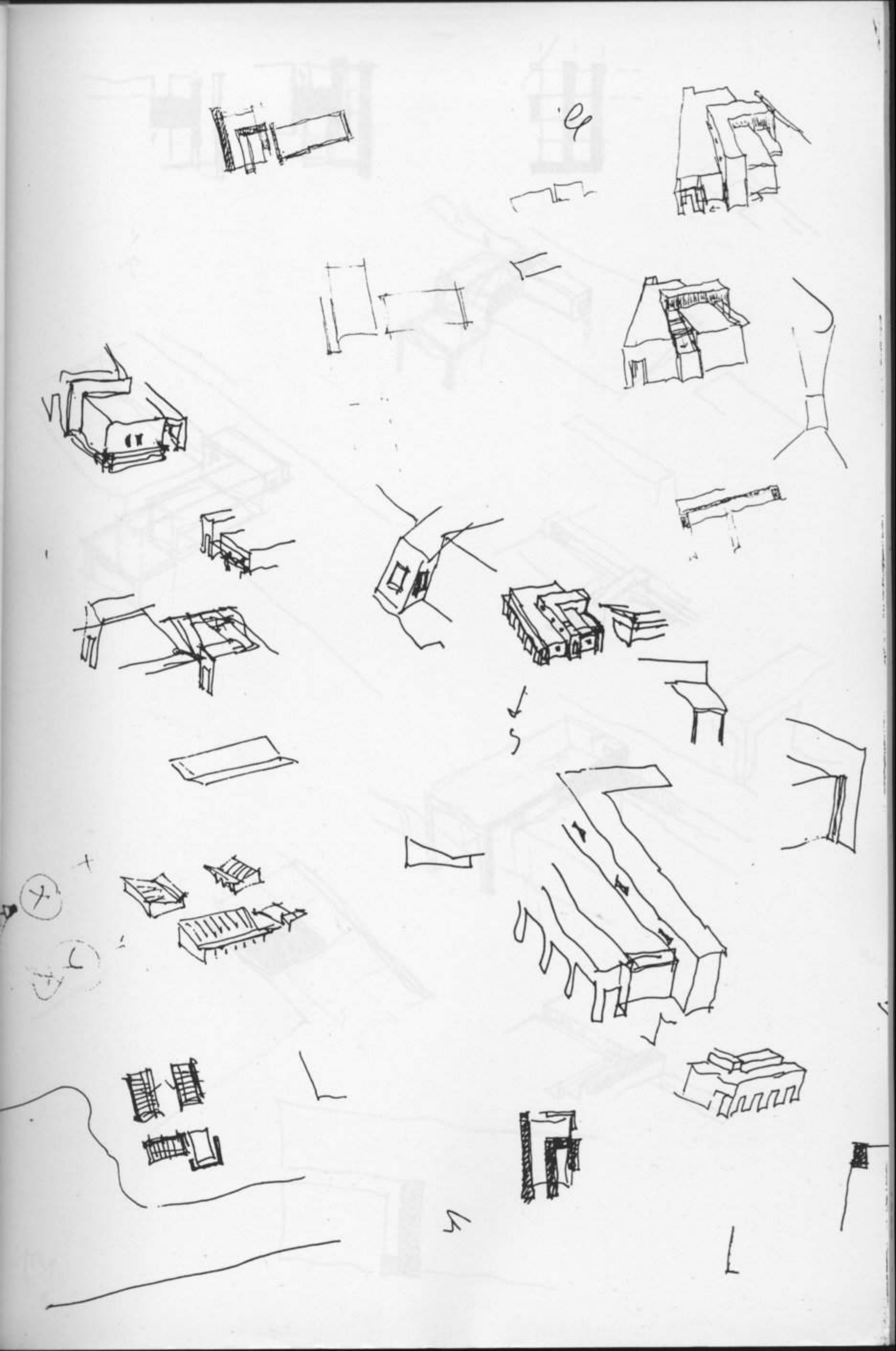


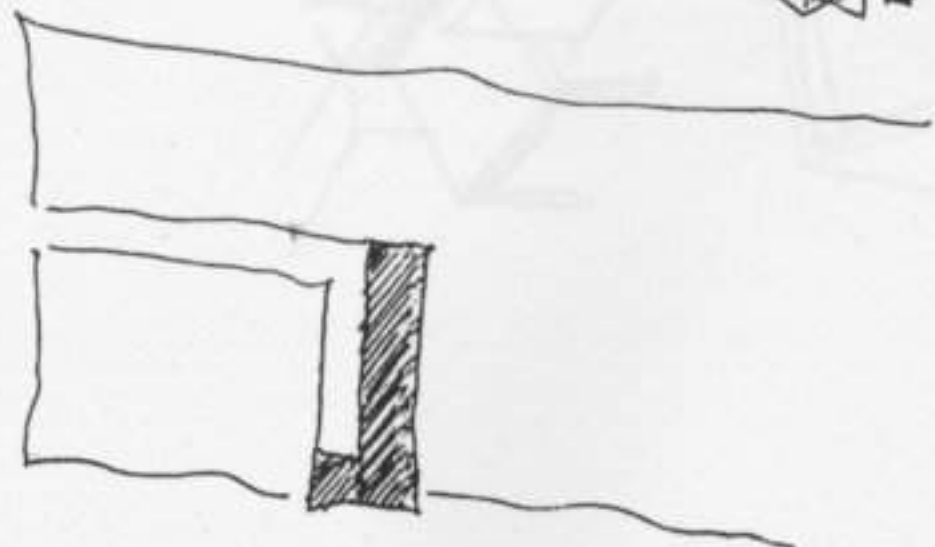
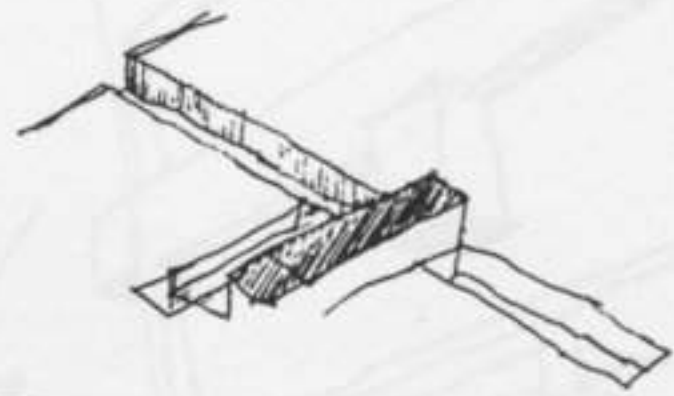
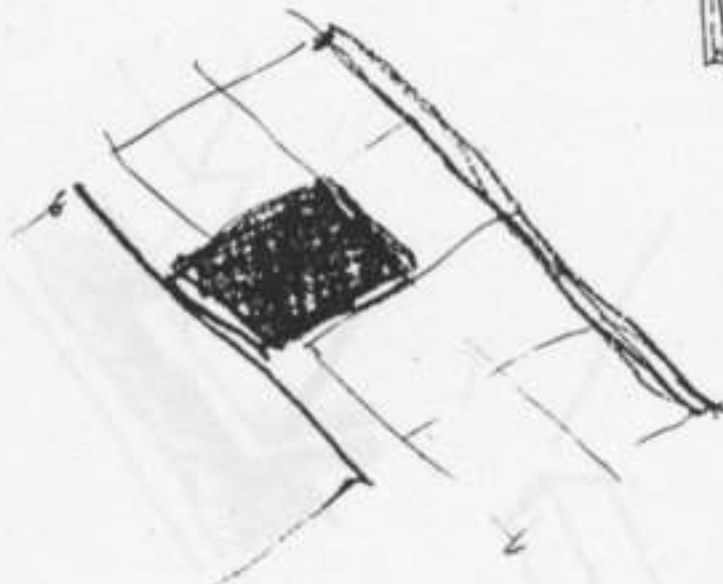
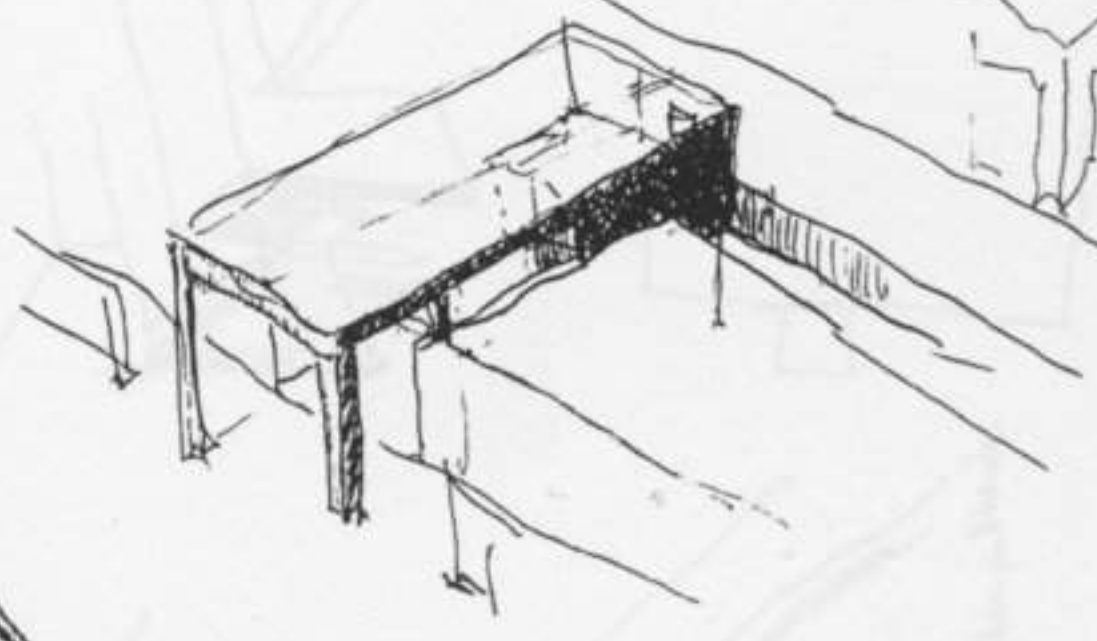
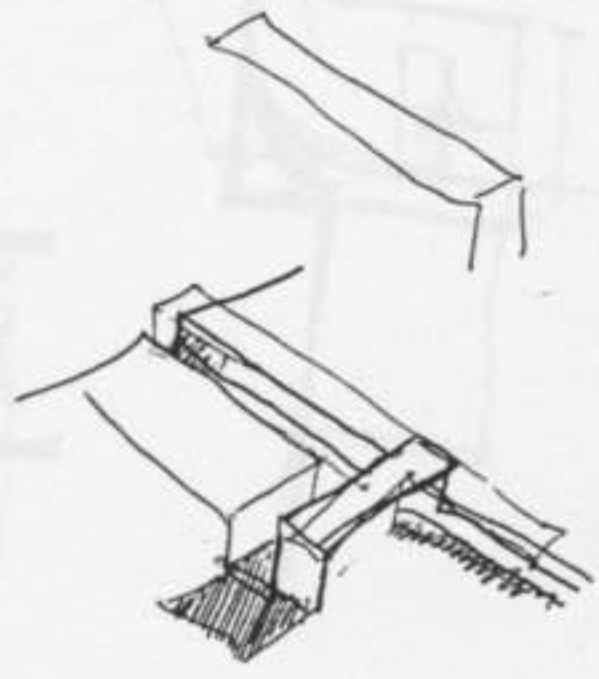
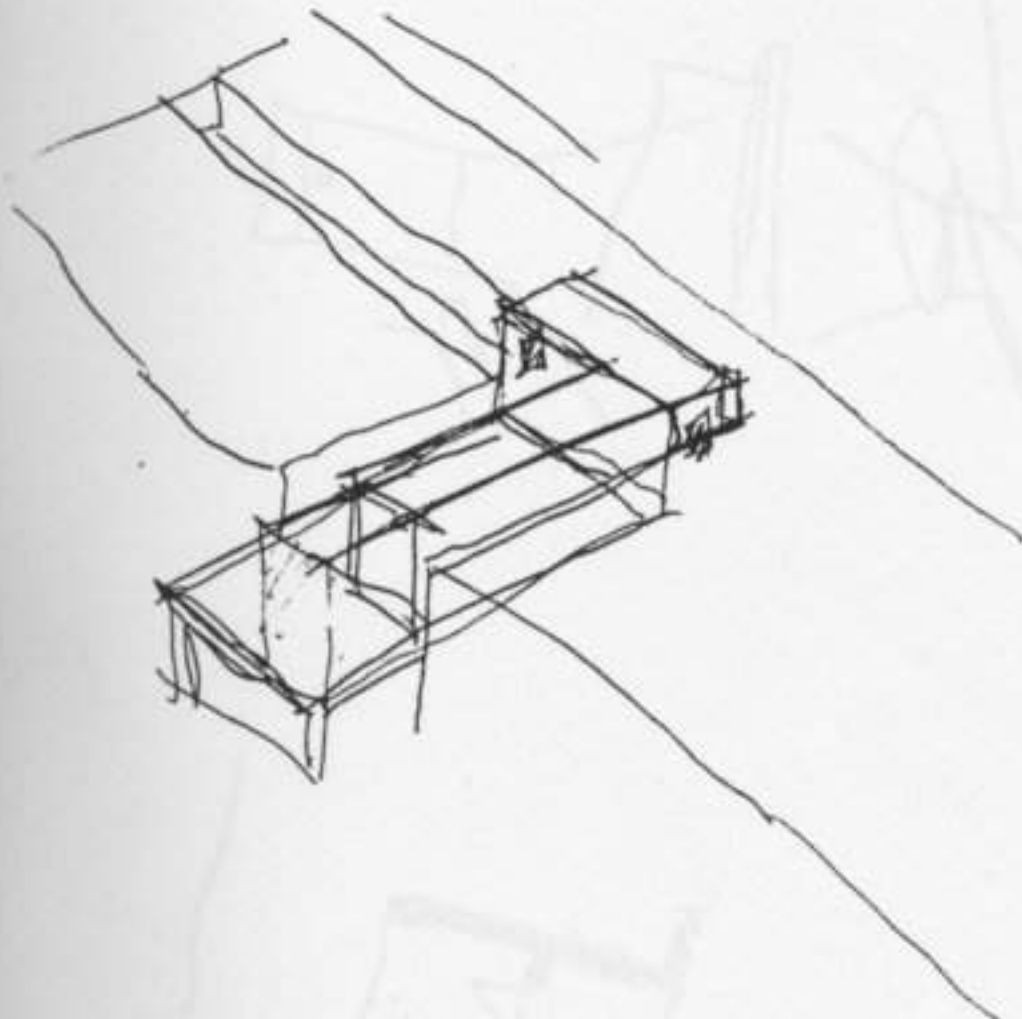
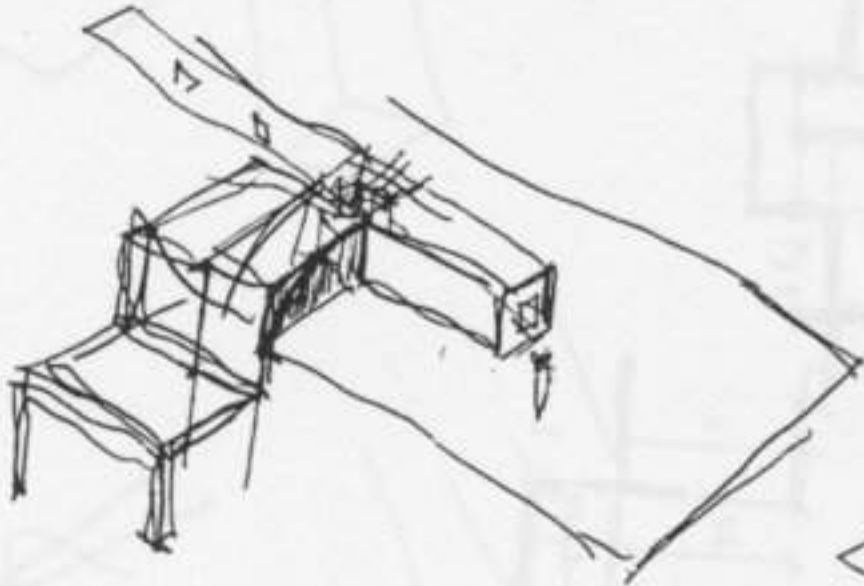
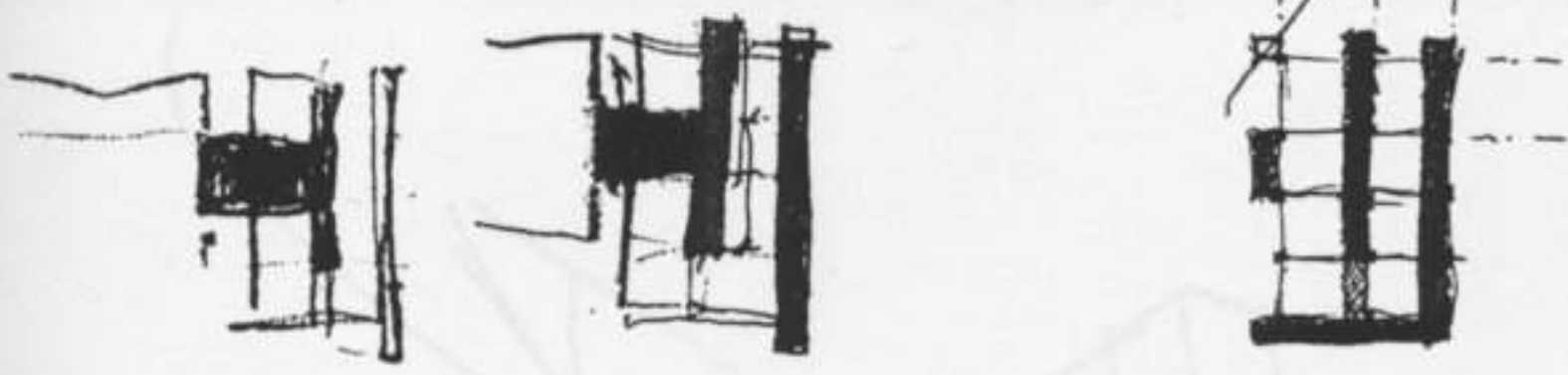
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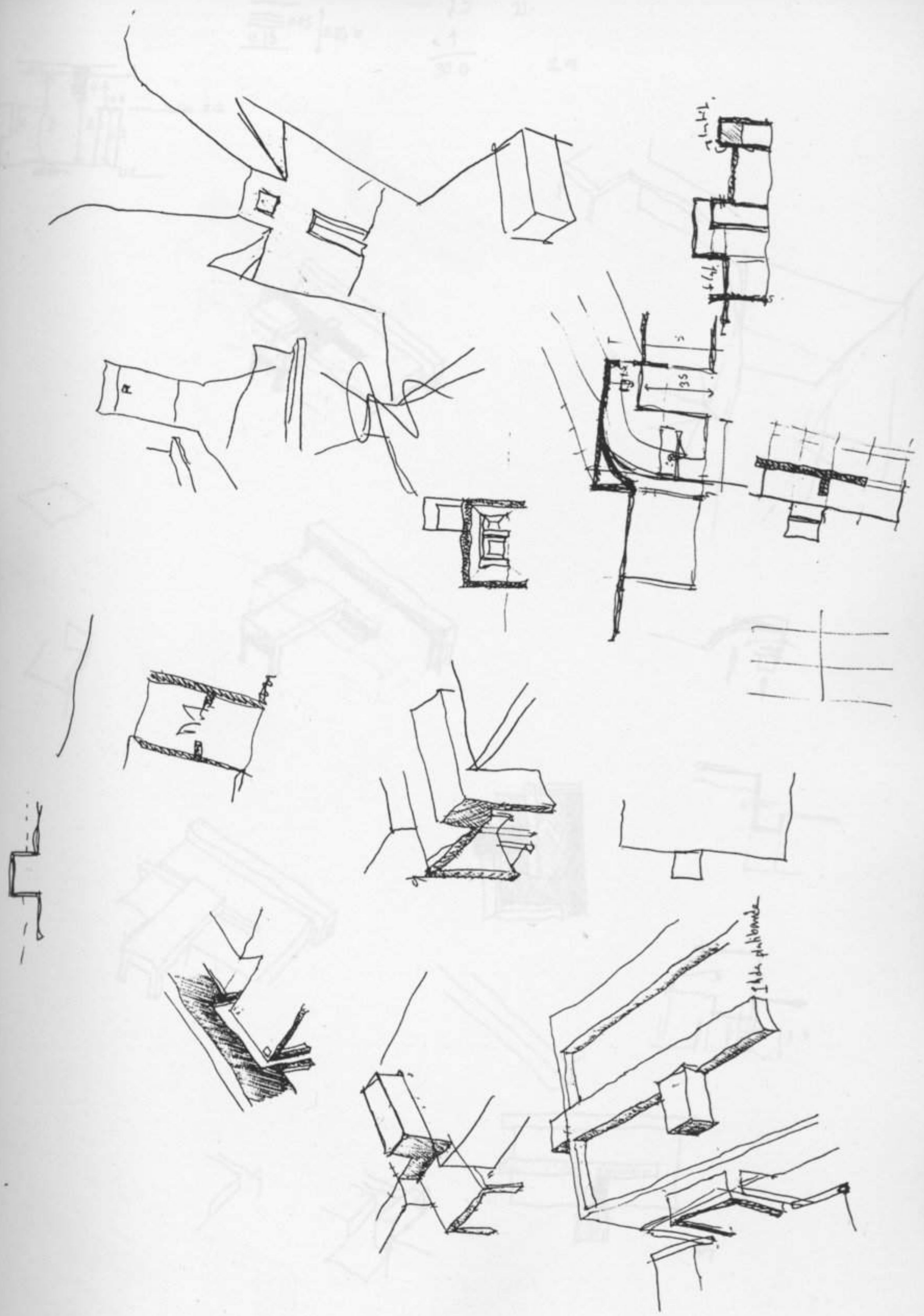
28.4
4







(535)
1

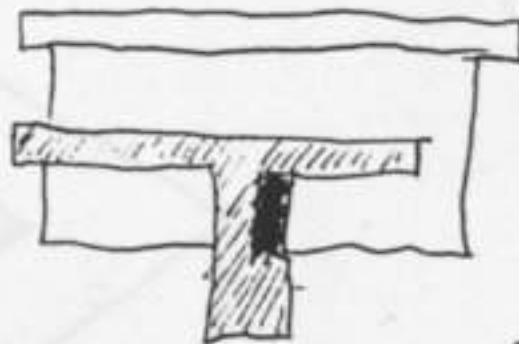
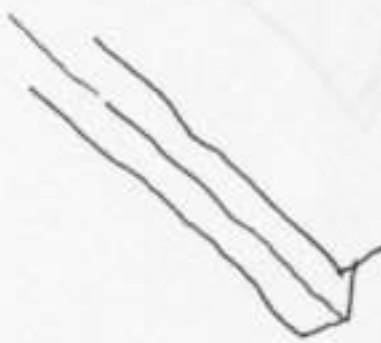
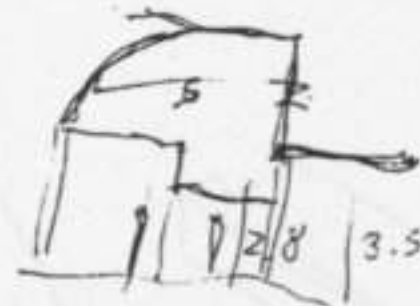
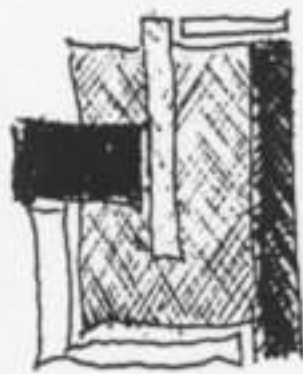
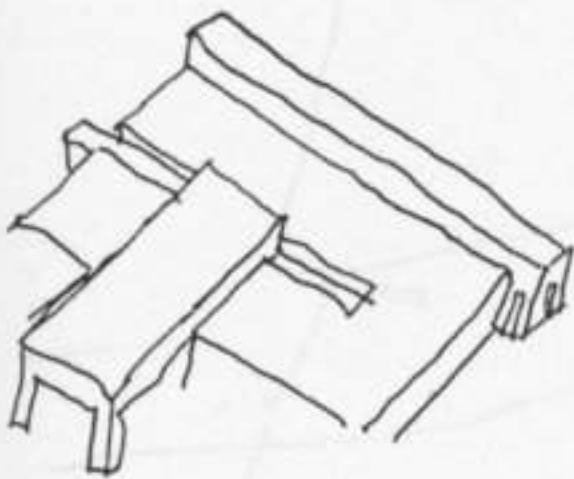
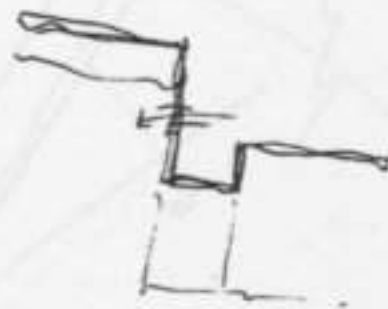
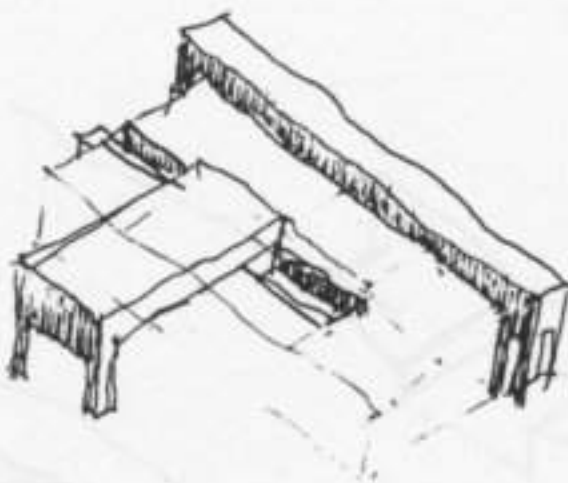
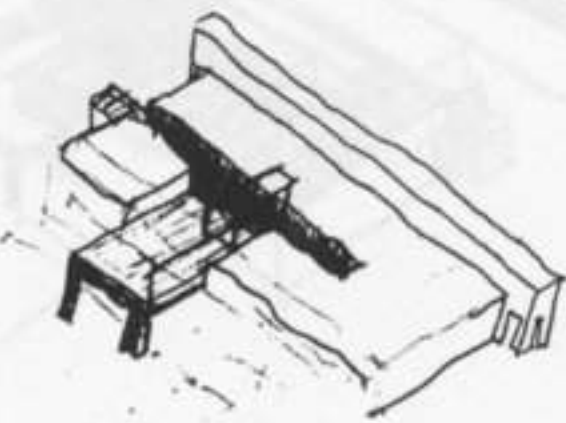
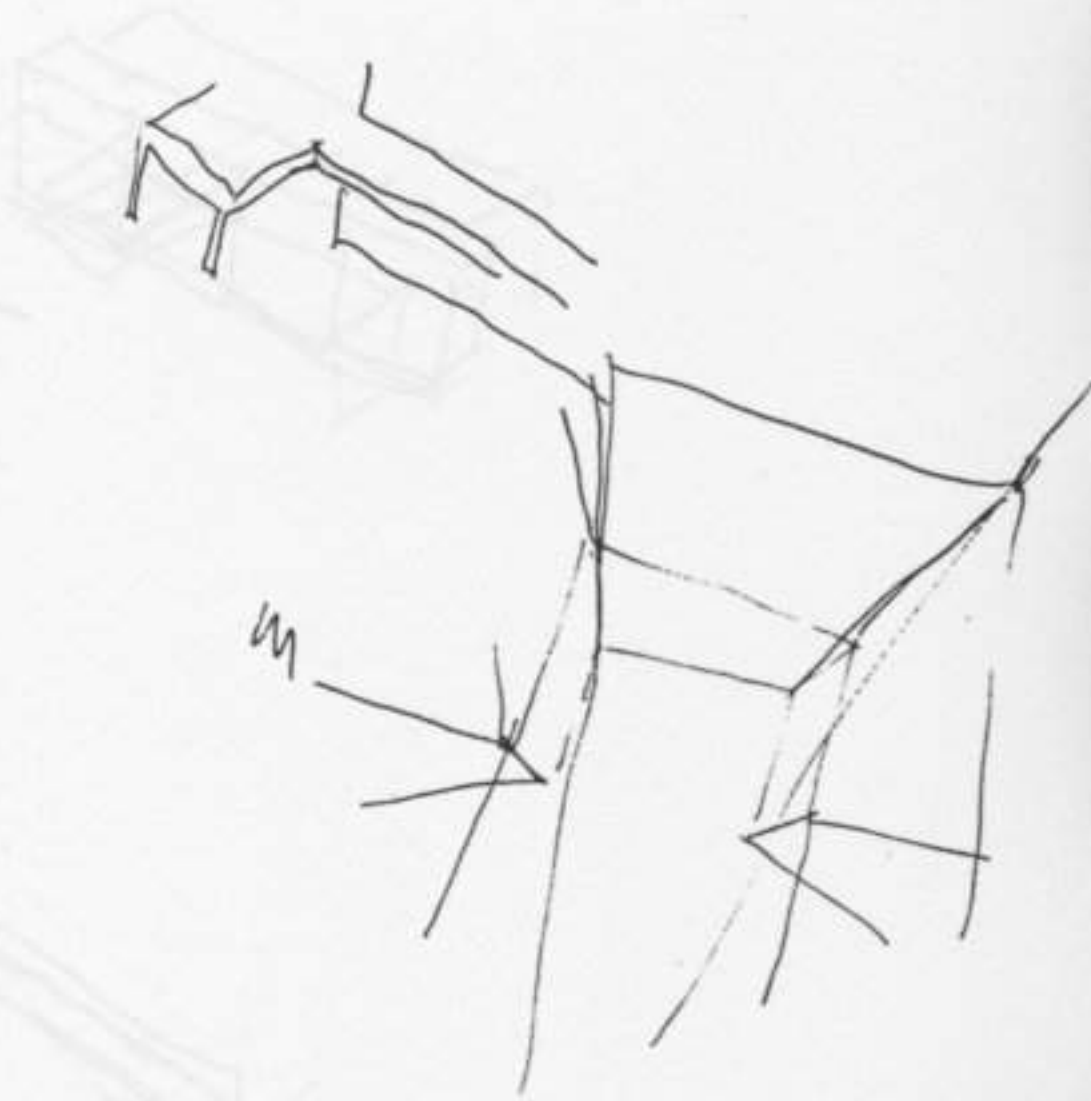
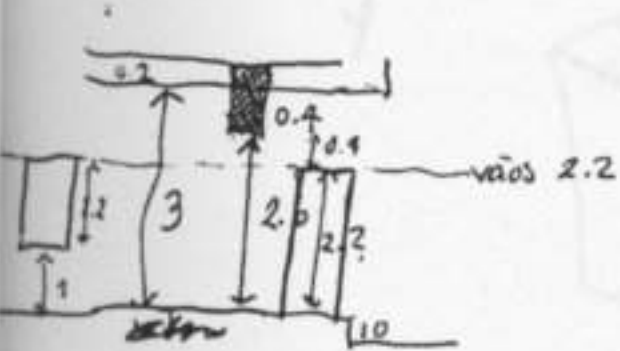


$\frac{0.15}{0.05} \times 0.25 \approx$

$\frac{7.5}{4} = 30.0$

21.

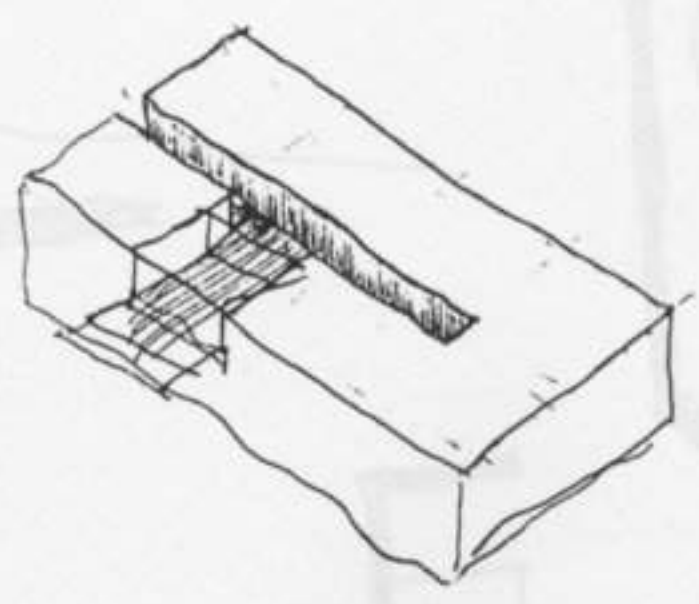
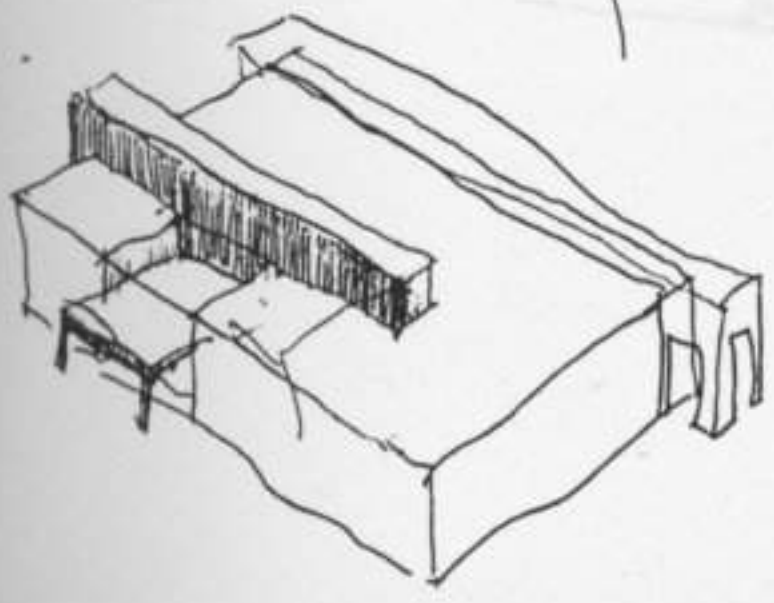
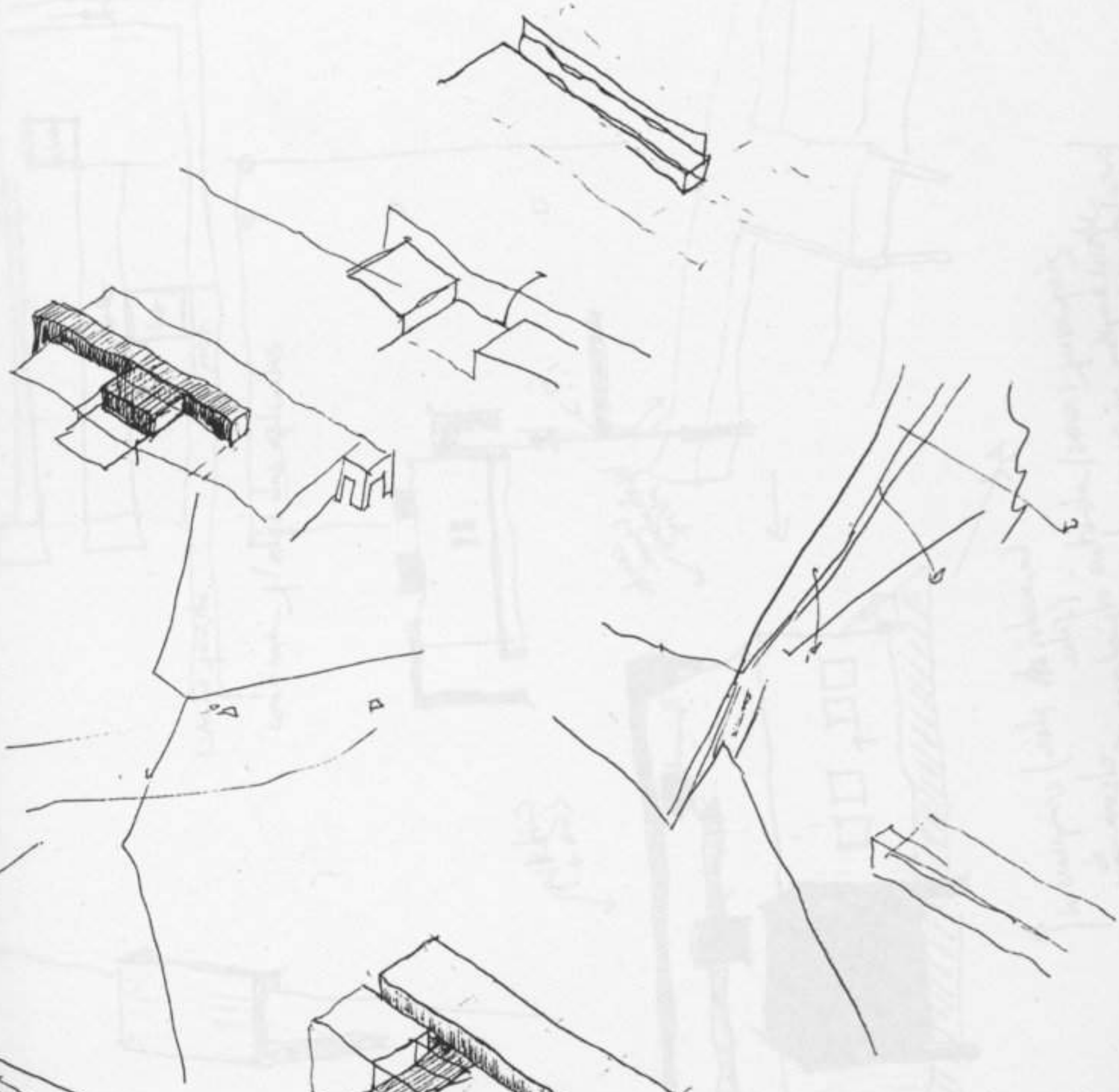
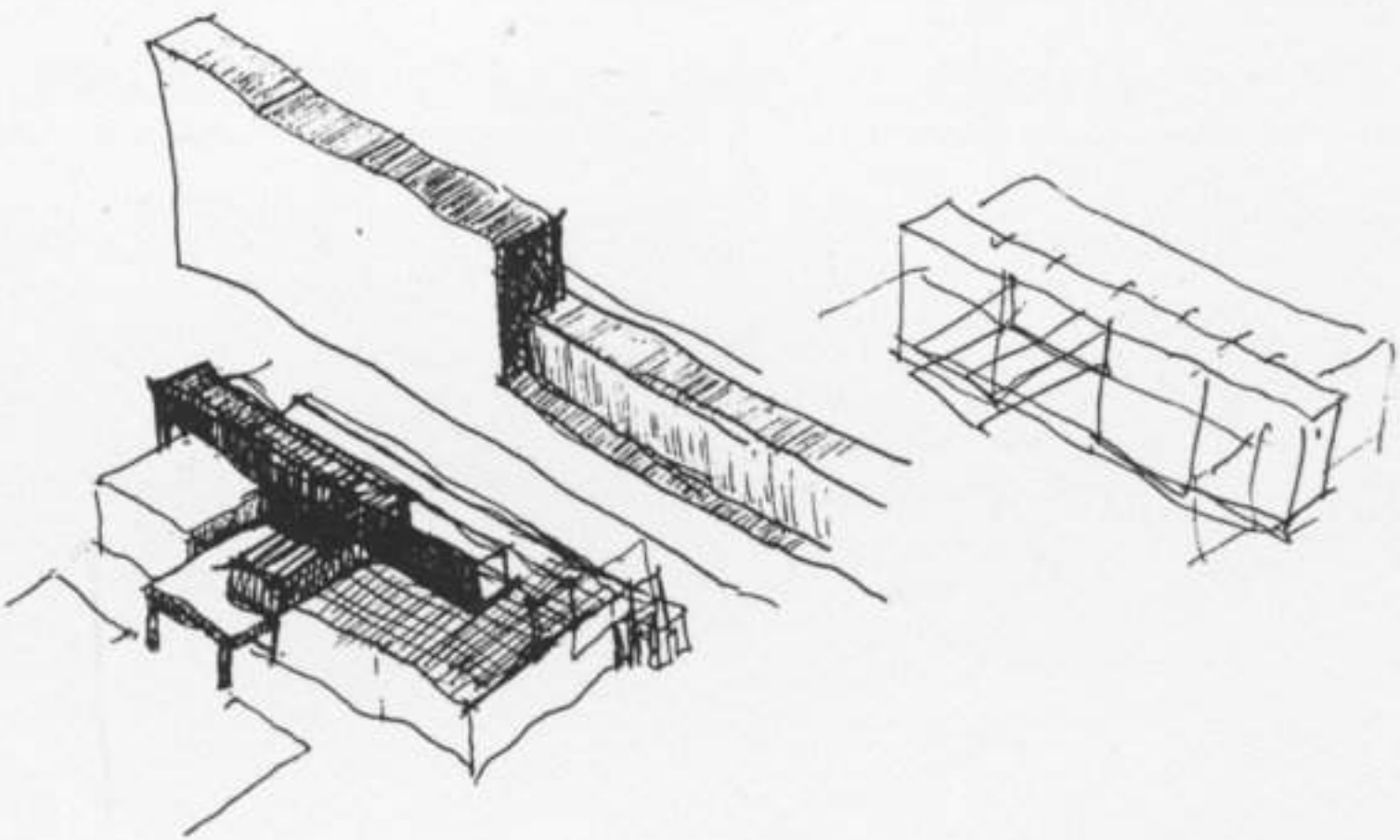
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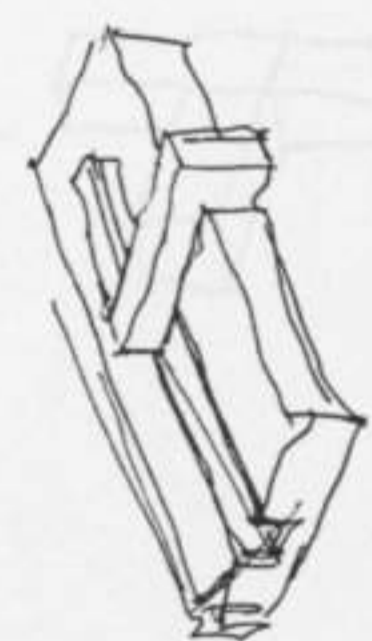
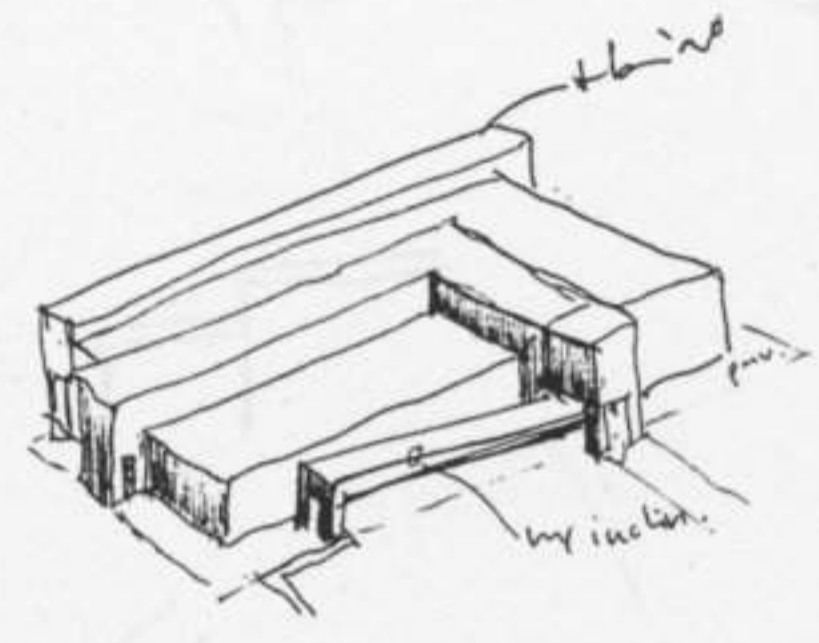
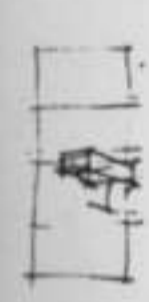
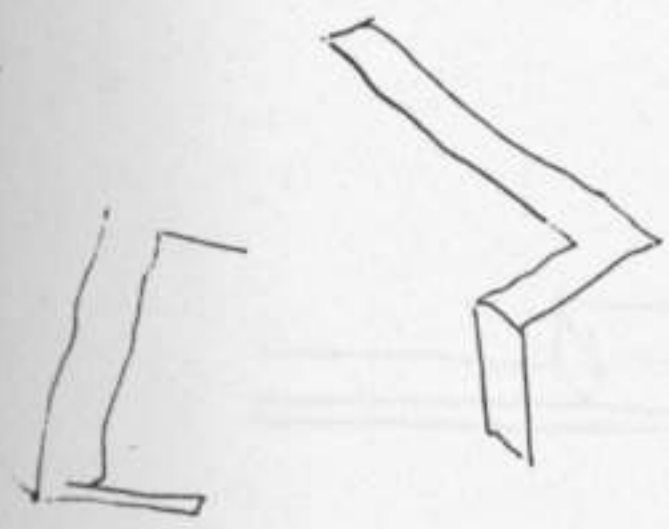


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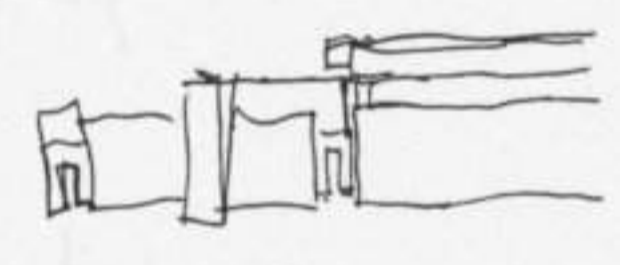


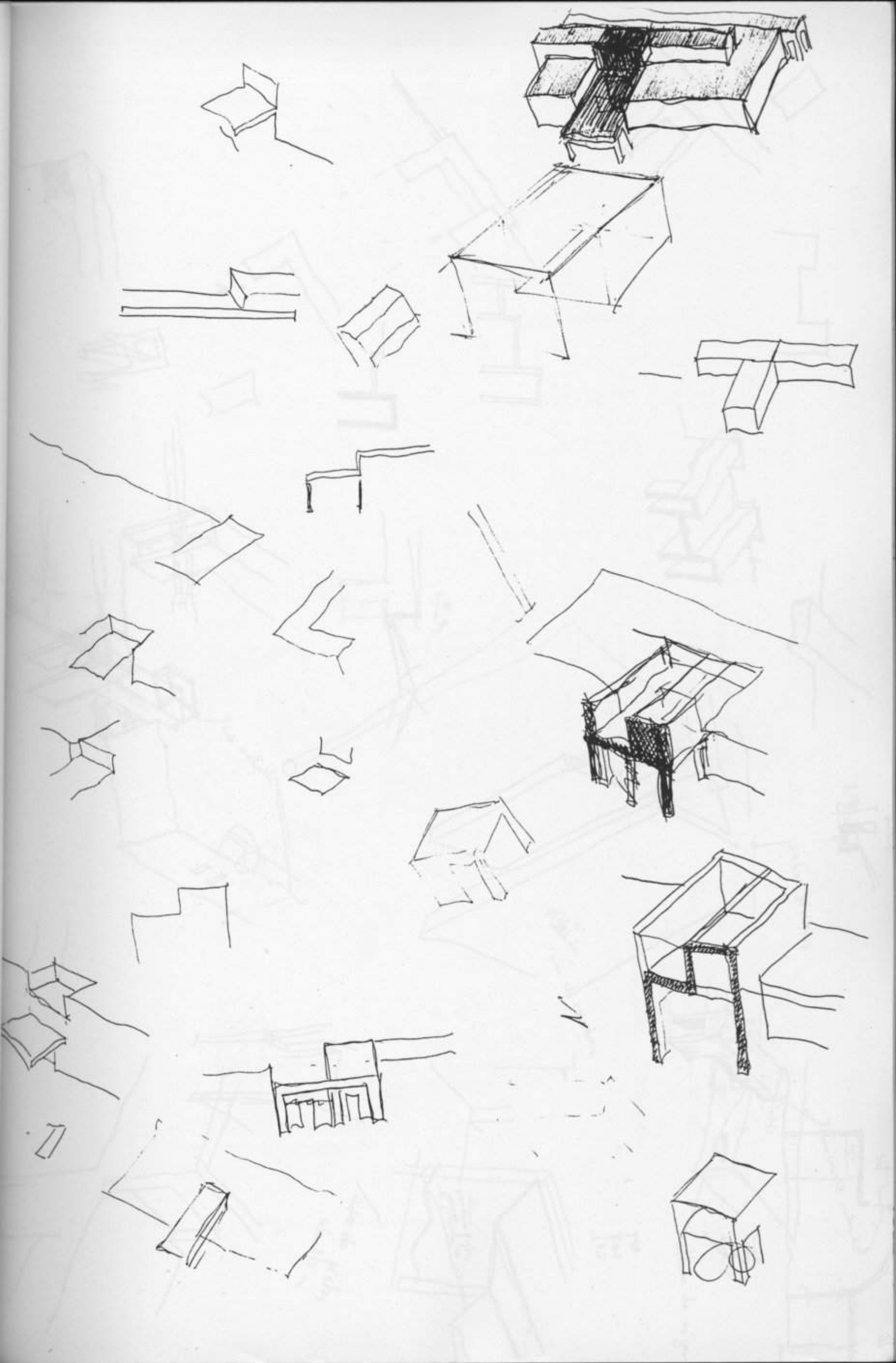
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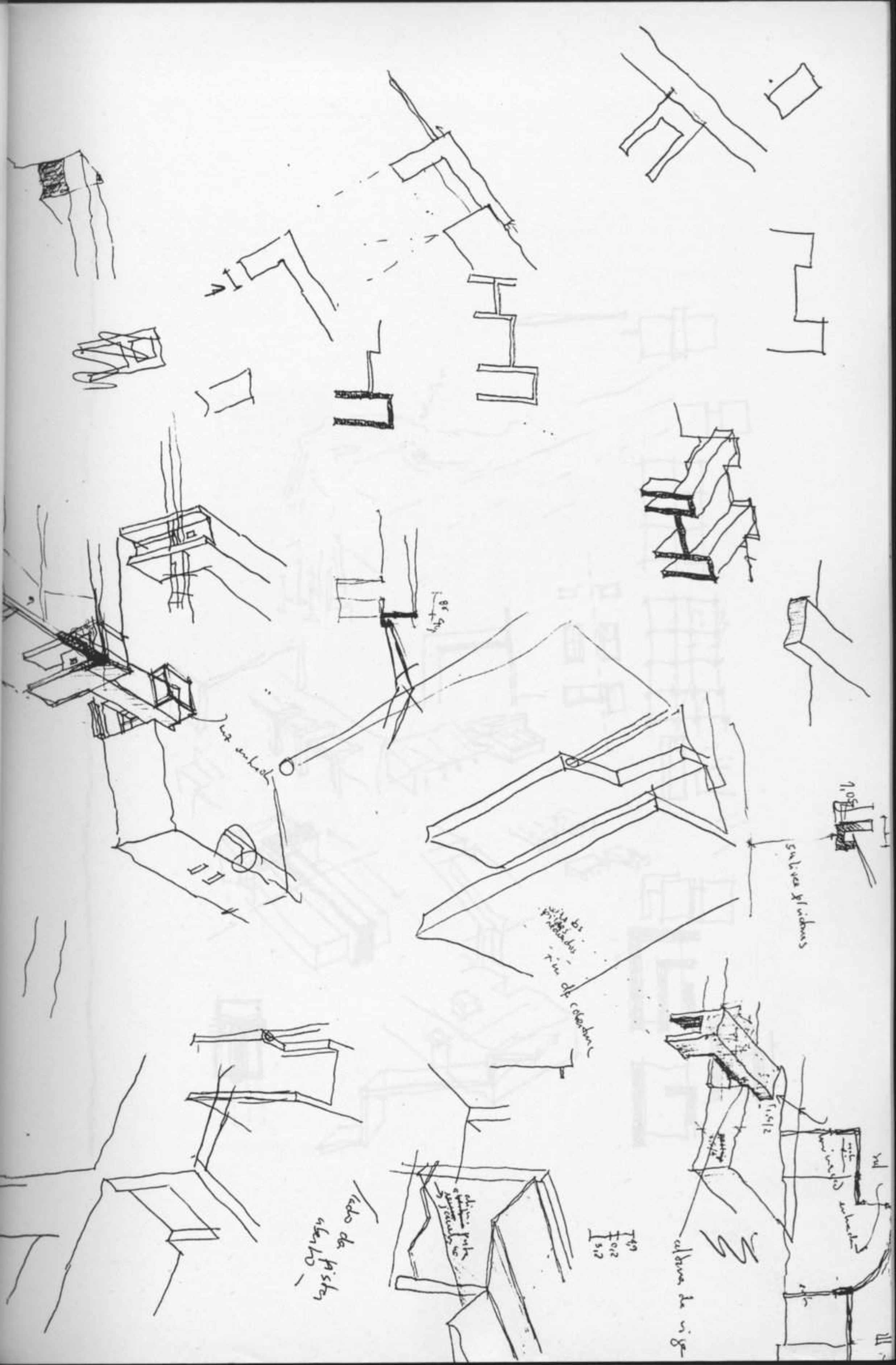




4.5 | 3.35







sala de vidros

1,05m

sala de colarbone

1,512

sala de vigas

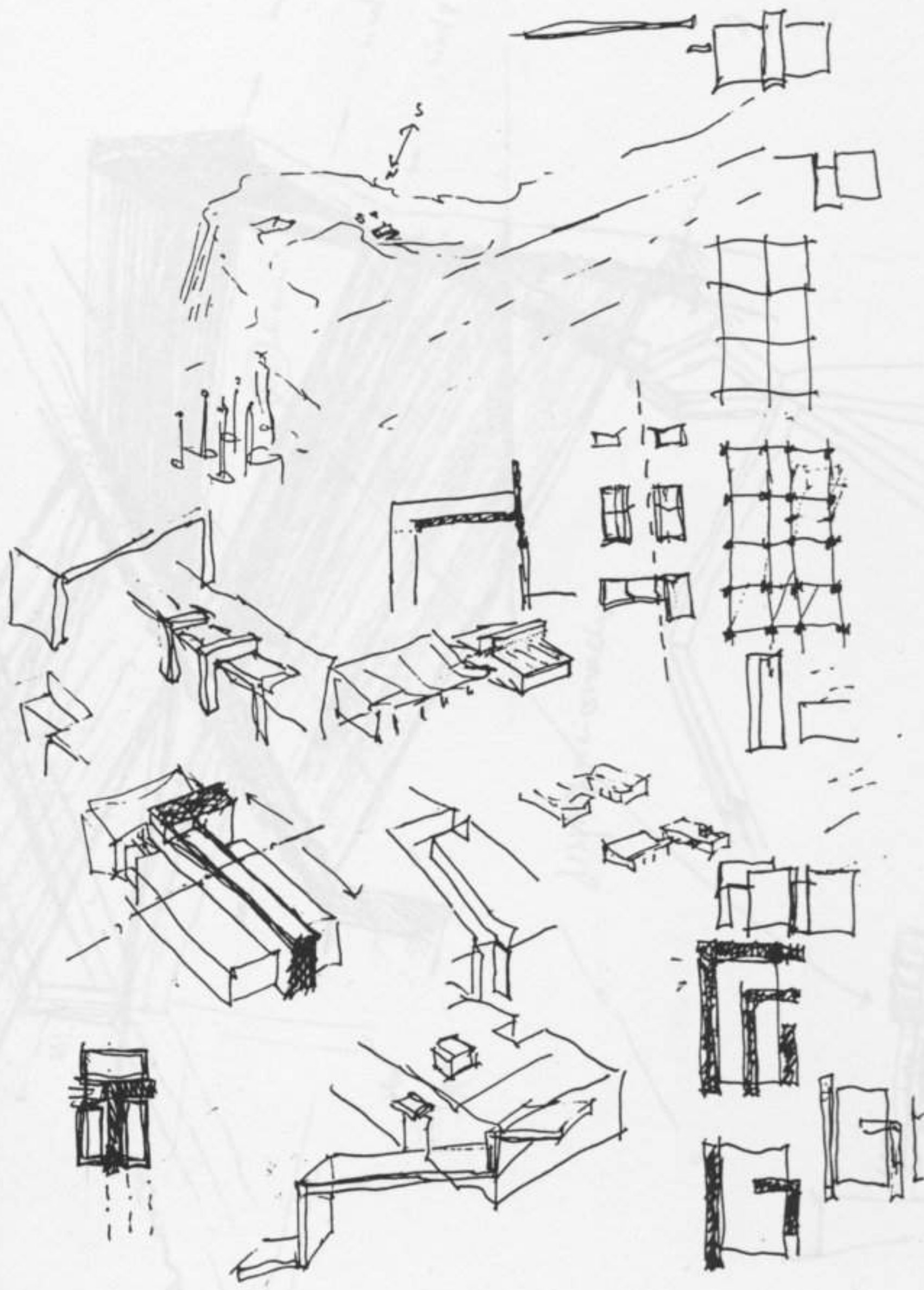
1,512

lado da pista

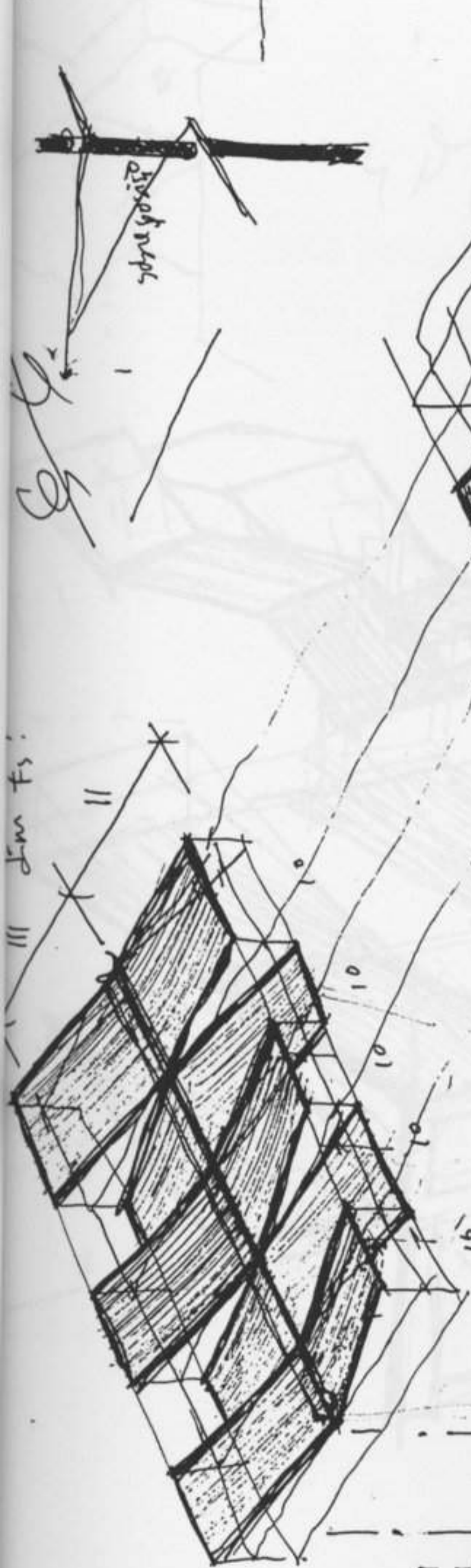
5,12

8,4m

1,512

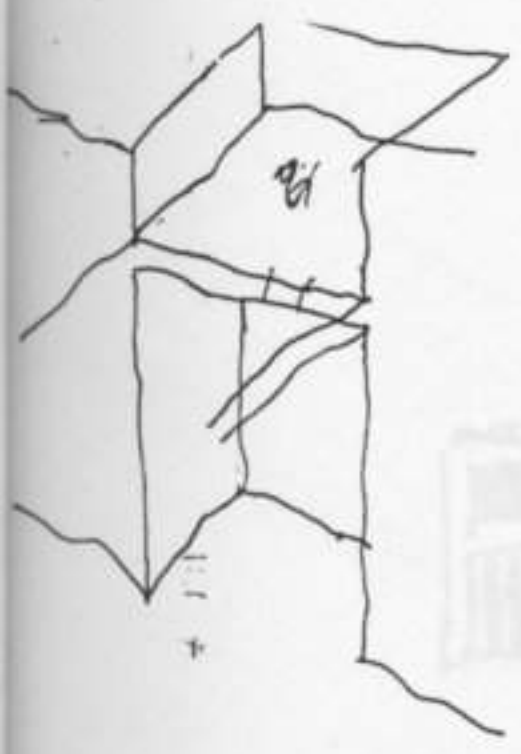


III dim ts:



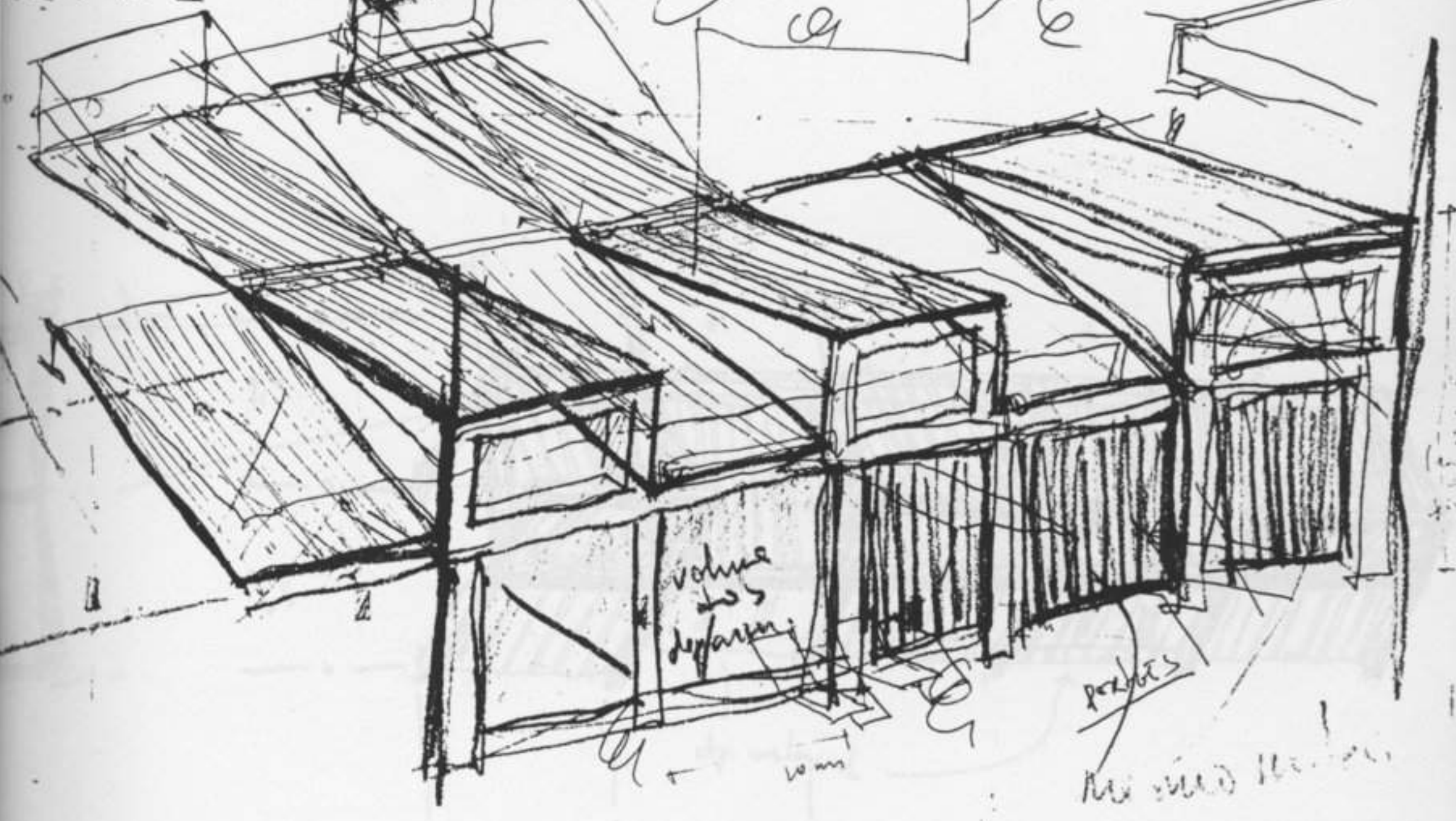
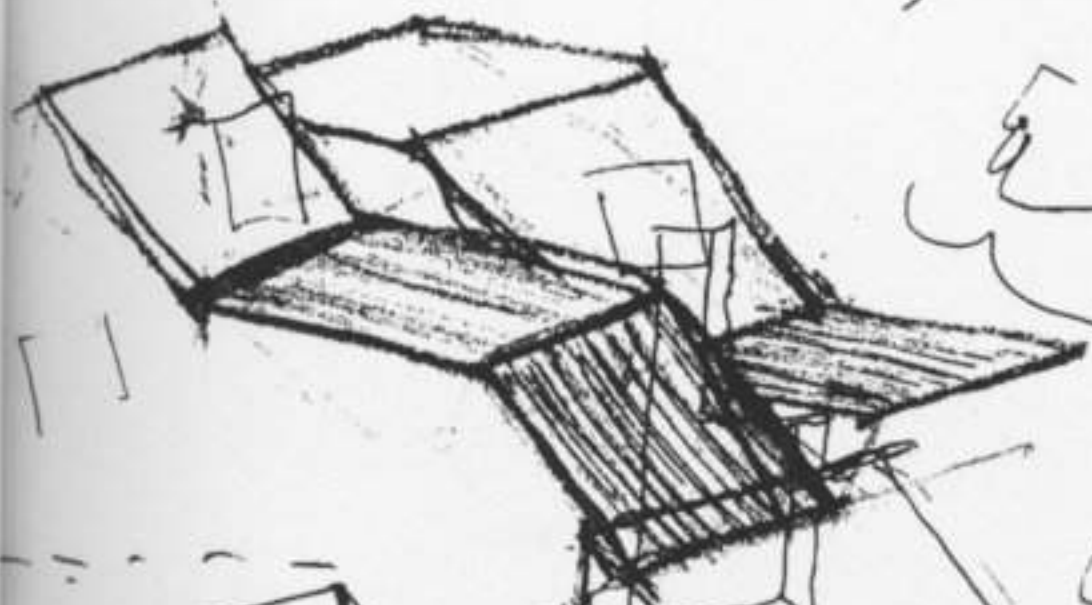
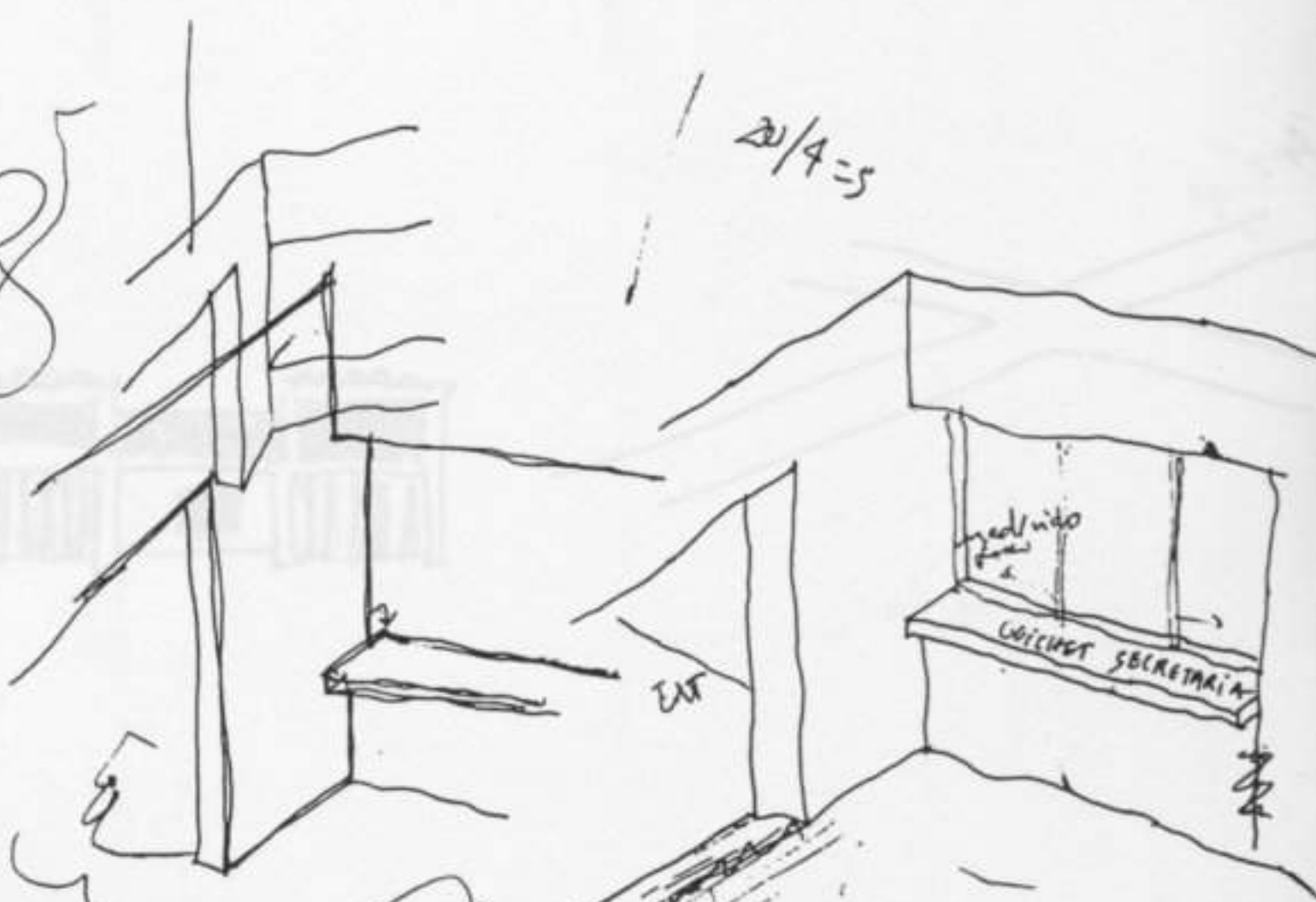
filon ao remate
 sem construçã (dep. material)
 portas → é de madeira/chão

concreto
 mesclante
 atrecho pt
 a p-iste
 visto total
 ao
 diâo = 19



408

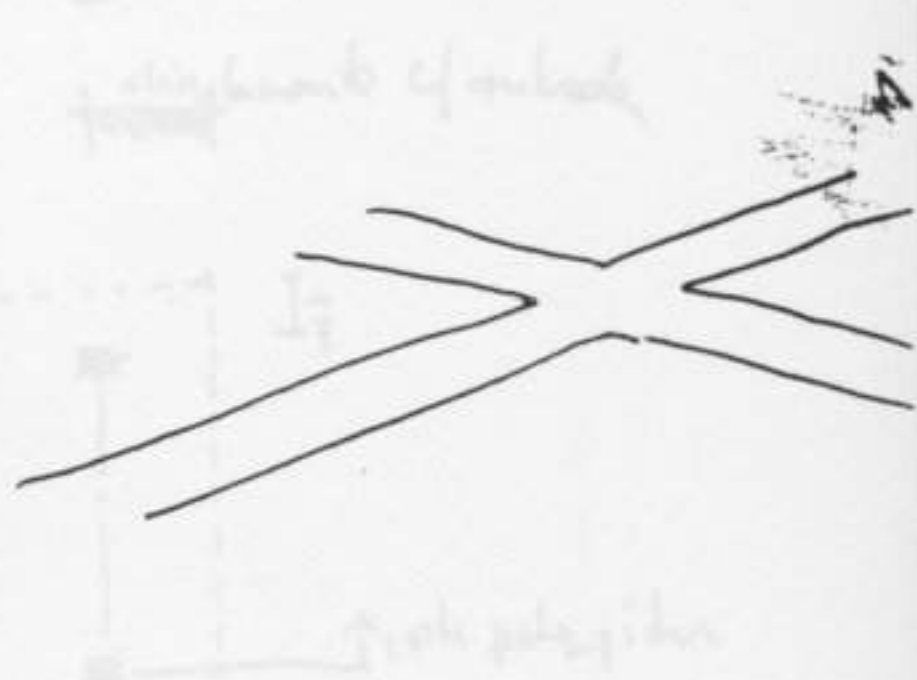
20/4-5



volume
dos
departam.

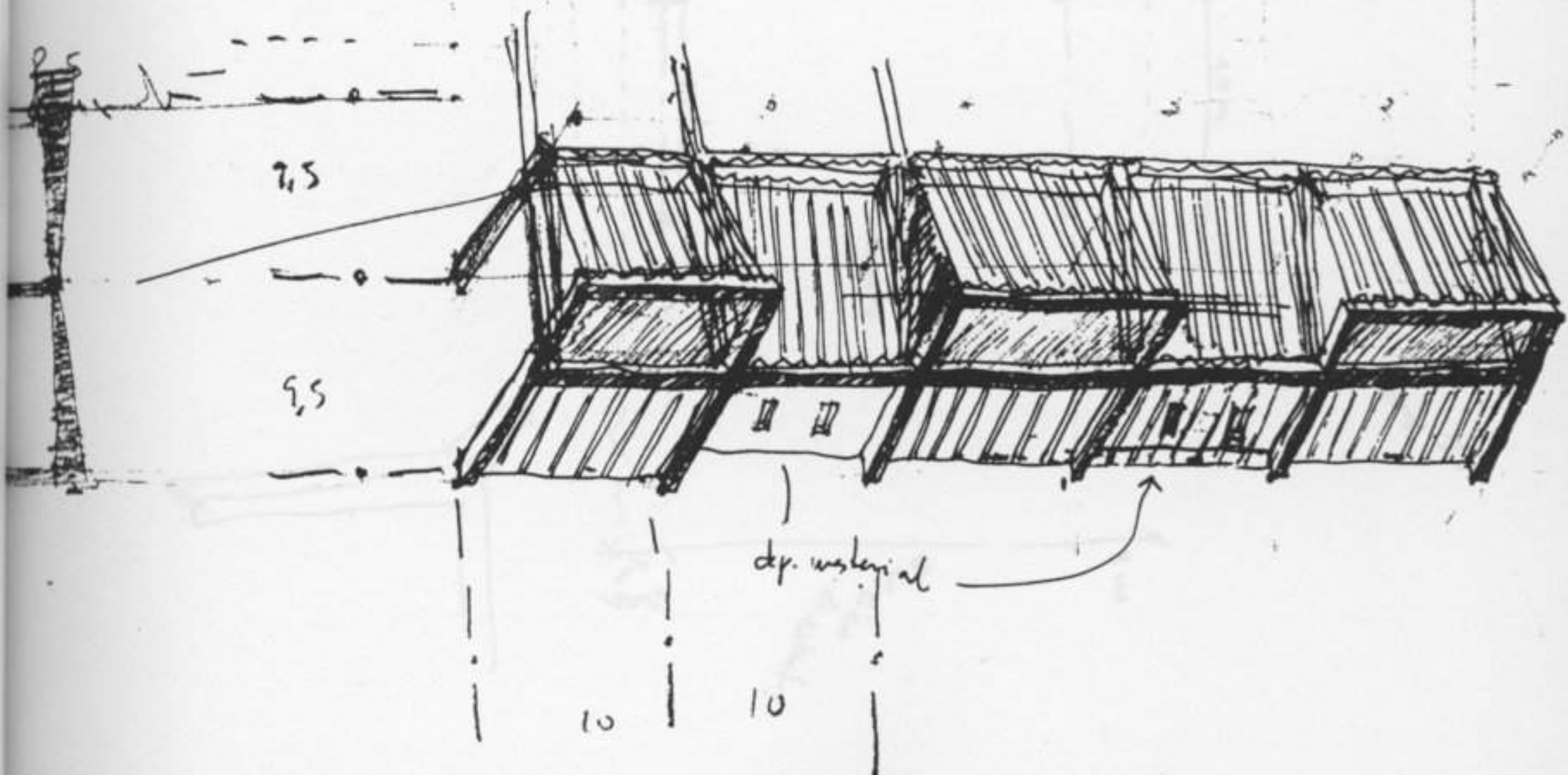
pedras

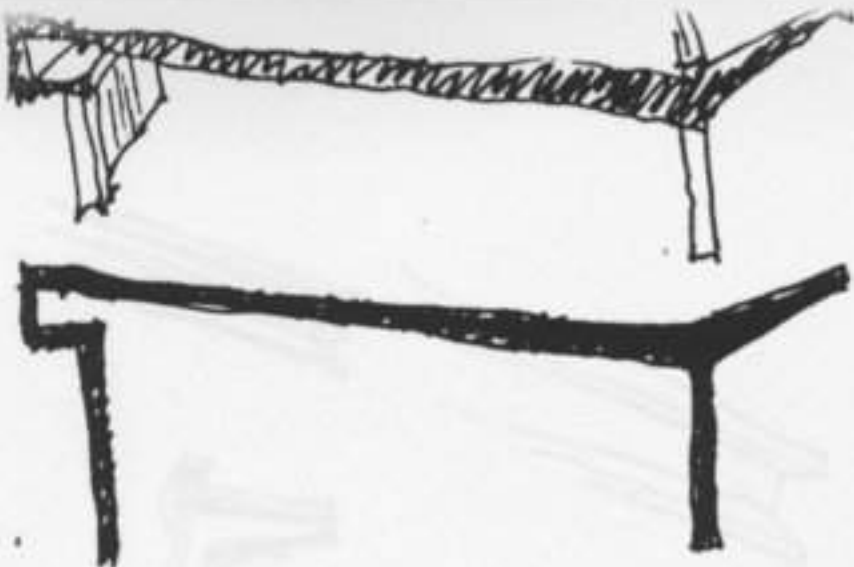
no meio da...



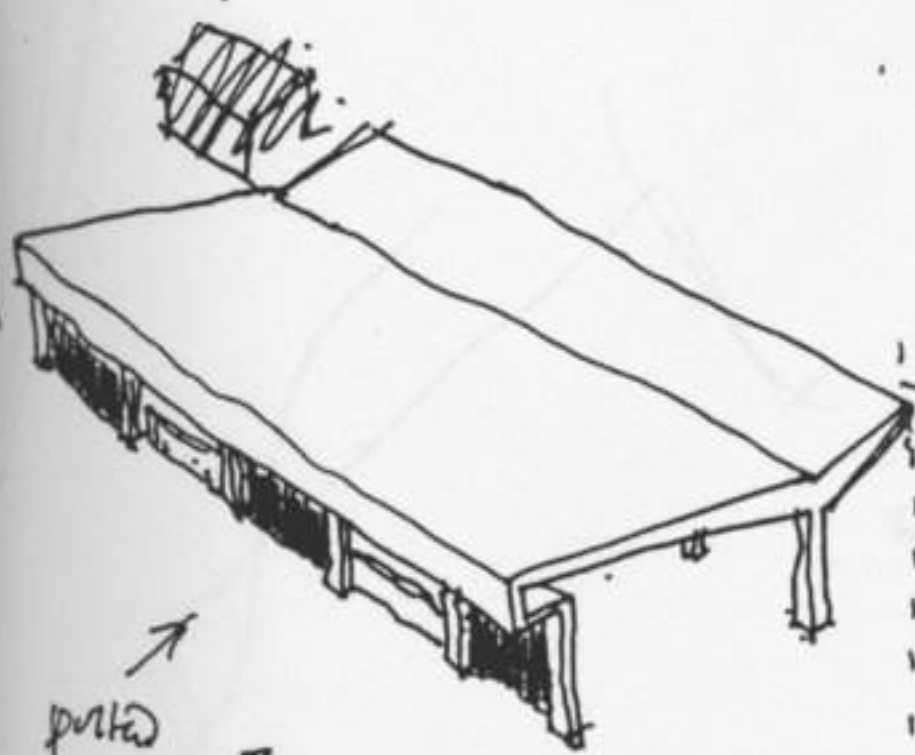
English style
standard

in place over
windows for
light



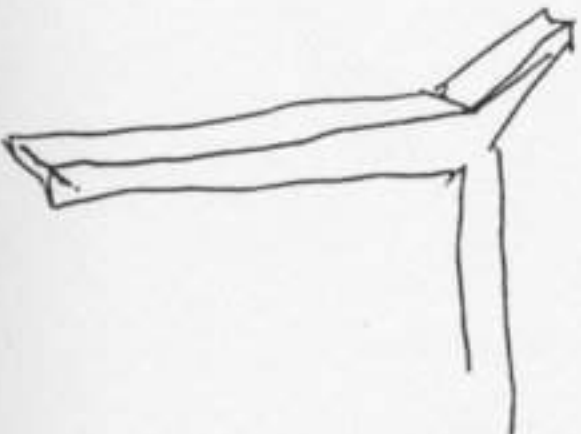
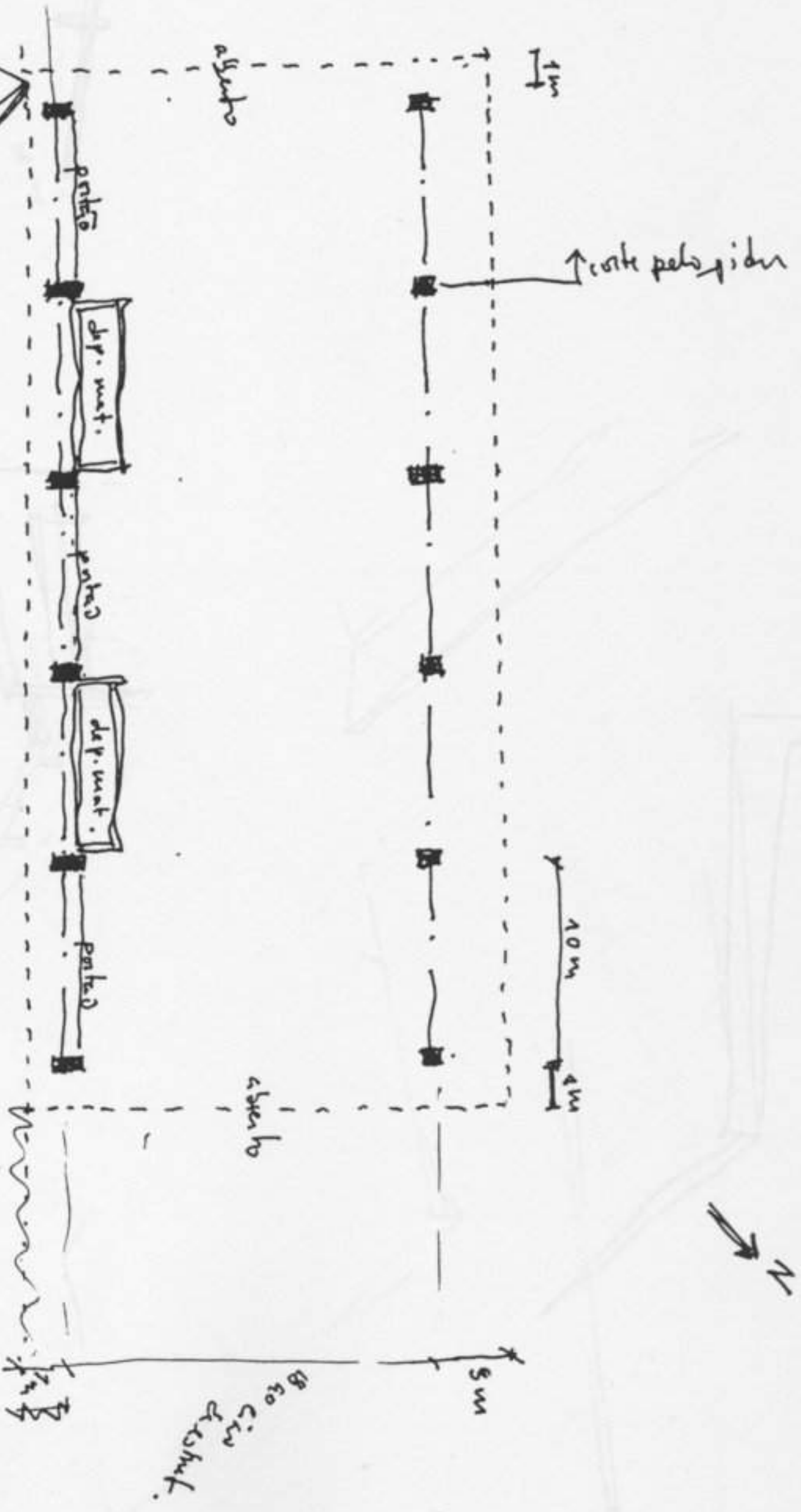


alignment of outside

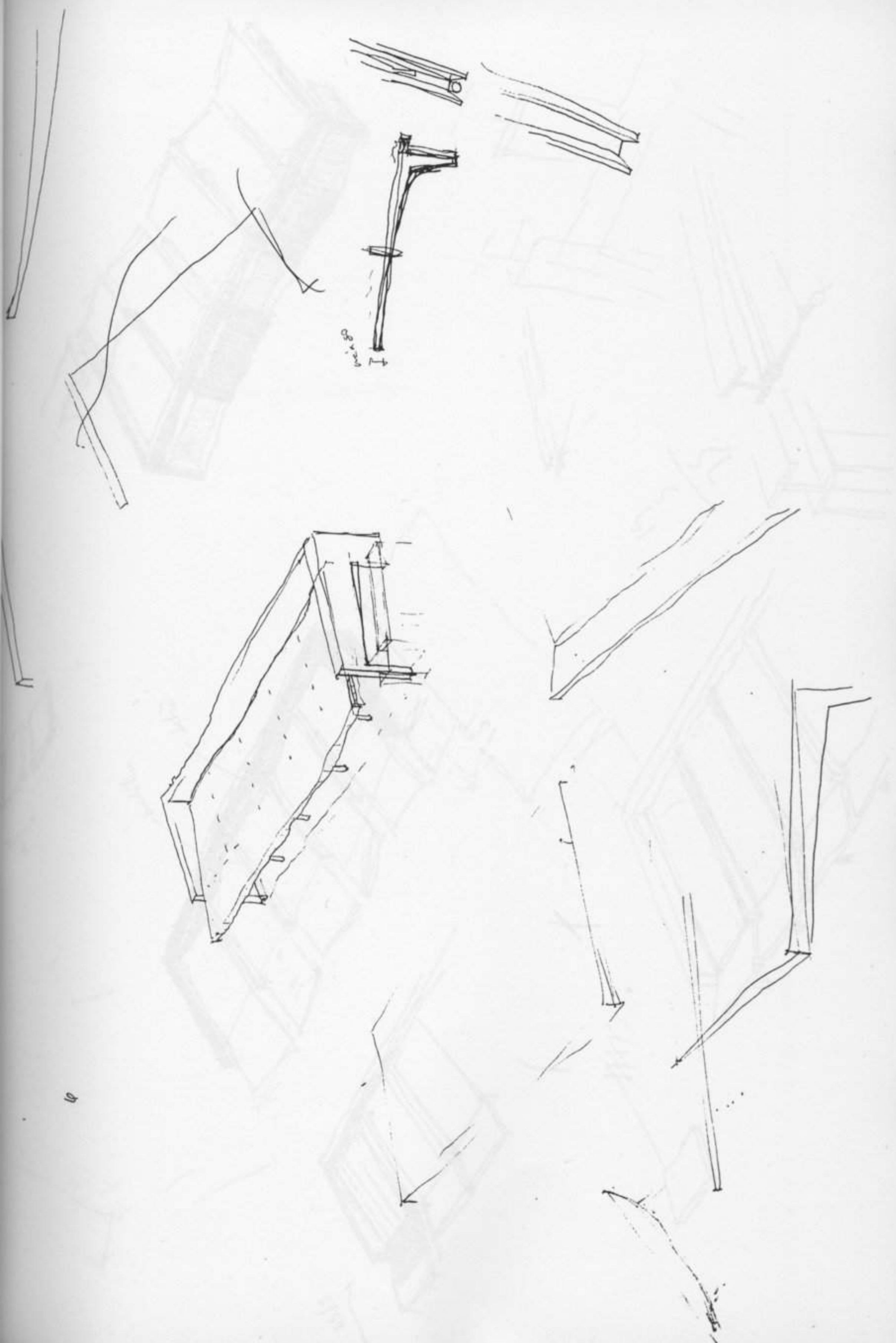


porta
depois
alternadamente
porta

as pilares como
colunas
portais

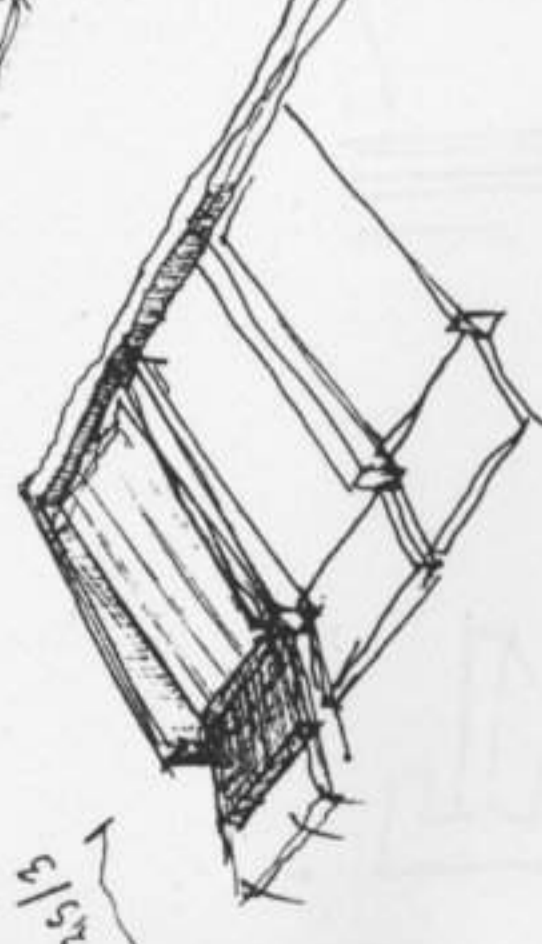
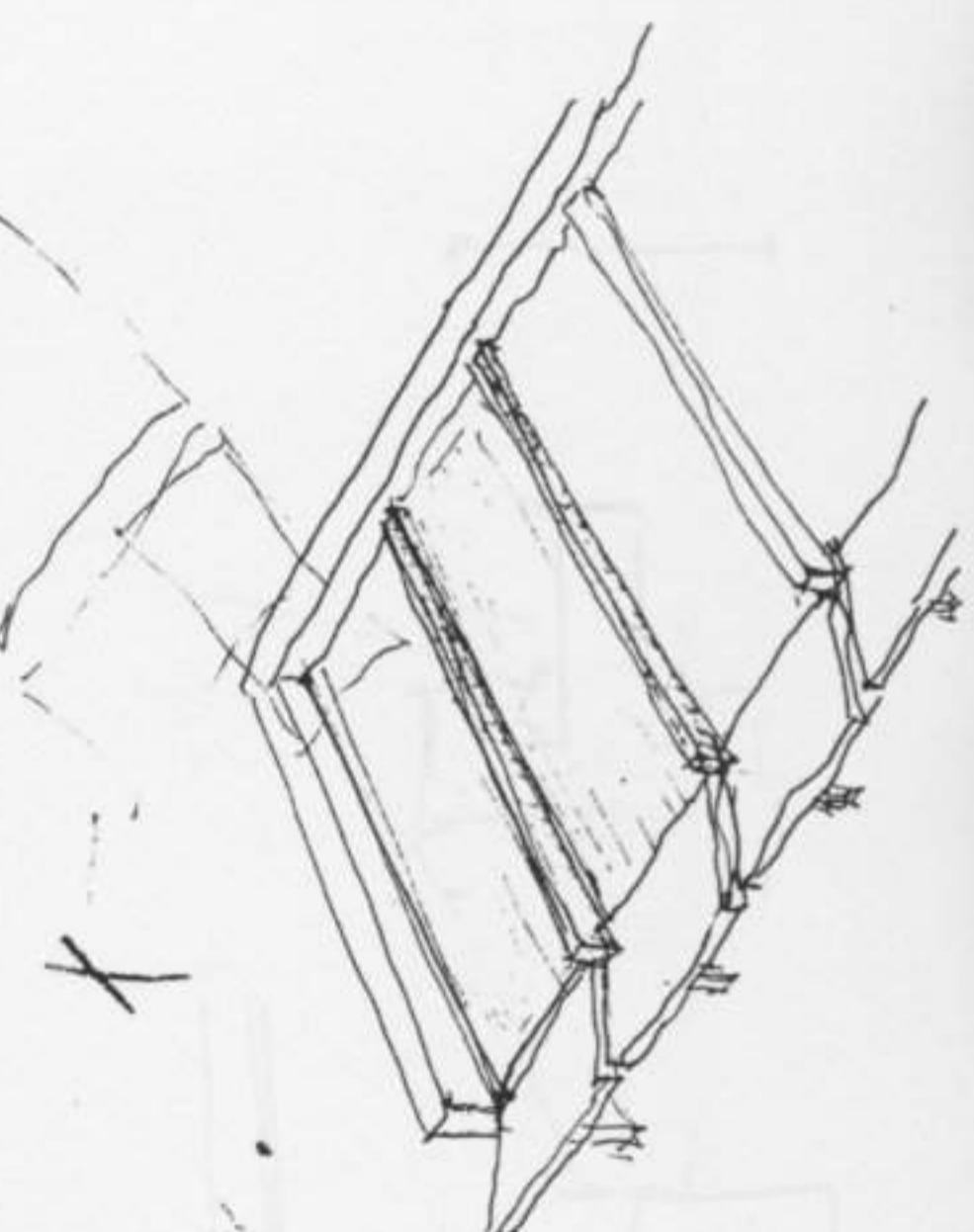
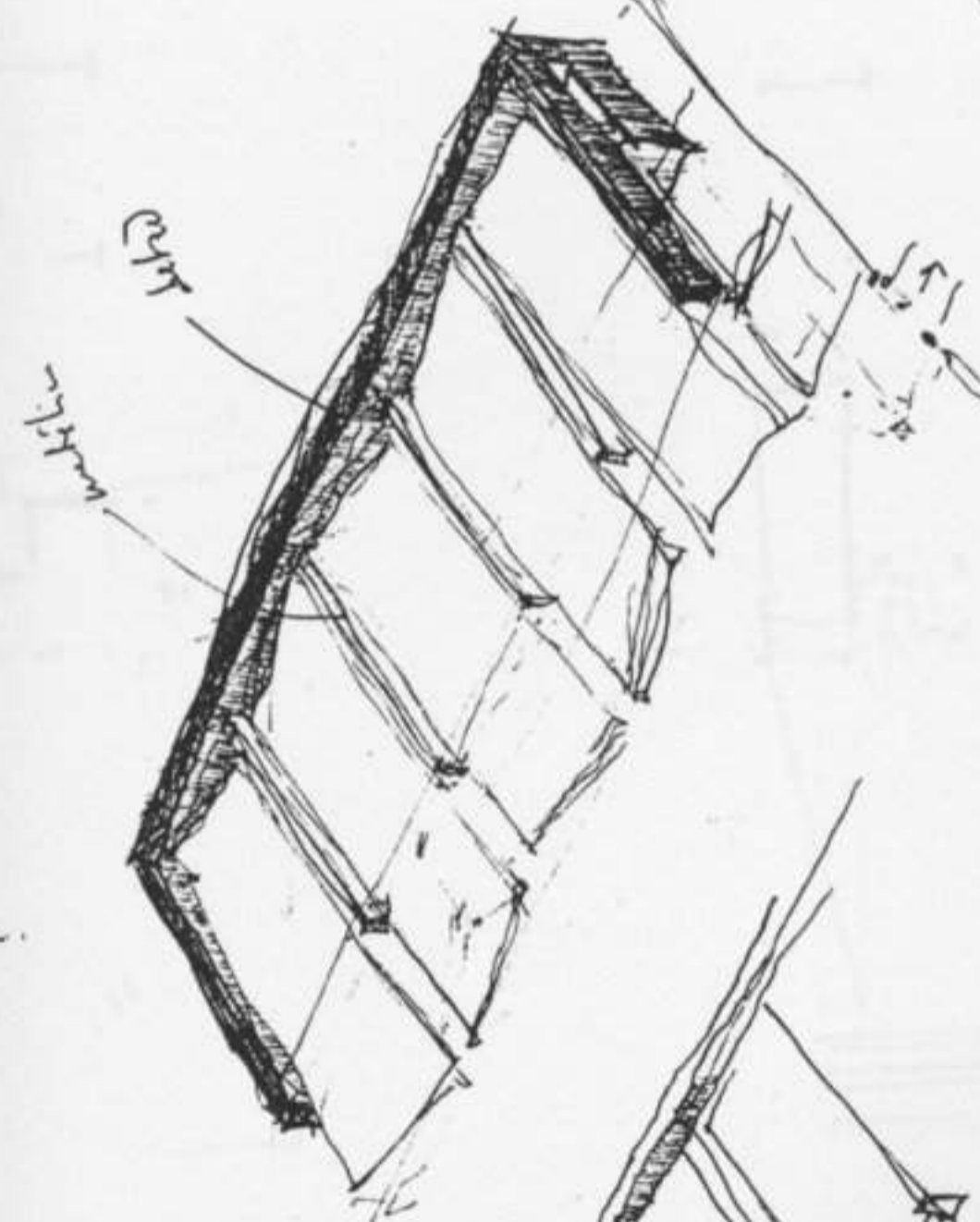
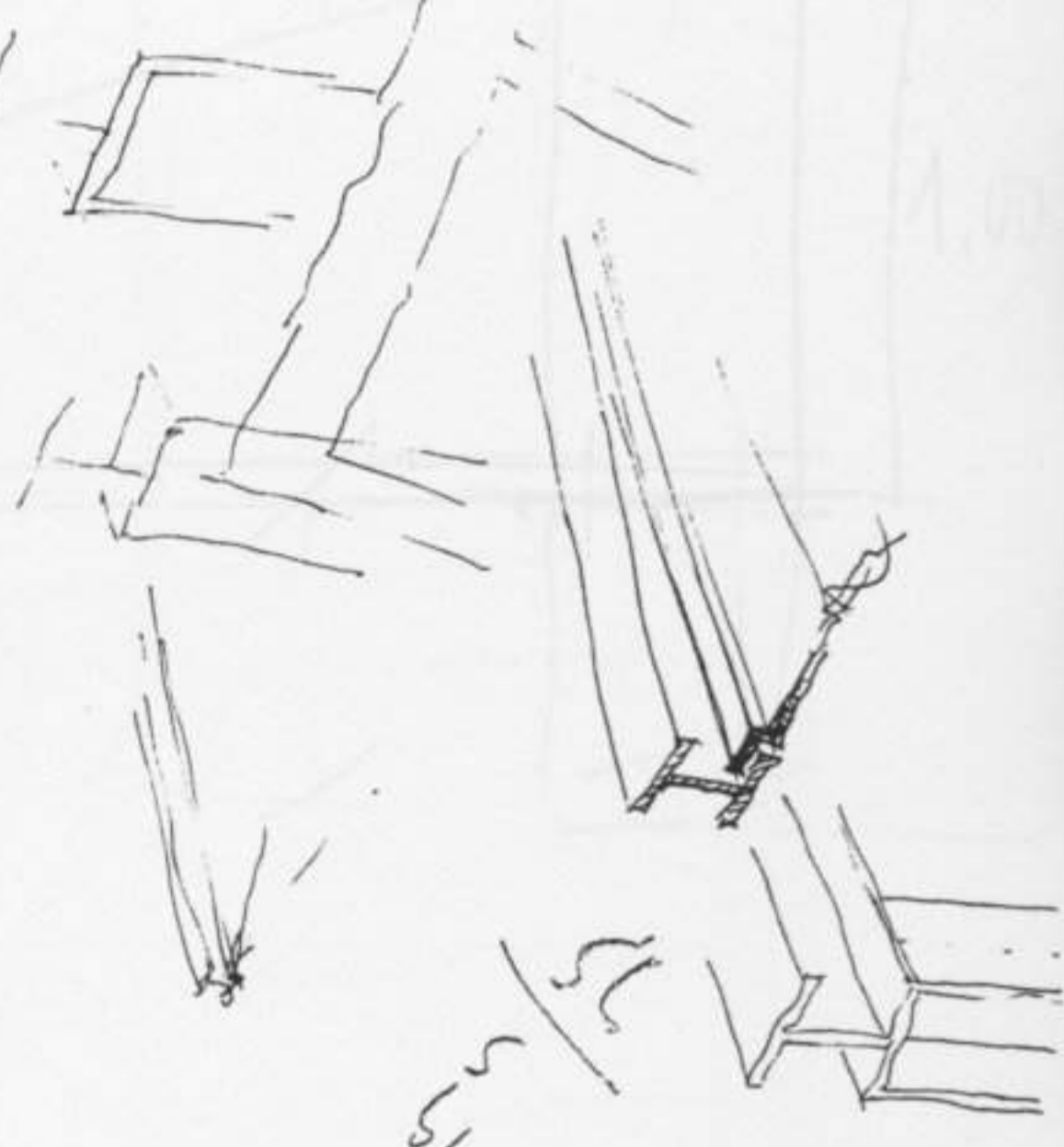
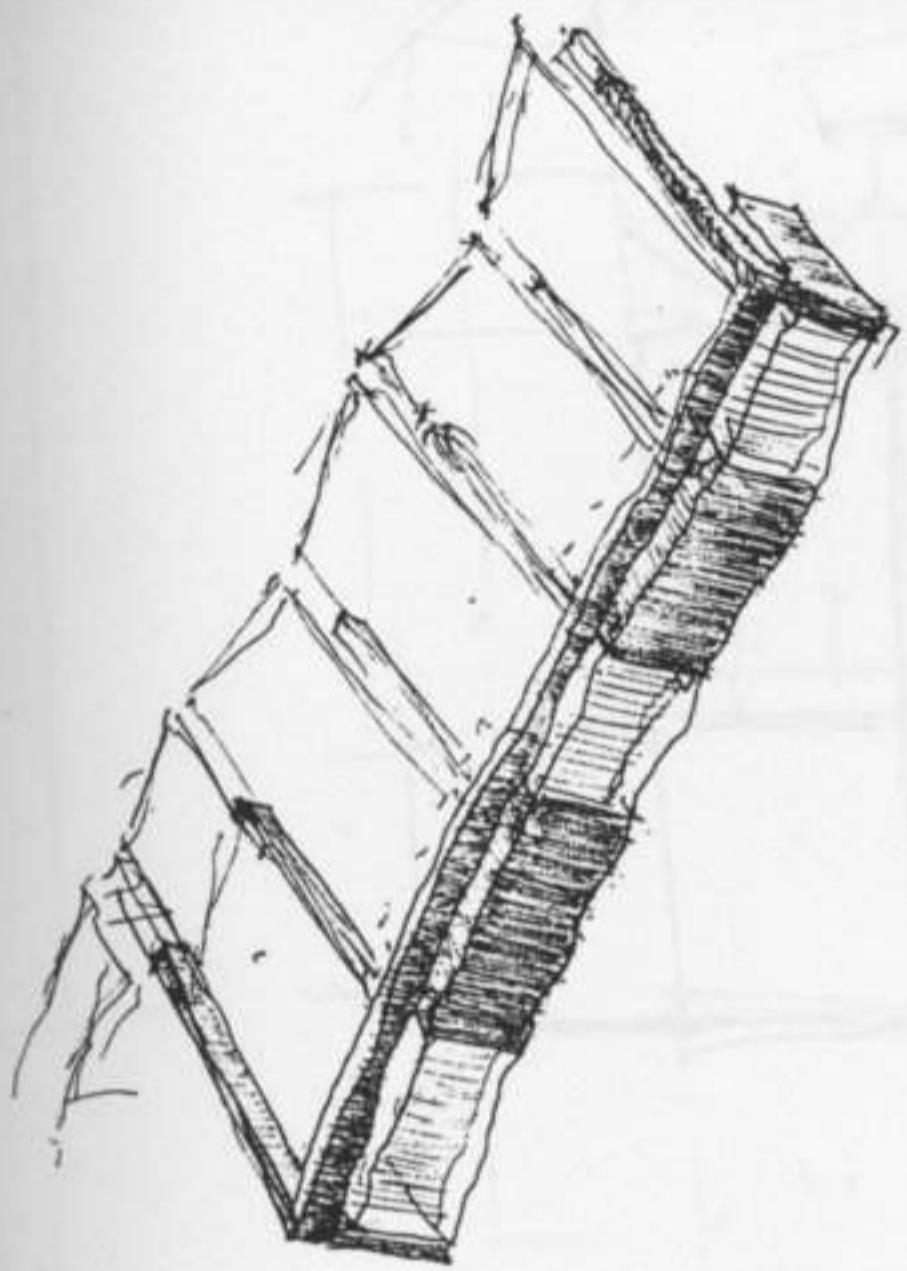


1860 cm de altura.



Handwritten text, possibly a label or note, located near a detail sketch in the upper right quadrant.

Handwritten mark or number, possibly a page or drawing identifier, located in the lower left corner.

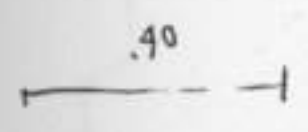
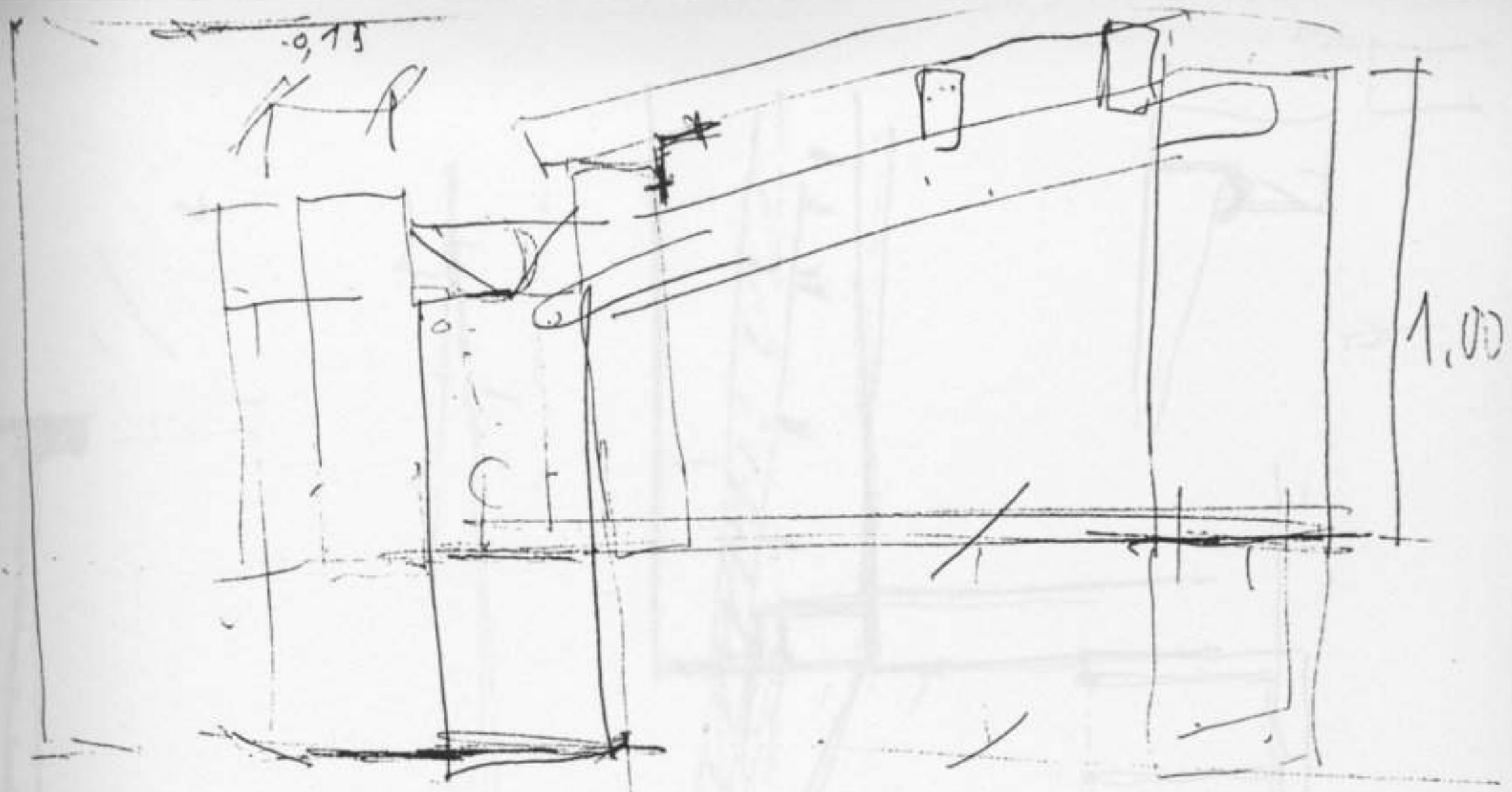


25/13

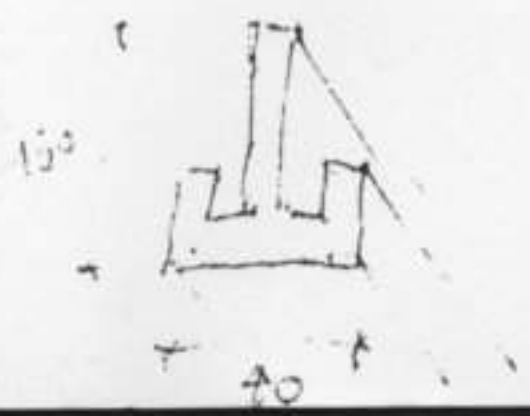
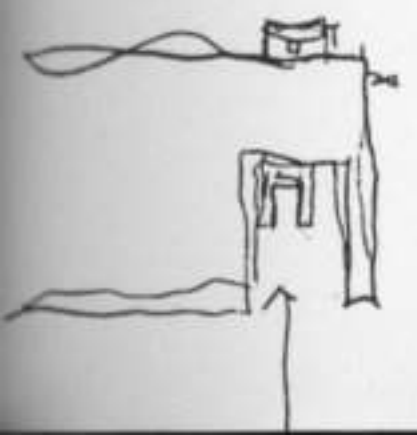
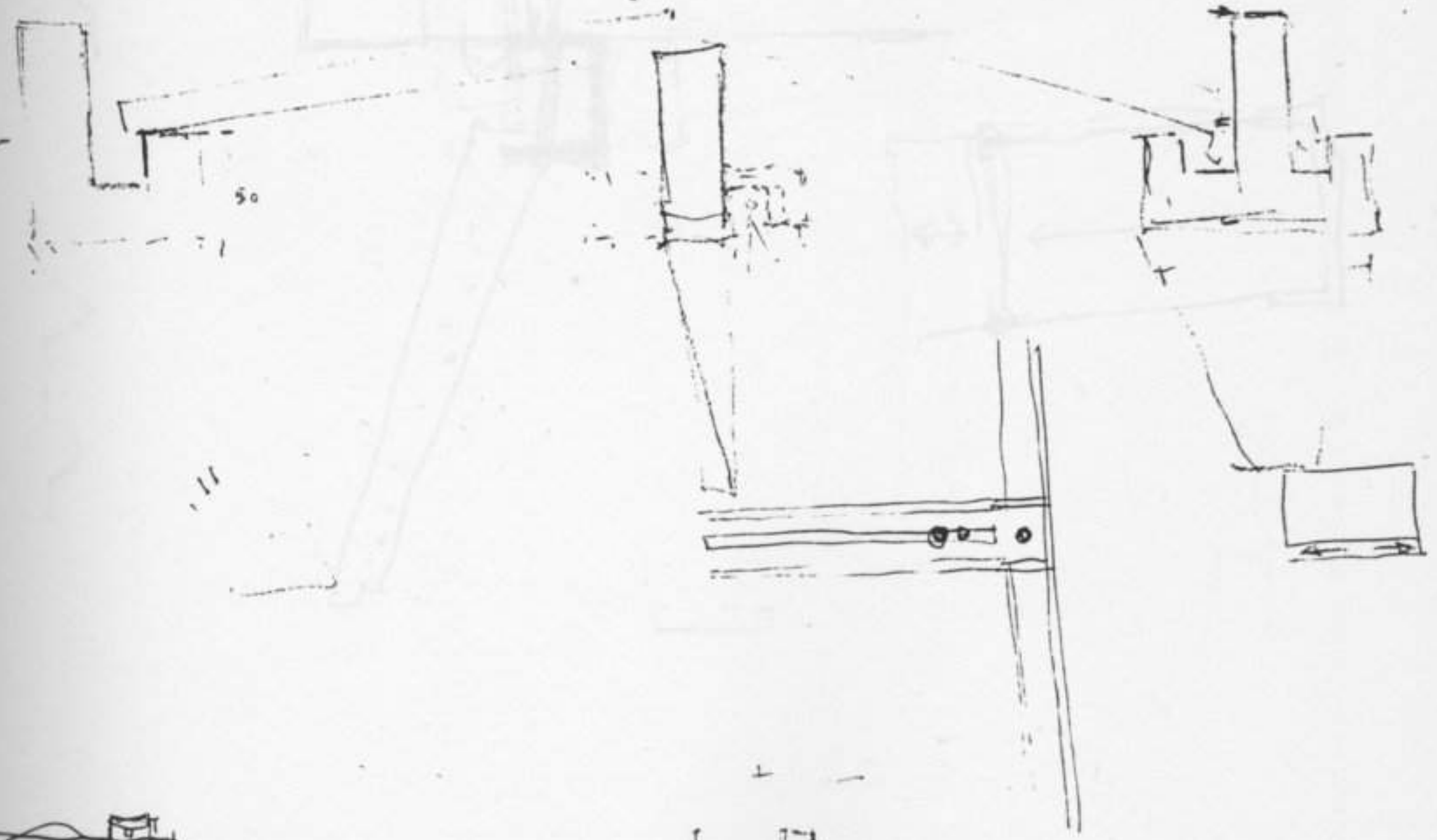
25/13

25/13

25/13

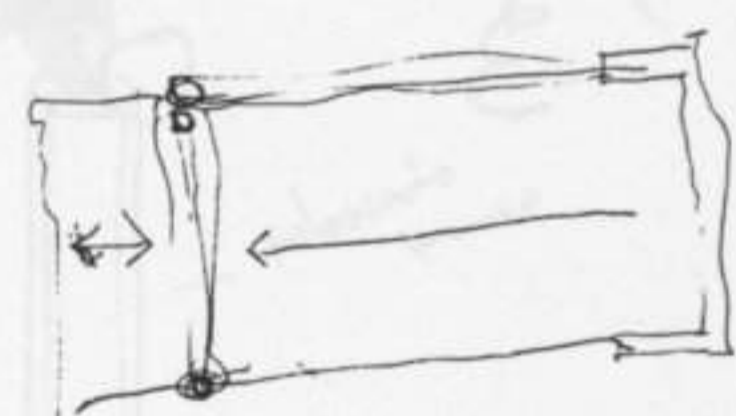
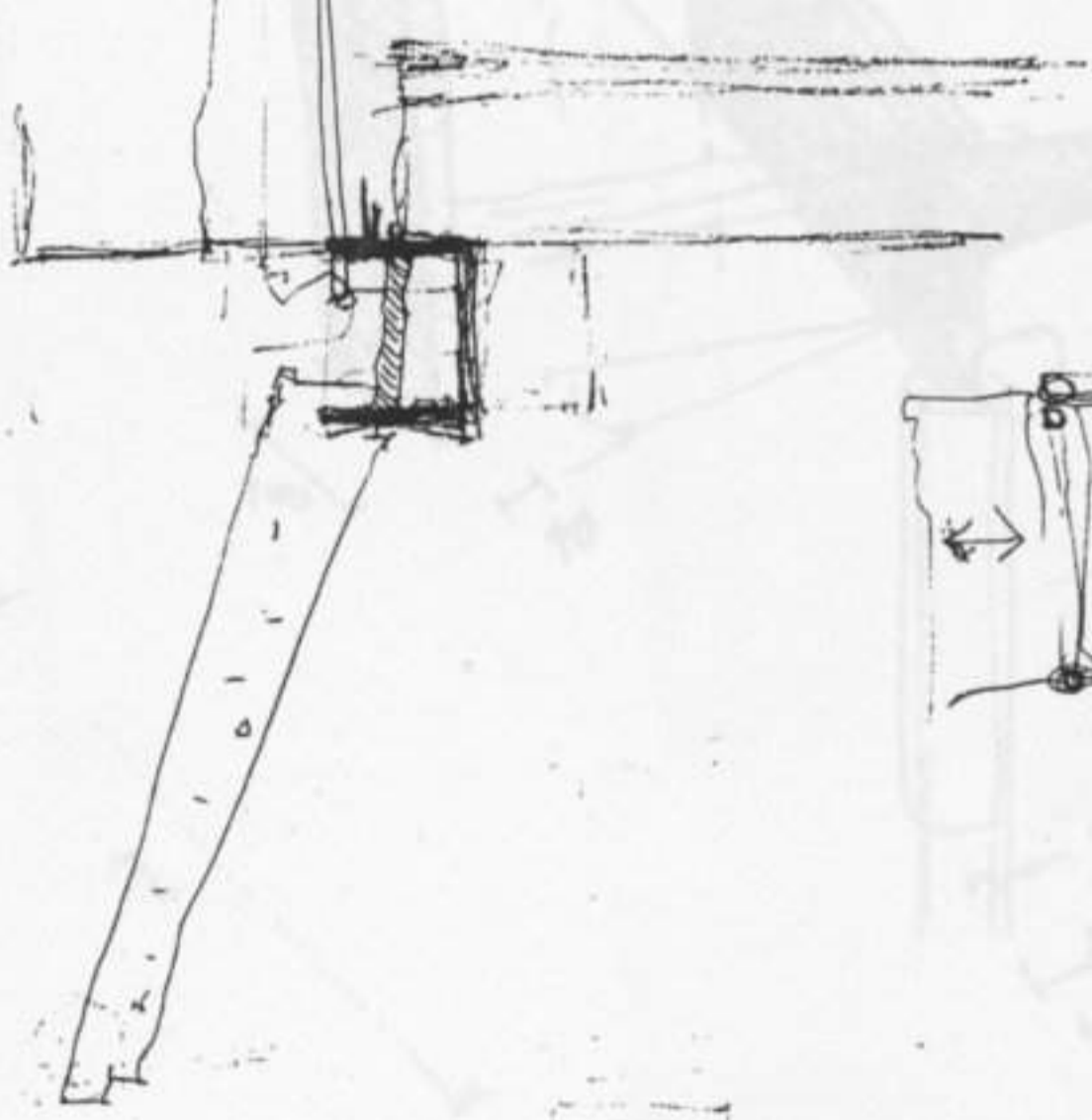
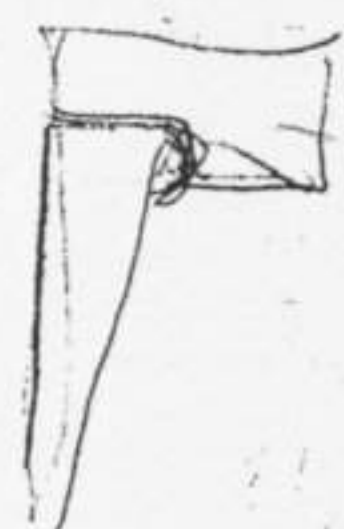
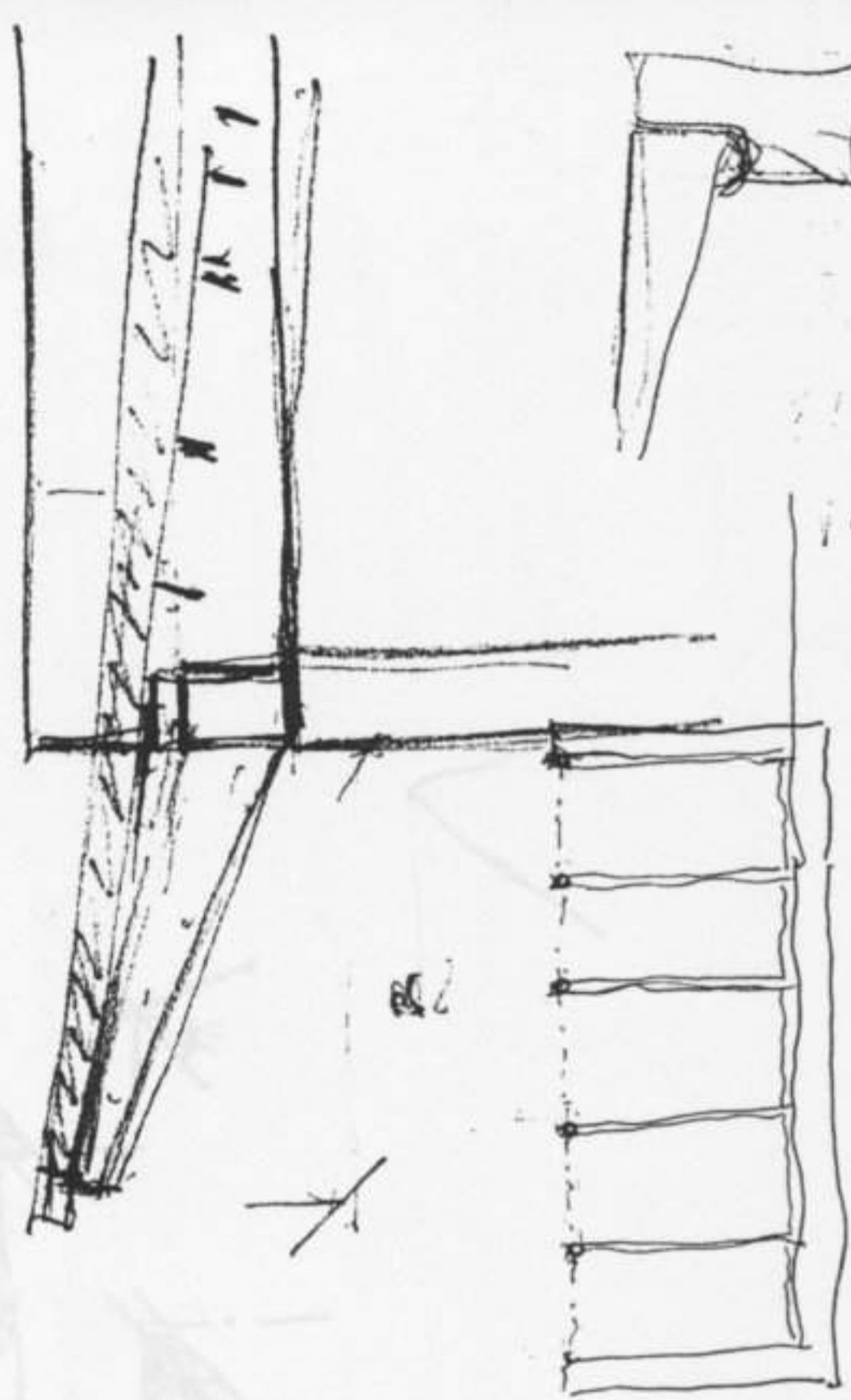


107'

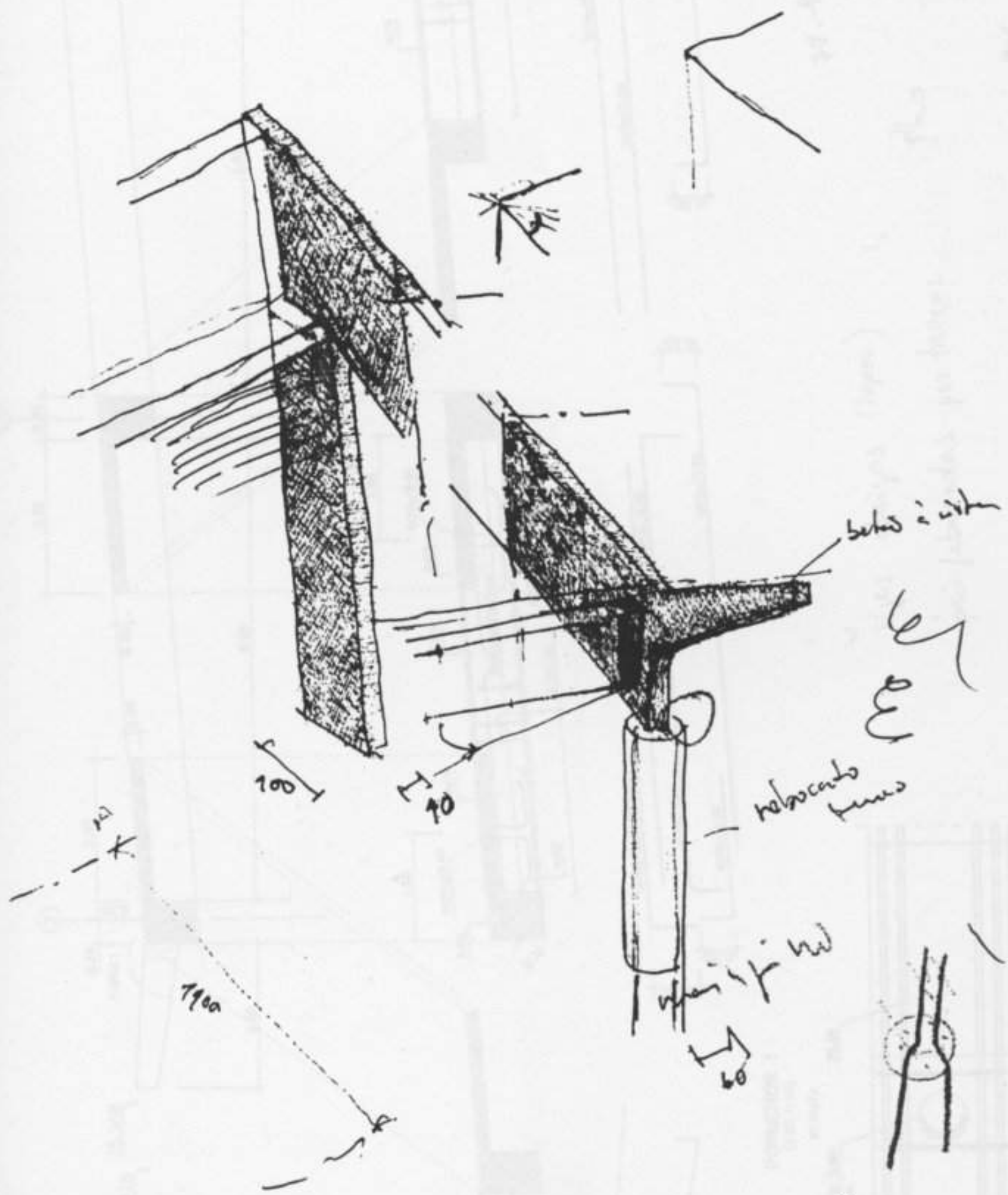


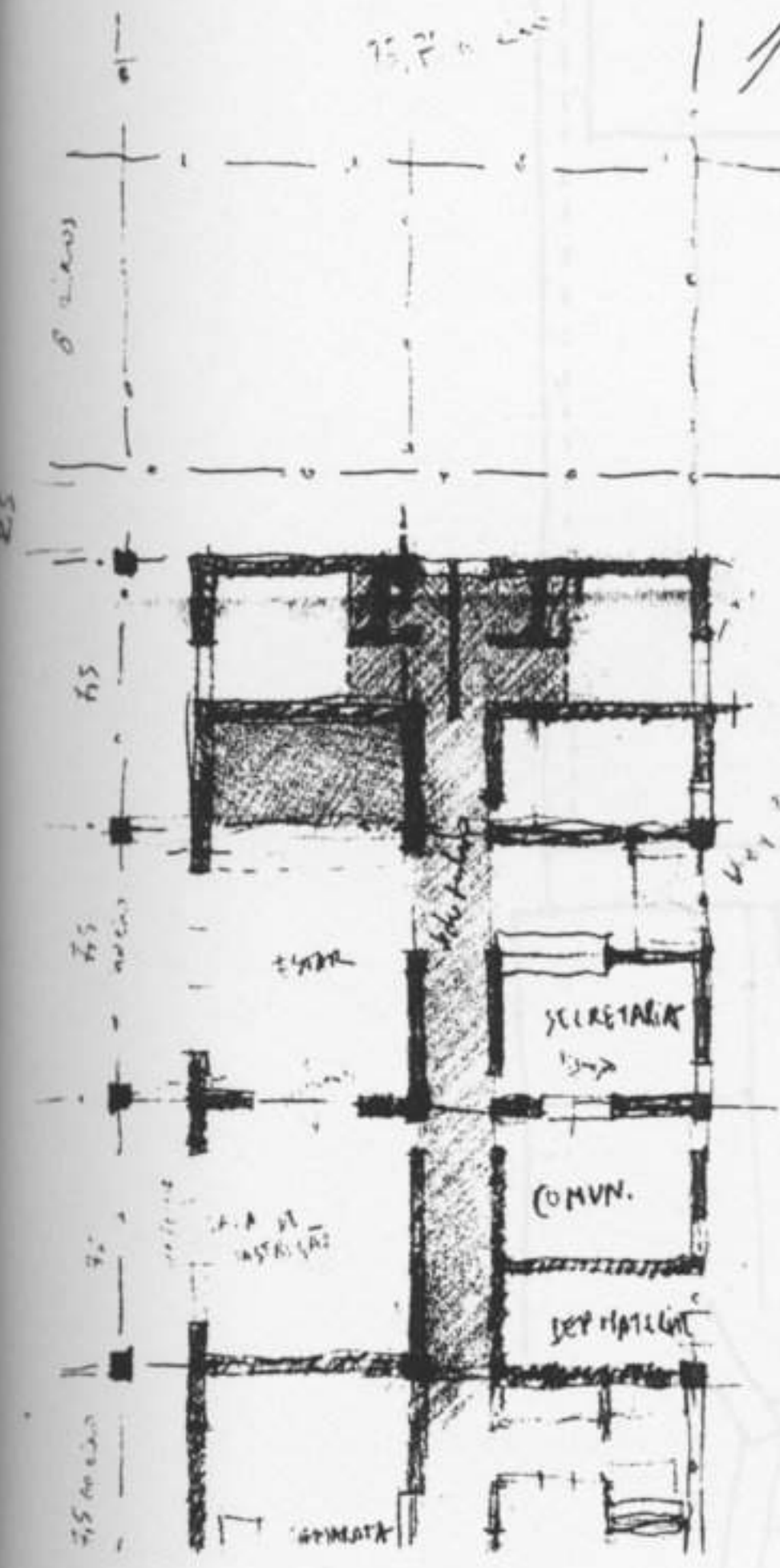
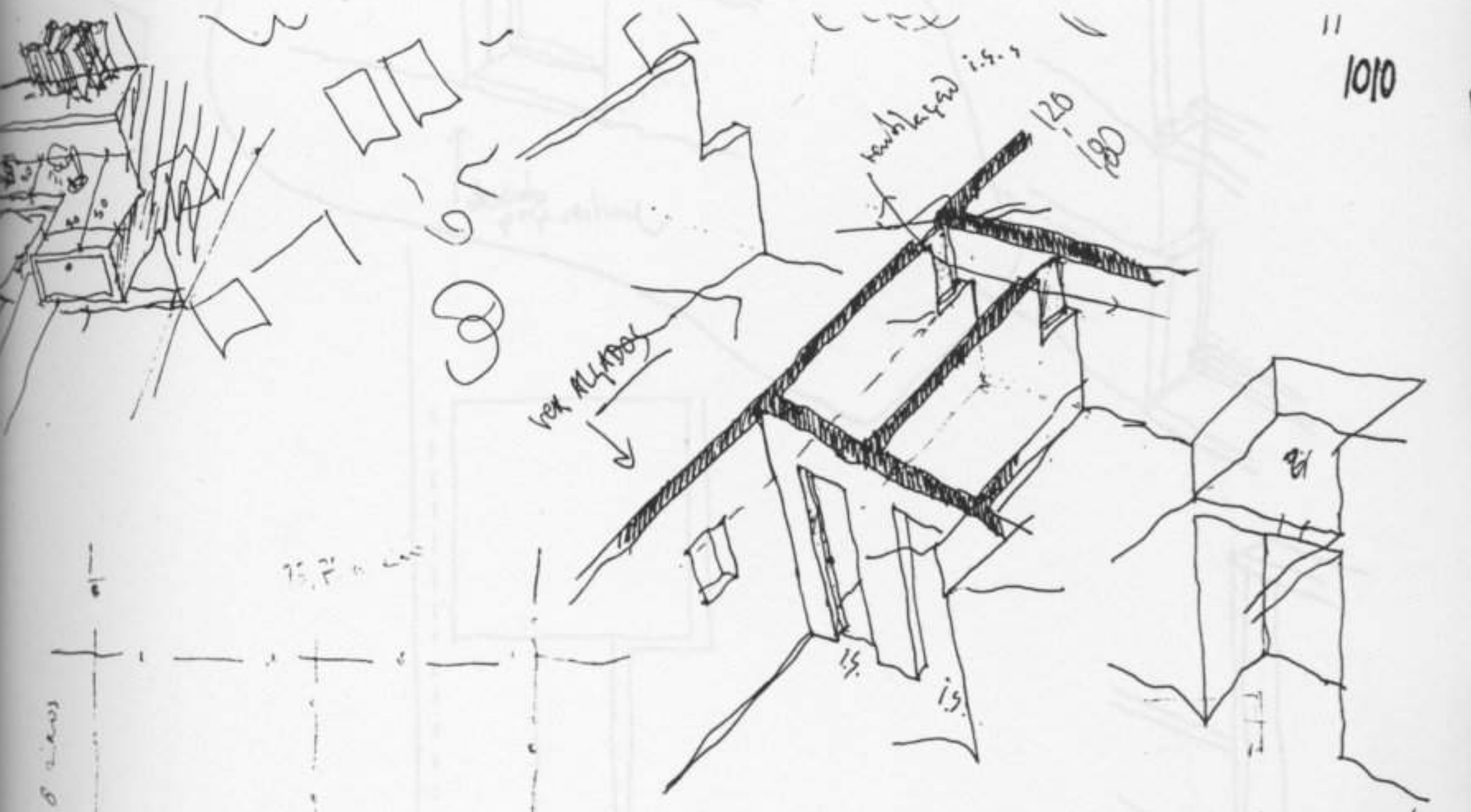
70

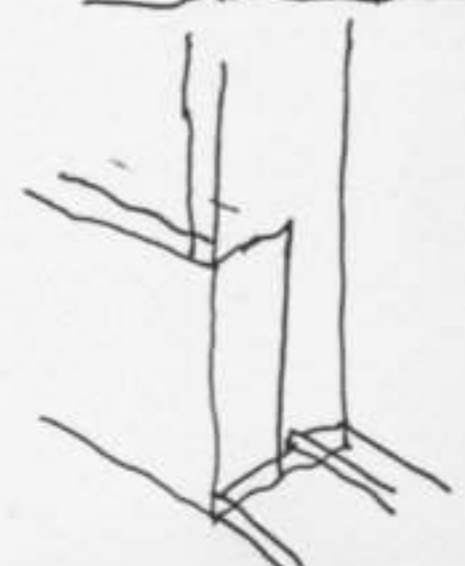
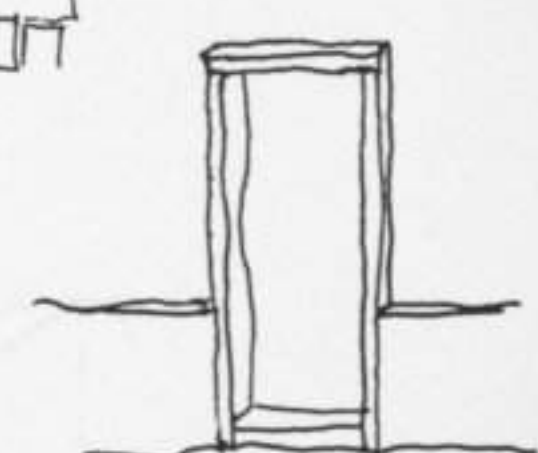
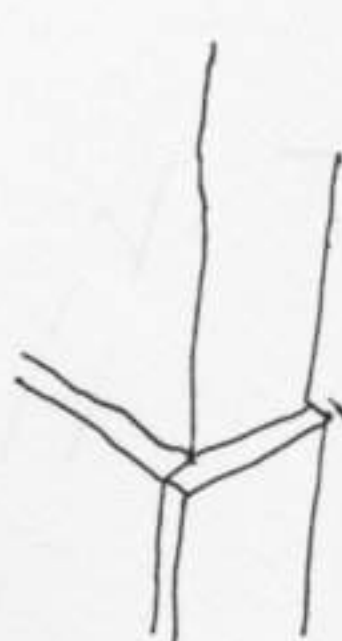
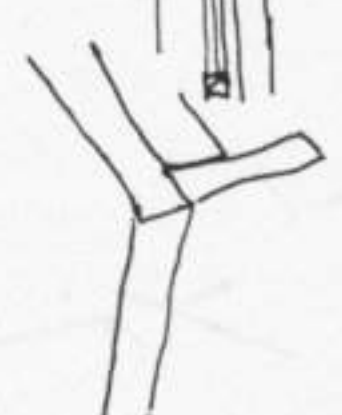
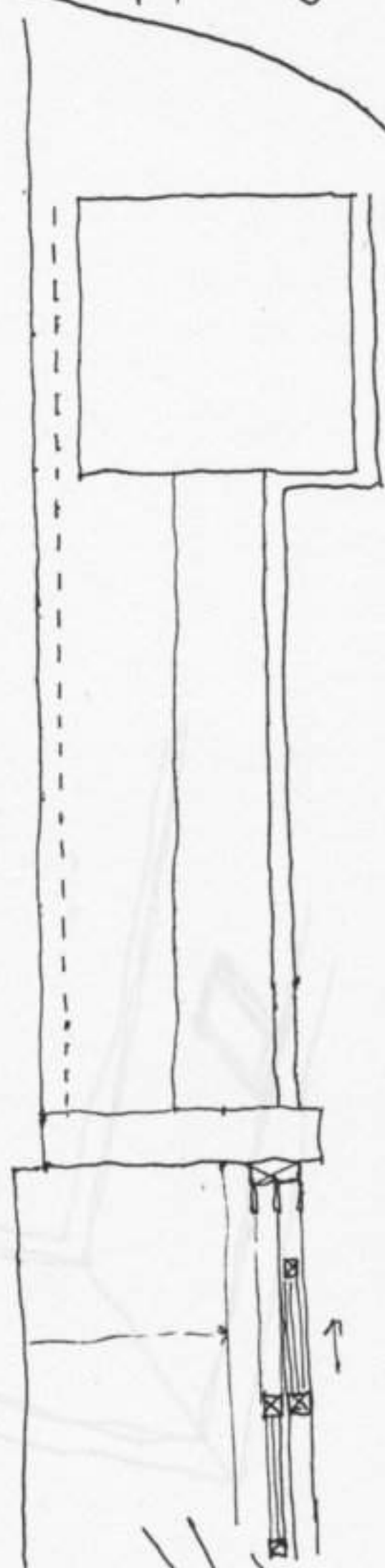
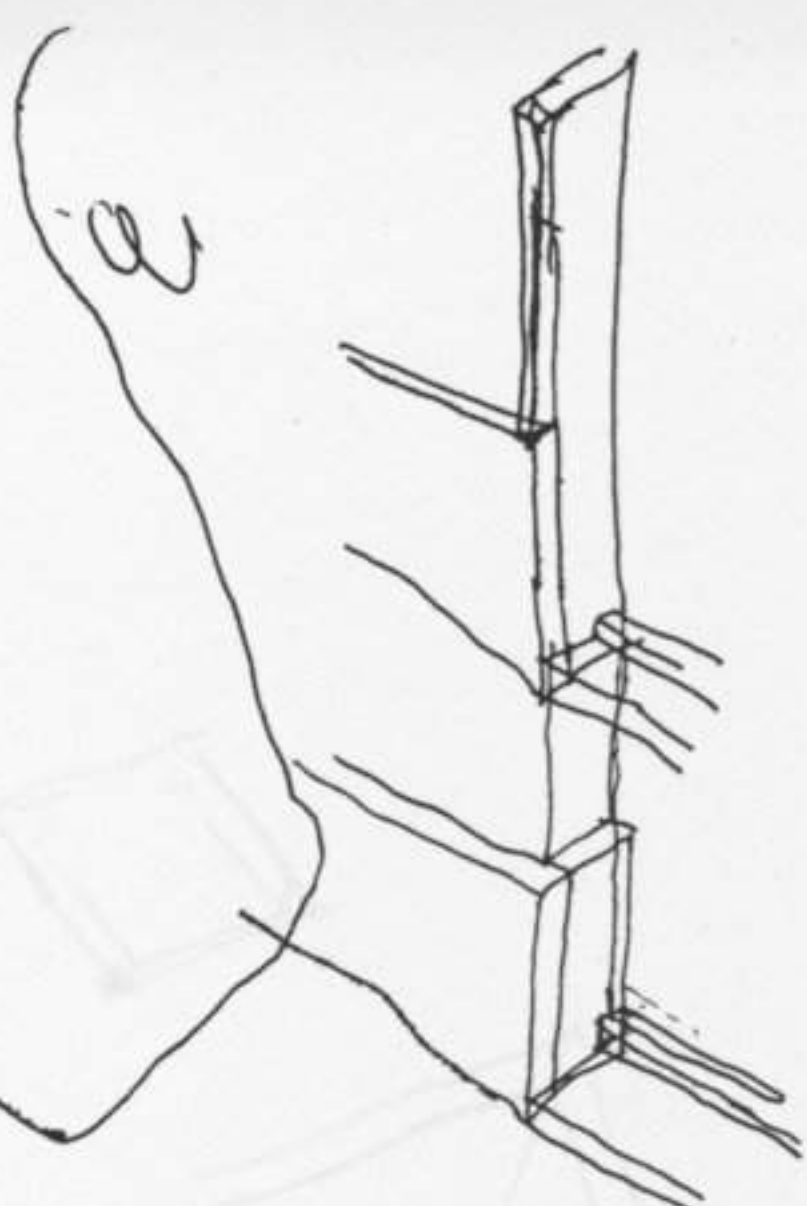
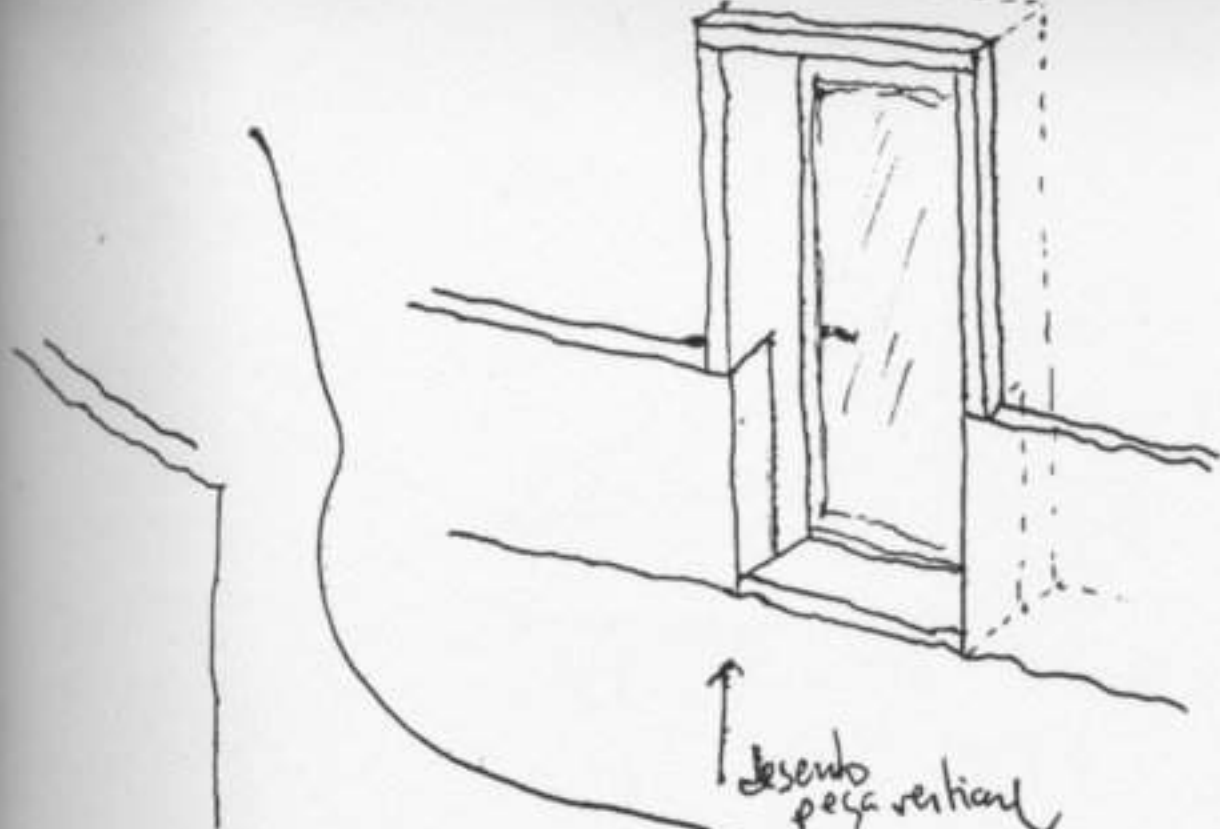
4

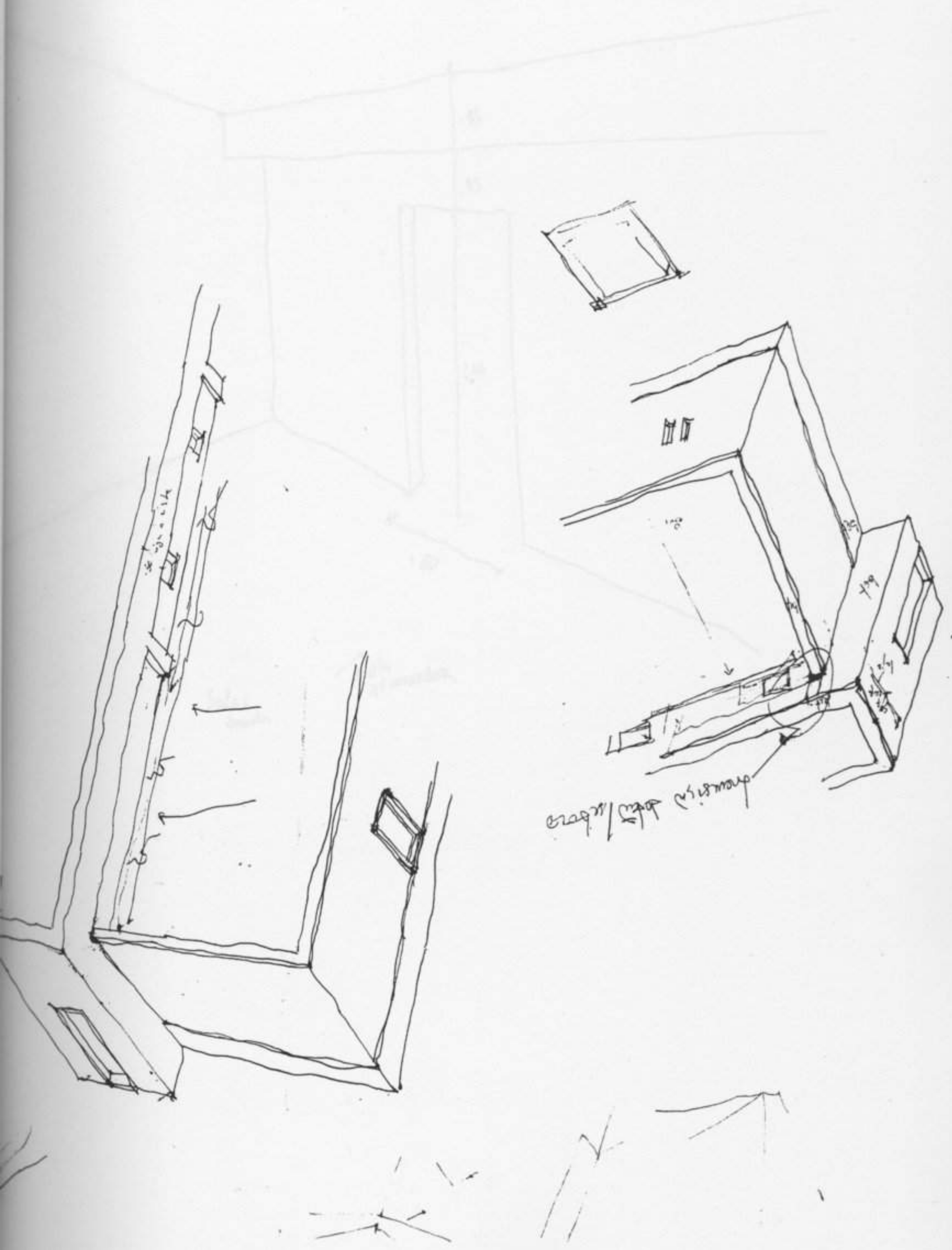


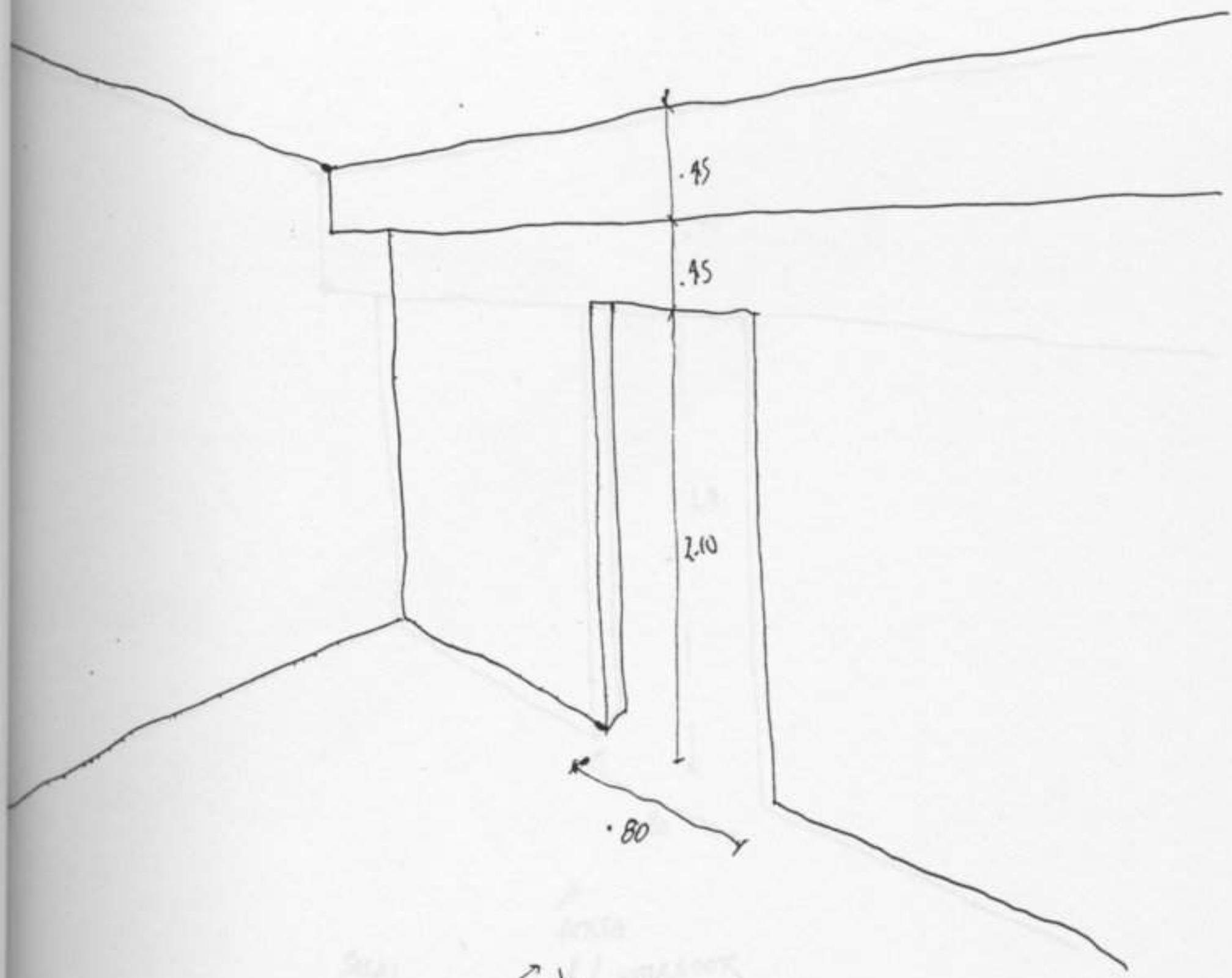
Handwritten notes or signatures at the bottom of the page, including the number '2' and some illegible characters.







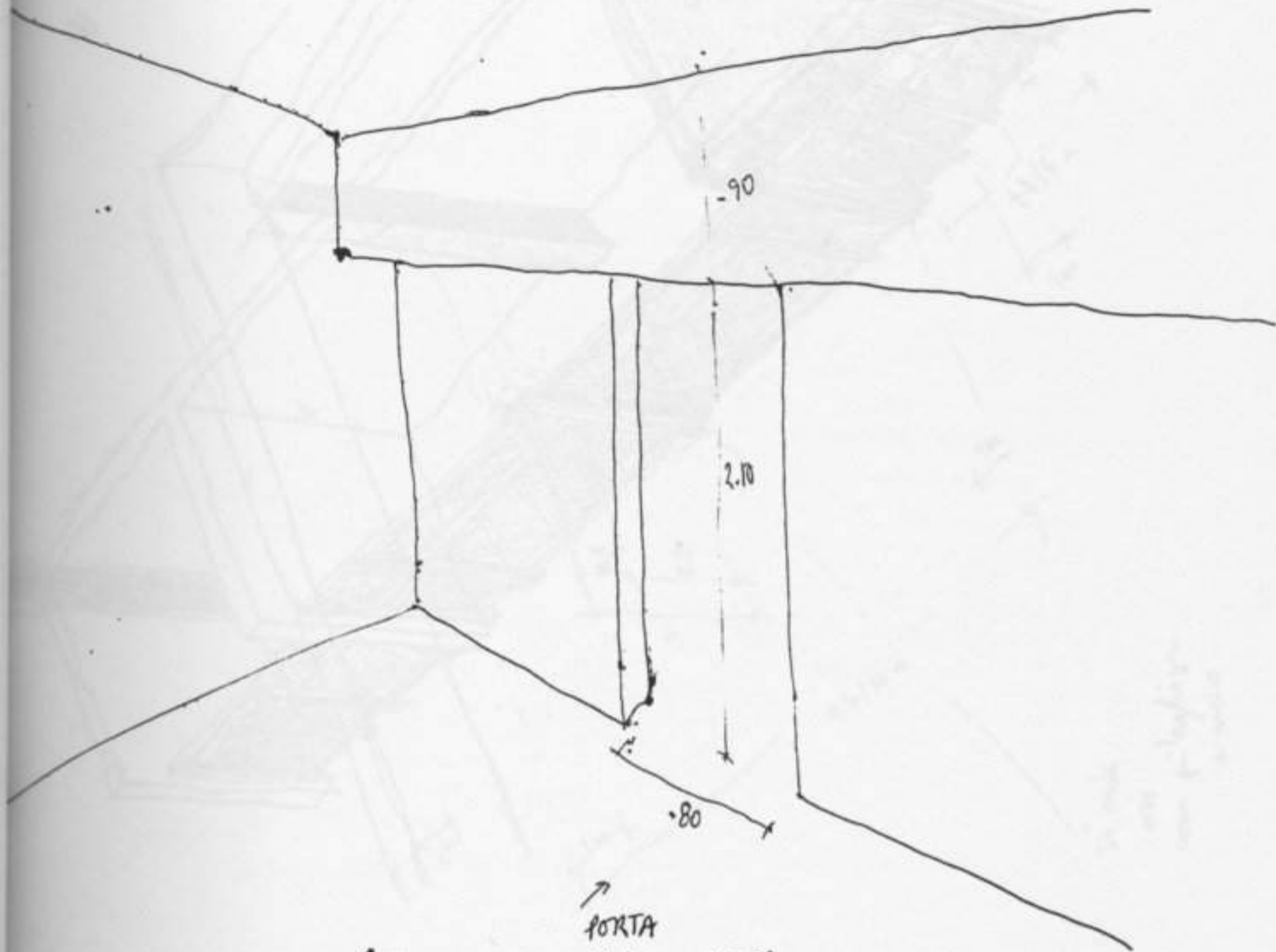




Salas
bamb.

→ park
+ korridor

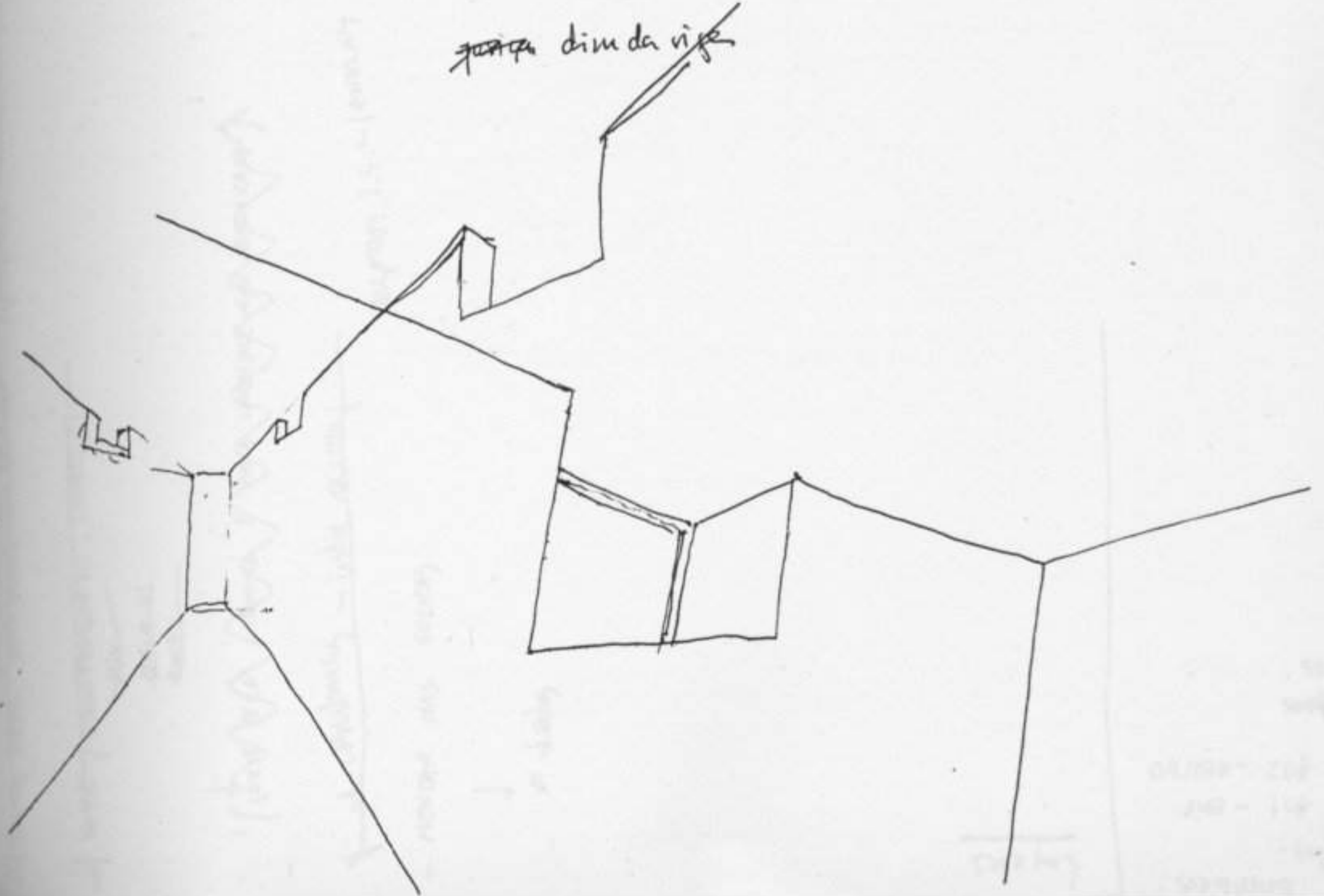




SALAS
BOMB

→
PORTA
↙ ↘ CORREDOR

~~porta di m da n fe~~



Normas Rede, Jérisitos do Admão

1) COTA / EQUIPAMENTOS. CERRMINE
MIA
ALCA EL.
SACEL

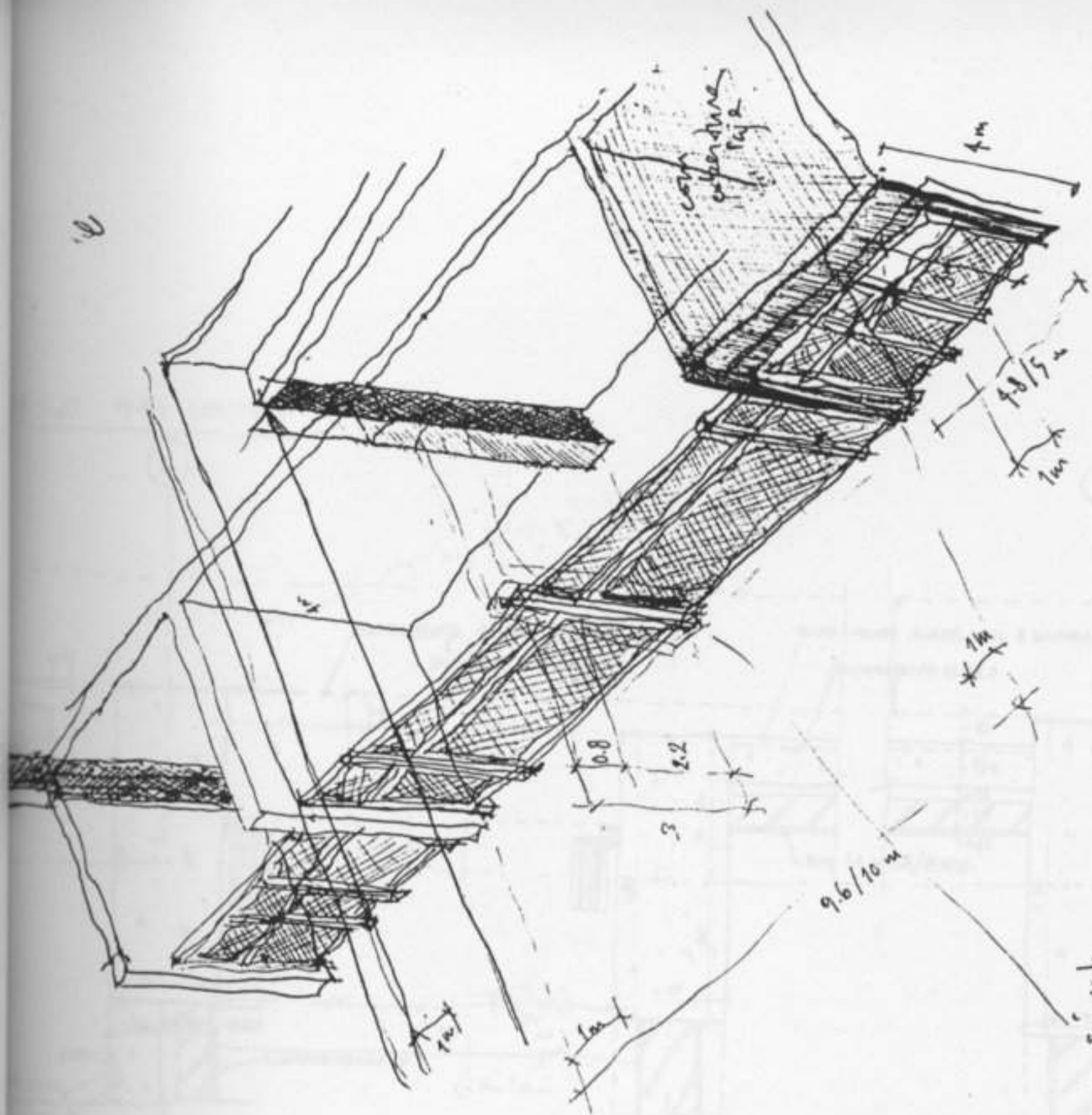
1) (CORTE DE LA CERRMINE E BONA CERRMINE NAO ABRE XADAR)

1) pt. coberturas - indil. assista

- MONTAR NAS FOLHAS

no desenhos

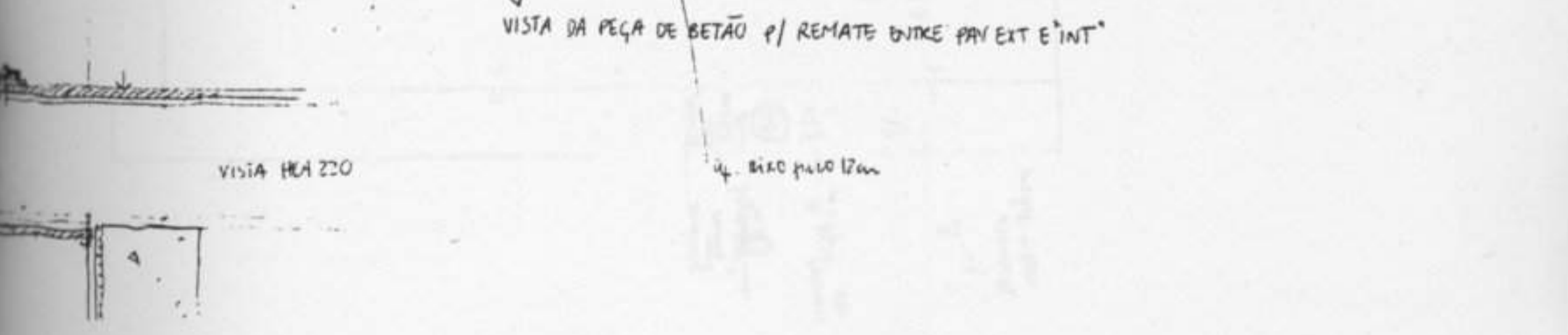
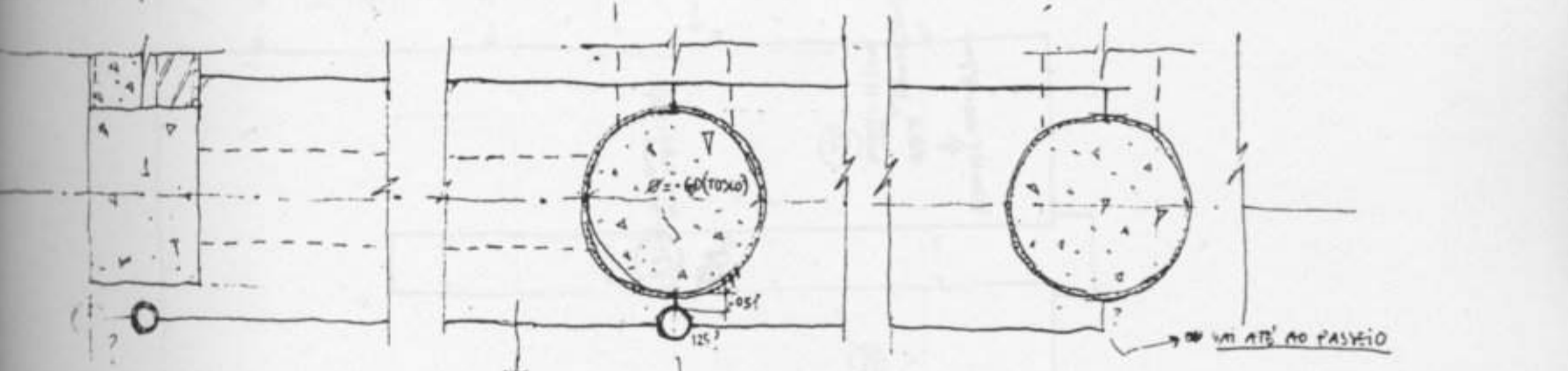
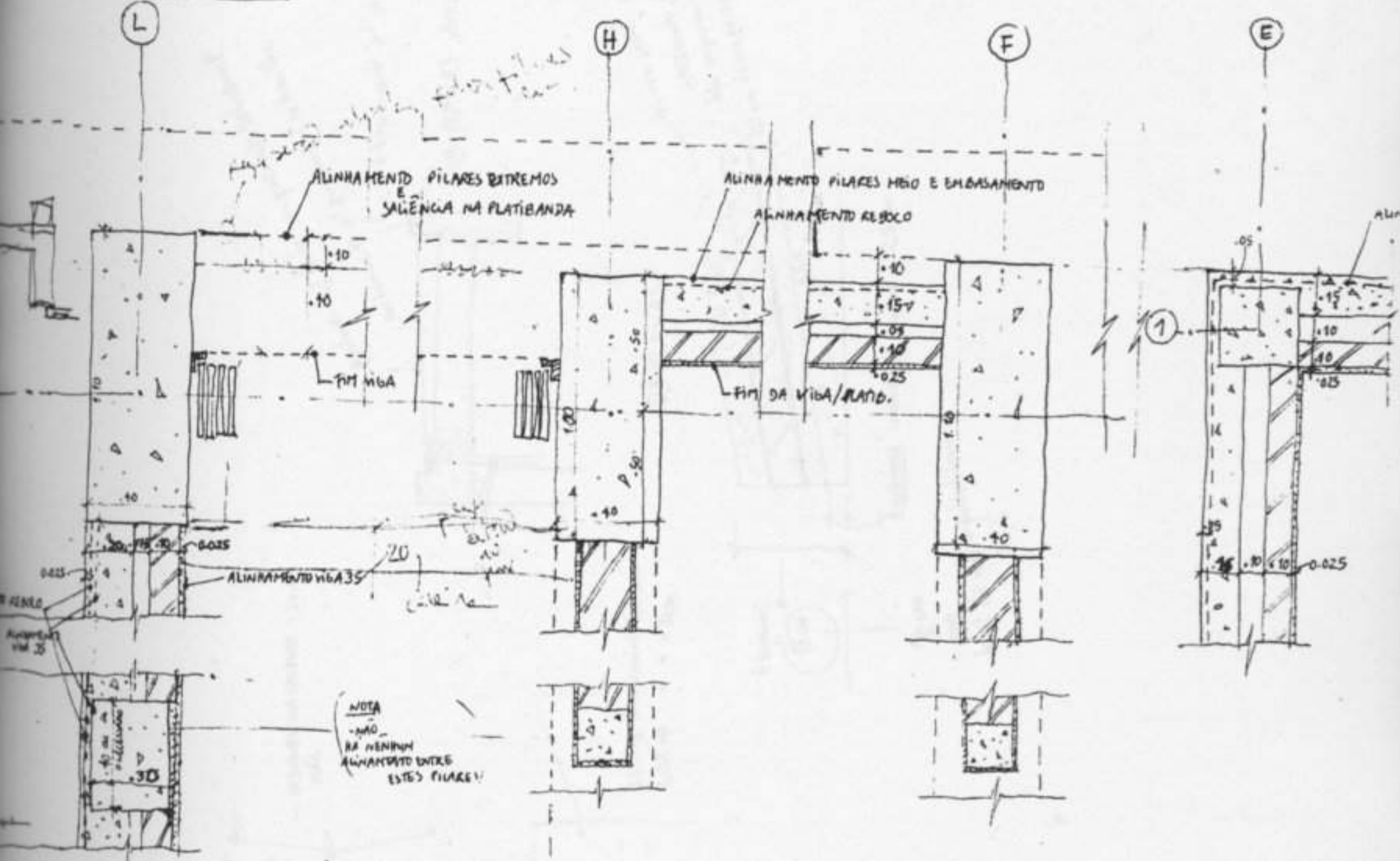
ALGUMOS 1.4. - JANGELM



Layers

Borders:
Plates:
401 - EPI
402 - ARIRO
Layers:
401 - EPI
402 - ARIRO

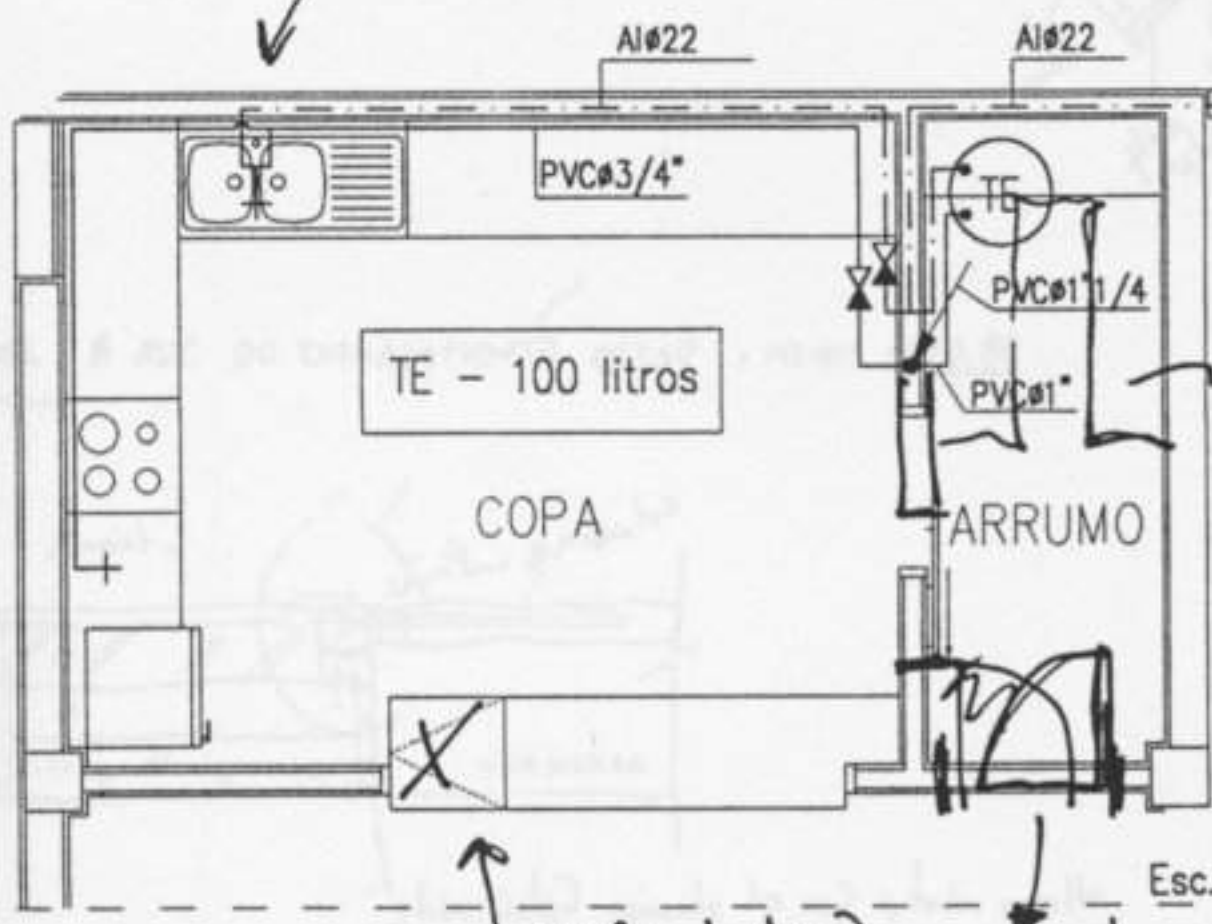
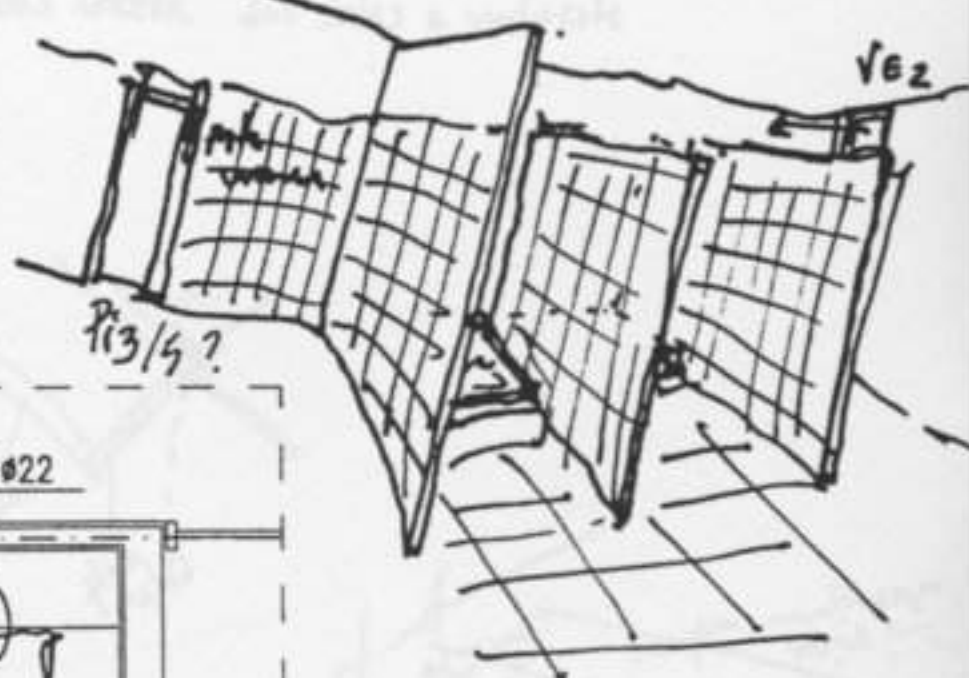
1:20 - FORM. CONSTRUTIVA - CORTE HORIZONTAL



ter of big tubera

bombeiros - never paredes (expansão) e paredes/baixas

organizar posição equipamentos

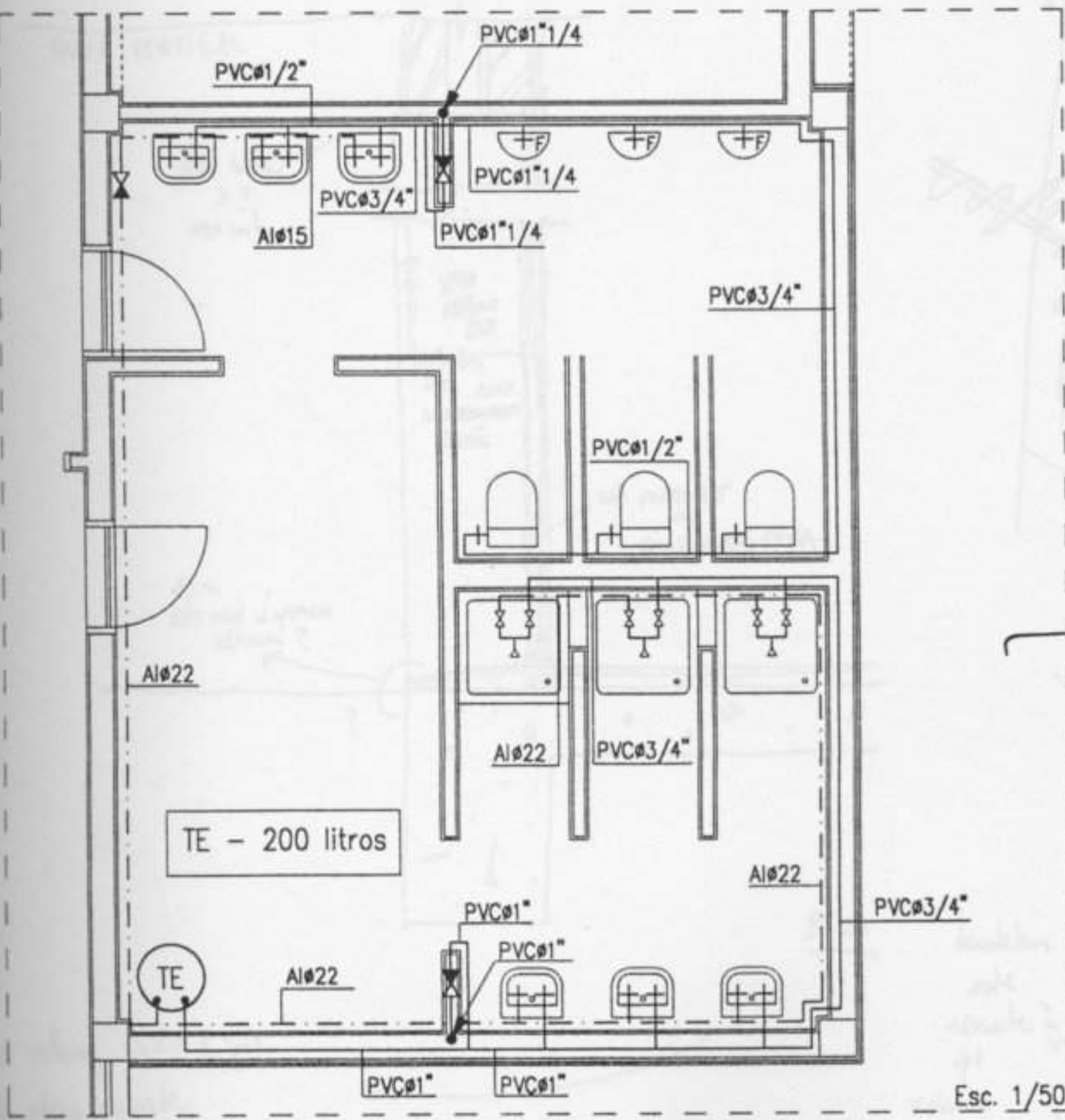


molhos paredes

escaleiro
branco vidrado
15x15
2,10

+ pintura forte
acabada
(anti fungos?)

Esc. 1/50



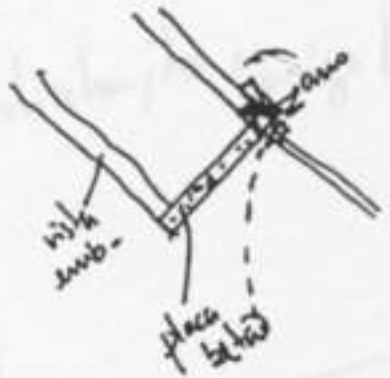
balneários
bombeiros
↓
never
representação
baixas / paredes

Esc. 1/50

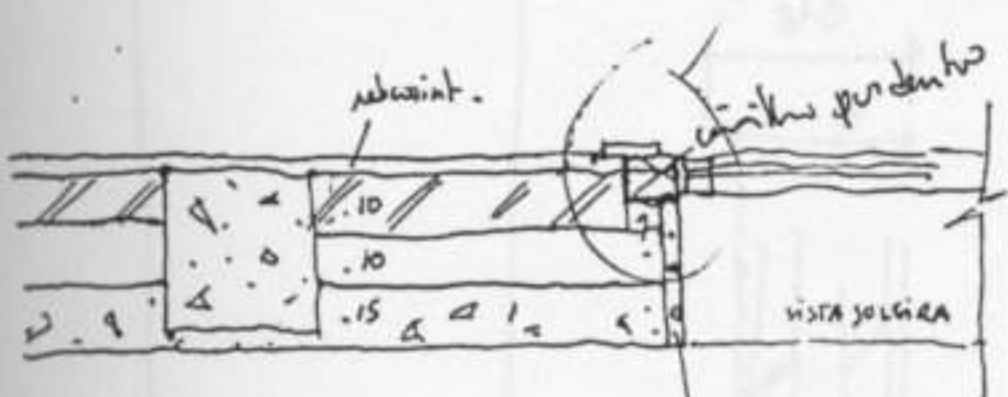
combinados + unid. p/ porta + janela.

PORTAS E JANELAS — VAOS PORTA ~~RECORTE~~ (ENVIDRAÇADAS OU NÃO) / EMBASAMENTO, SOLERA, GUARNIÇÕES DO VAO

(bambuiros → porta entrada = porta do depósito / portas envidraçadas coxerem das salas a sudoeste / porta envidraçada volume saliente) 1º andar

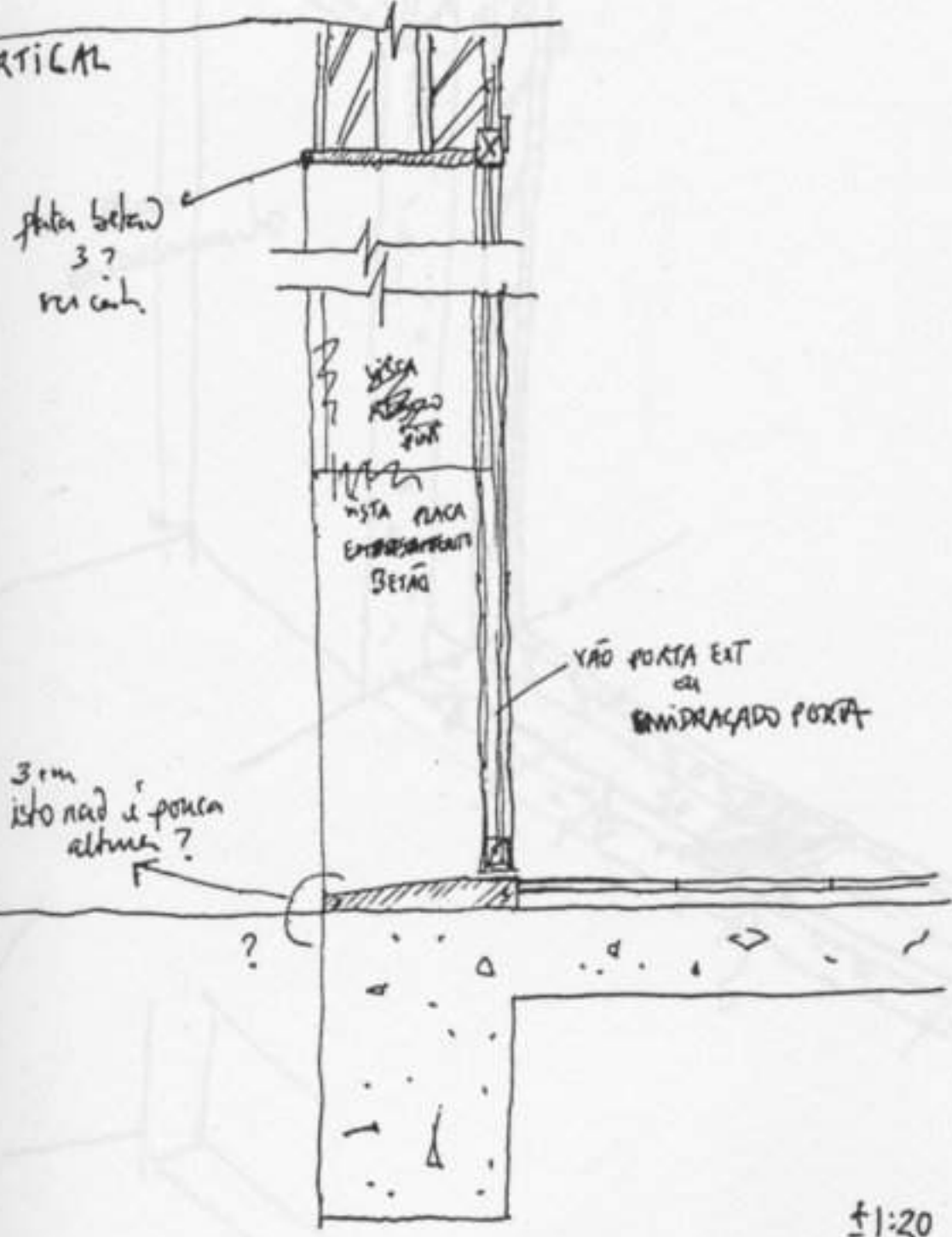


CORTE HORIZONTAL A ALT. DO EMBASAMENTO DE TÃO, MENOS DE +0.80

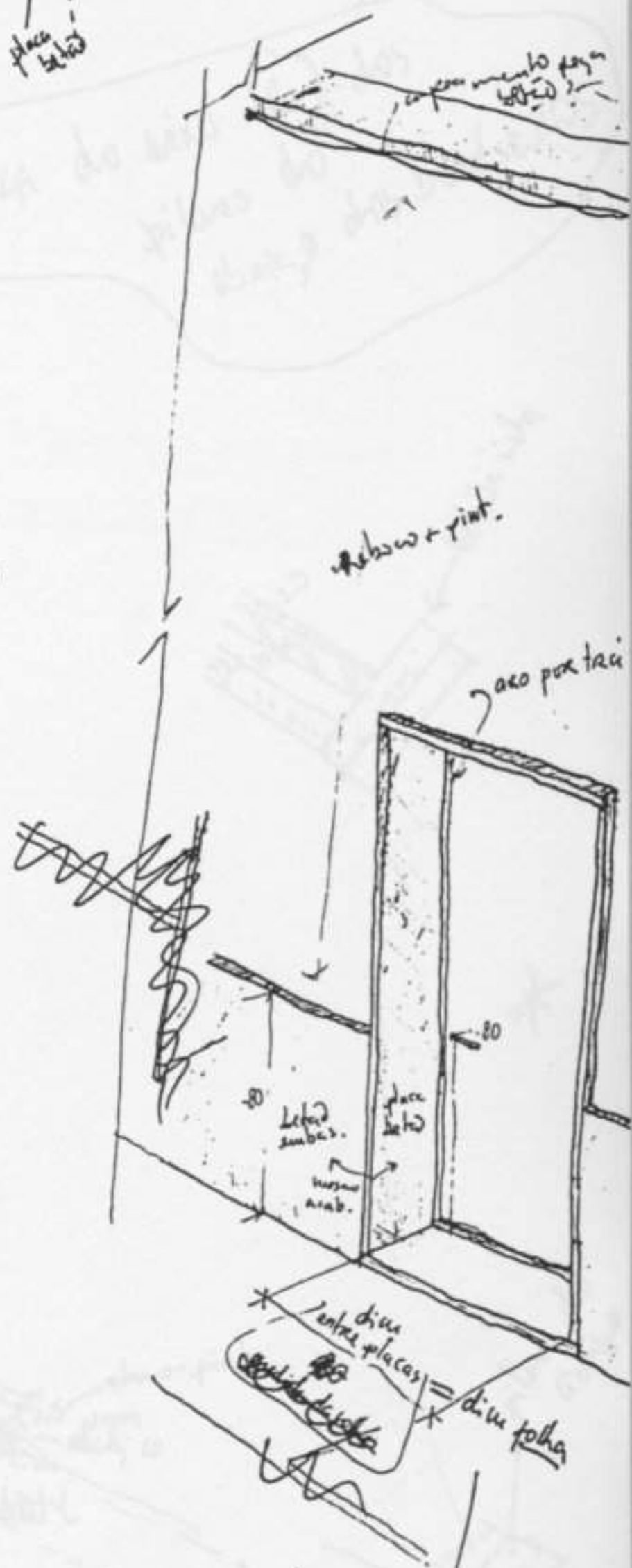


placa betão remate do vão a toda a volta porta

CORTE VERTICAL



3cm isto não é pouca altura?



±1:20

de calhar tudo o que fosse pegos remate (peitos, rebocos, guarnições vãos, capreamentos) deveriam ser antes em betão e acab idêntico ao do embasamento

bambuiros este remate à volta do vão p/ volume baixo saliente em betão
mesma situação também p/ portas entrada (nicho?) caso dos bomb e TRAMM
portas/janelas envid. (todos edif)

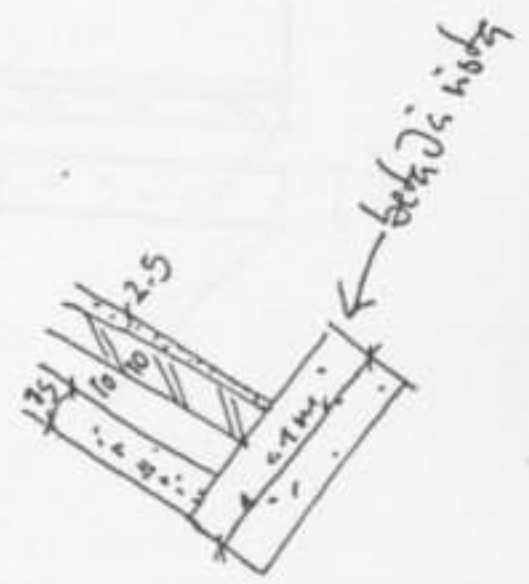
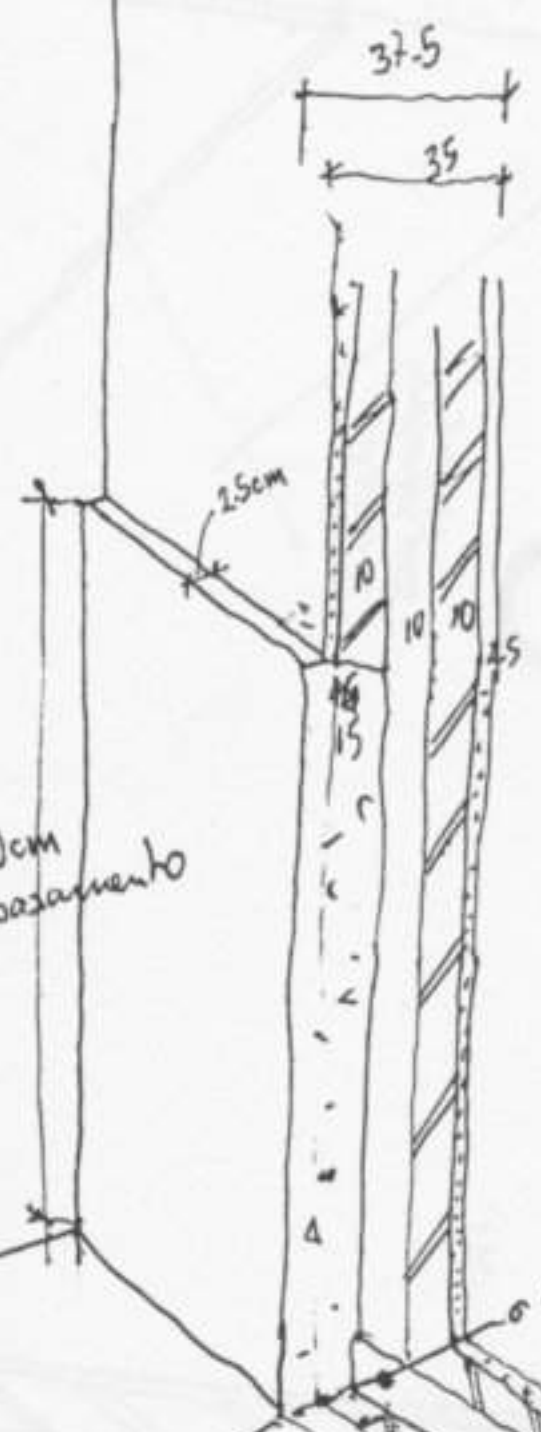


corpo bombeiros alinhamento a nível edif

alterações do eixo (2) das pilares do abrigo dos bombeiros

como em baixo

80cm embasamento

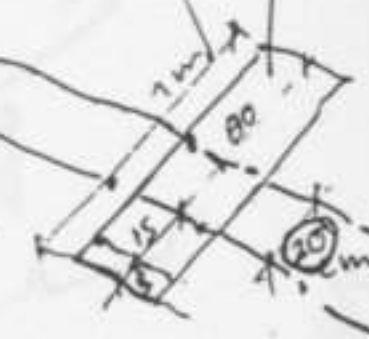


aba o pint.

10cm

15

pilares do abrigo

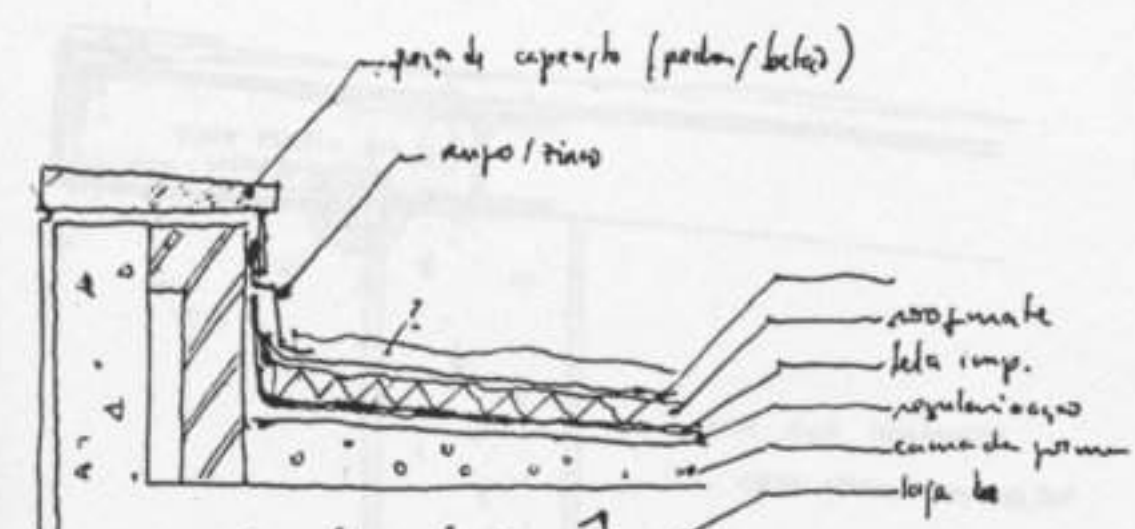


do edif bomb.

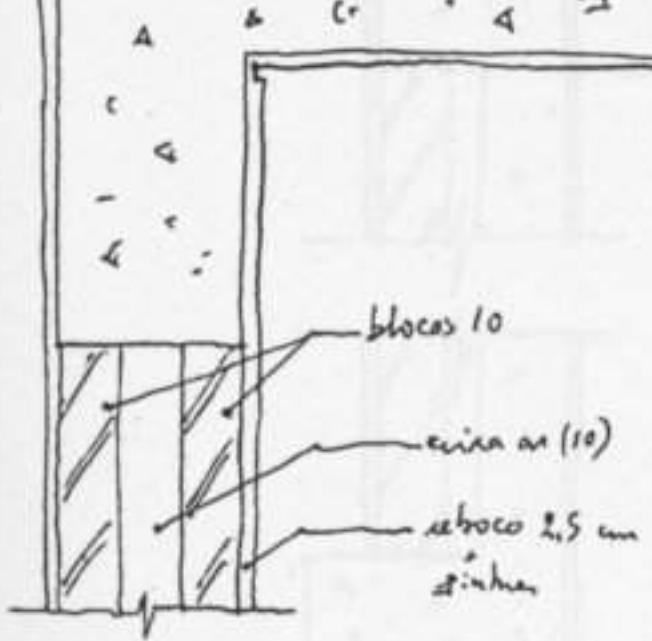
... + material placa + mant.

PEQUENOS

COBERTURA PLANA + EMBOASAMENTO DEBÃO + VÃO FEITO
* VÃO ALTO (is.) IQUAL, MASTALVENARIA SOBRE DOBRE EMGAS.



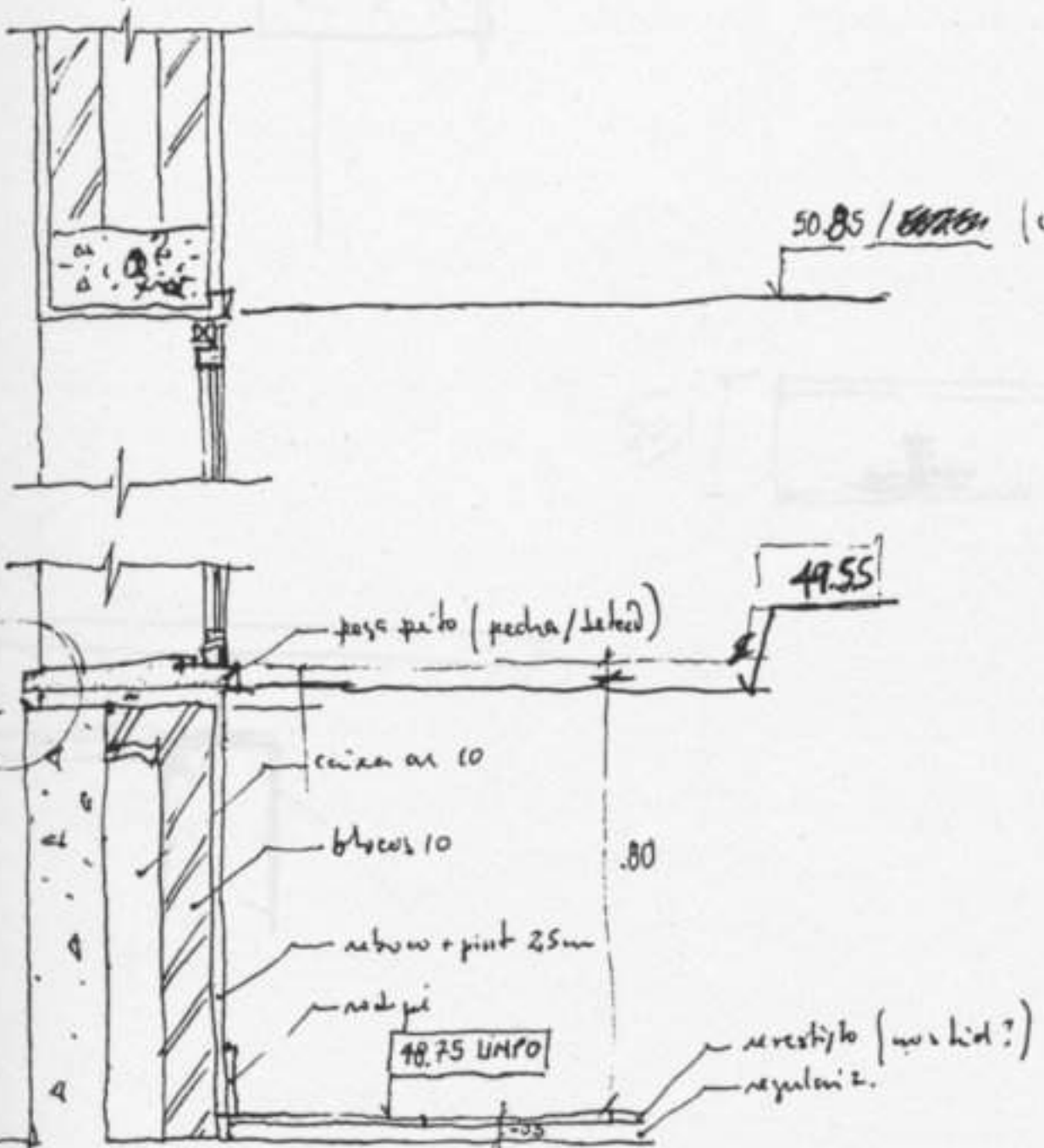
→ FORM. 1:5/1:10
NÓ COB



(VÃO ALTO)

50.85 / ~~50.85~~ (CONFORME EDIF - LIM SUP VÃOS A 2.20 (BOMB.))
2.00 7.10

embasamento
pedra/placa betão

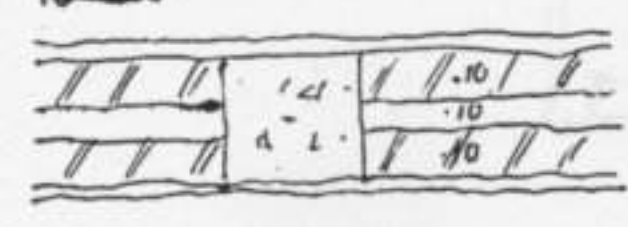


→ FORM 1:5/1:10
NÓ VÃO

.80
situação similar
nível em relação
ao passeio
48.70 (PASSAG.)

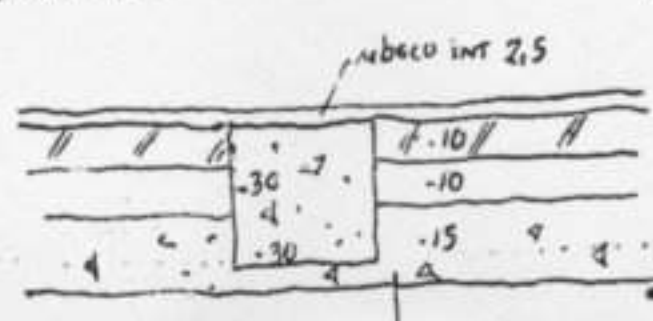
CORTE VERTICAL

CORTE HORIZONTAL



→ CORTE ACIMA DE 0.80

± 1:20



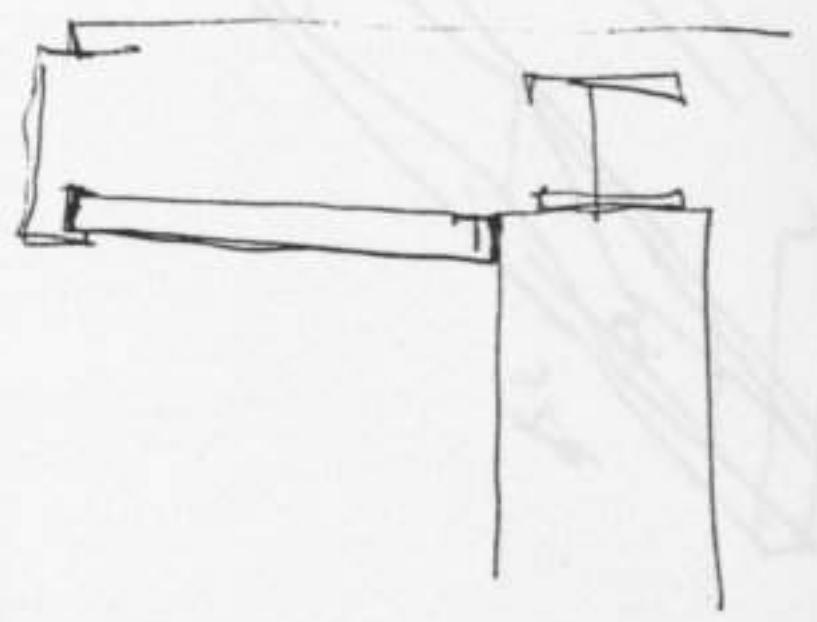
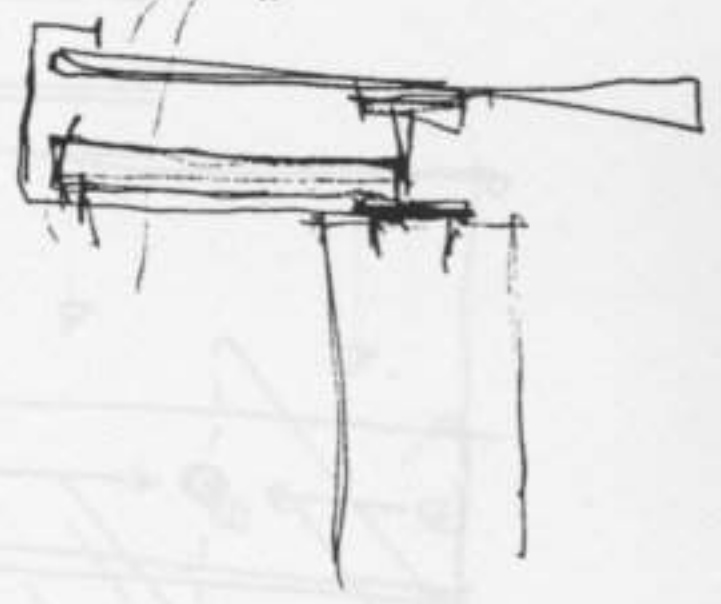
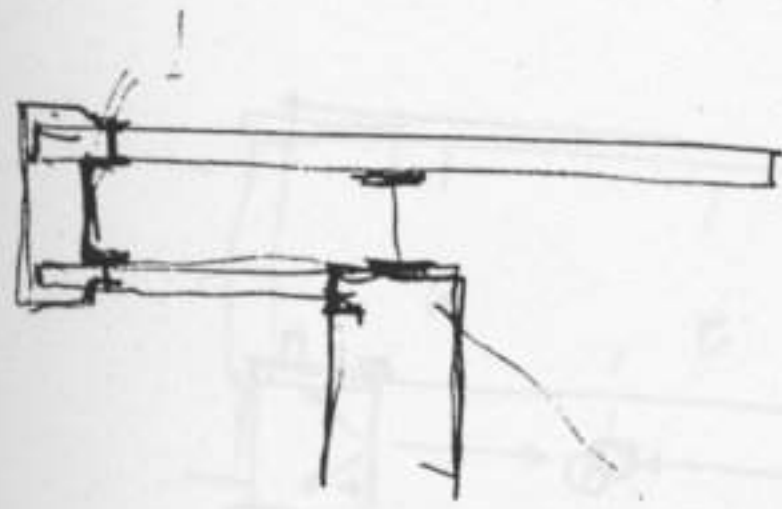
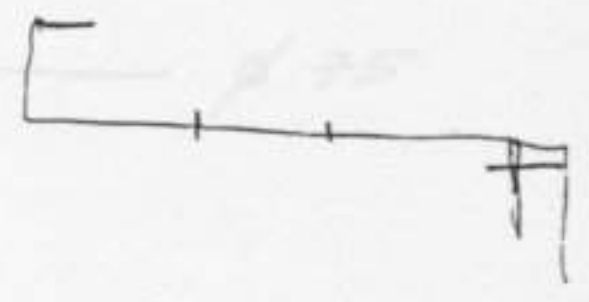
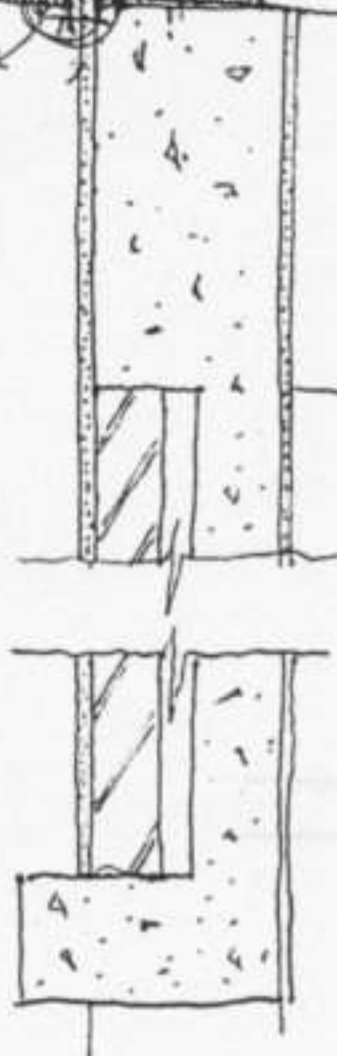
(alternativa a partir de .80)
→ CORTE A 0.50

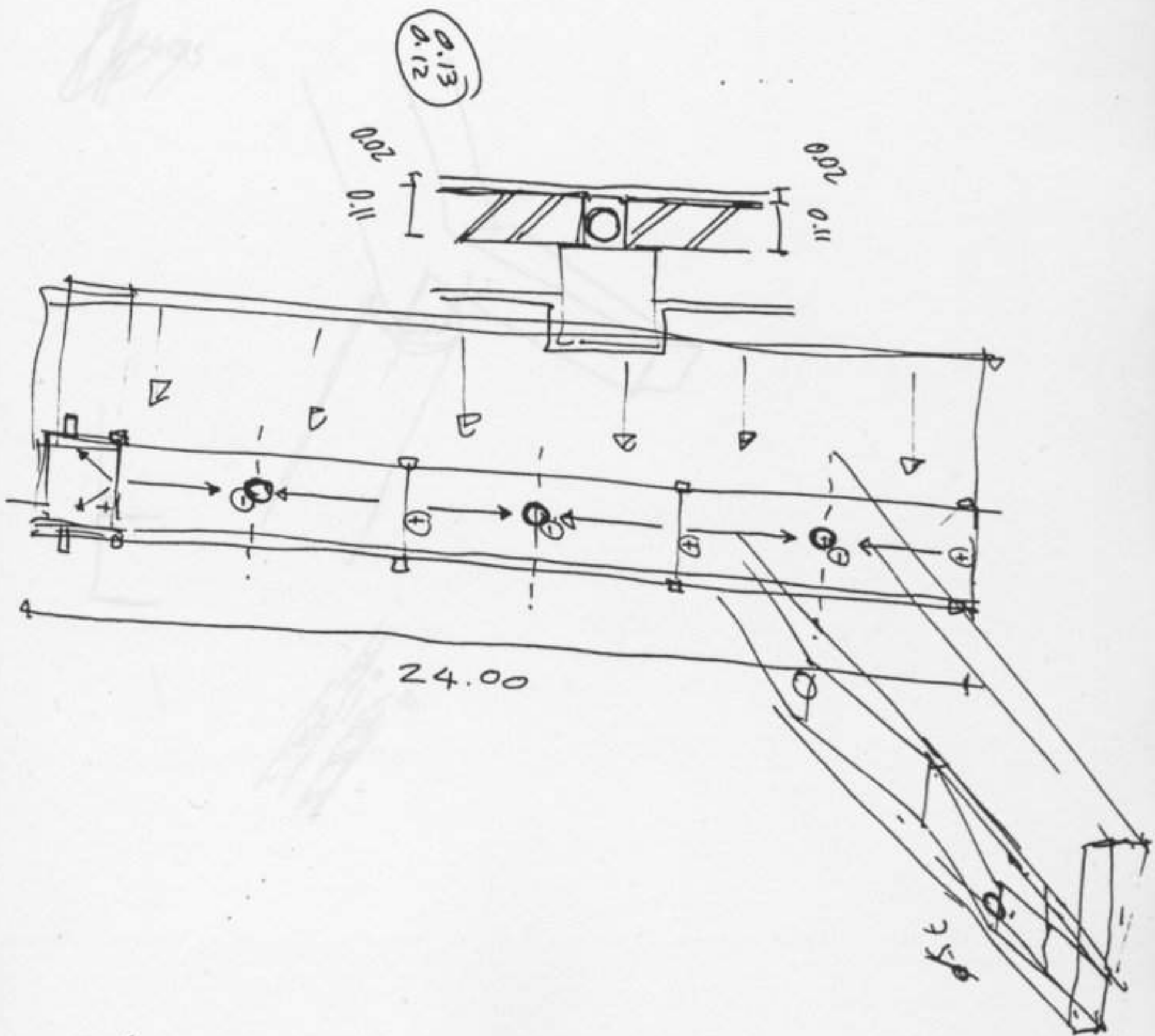
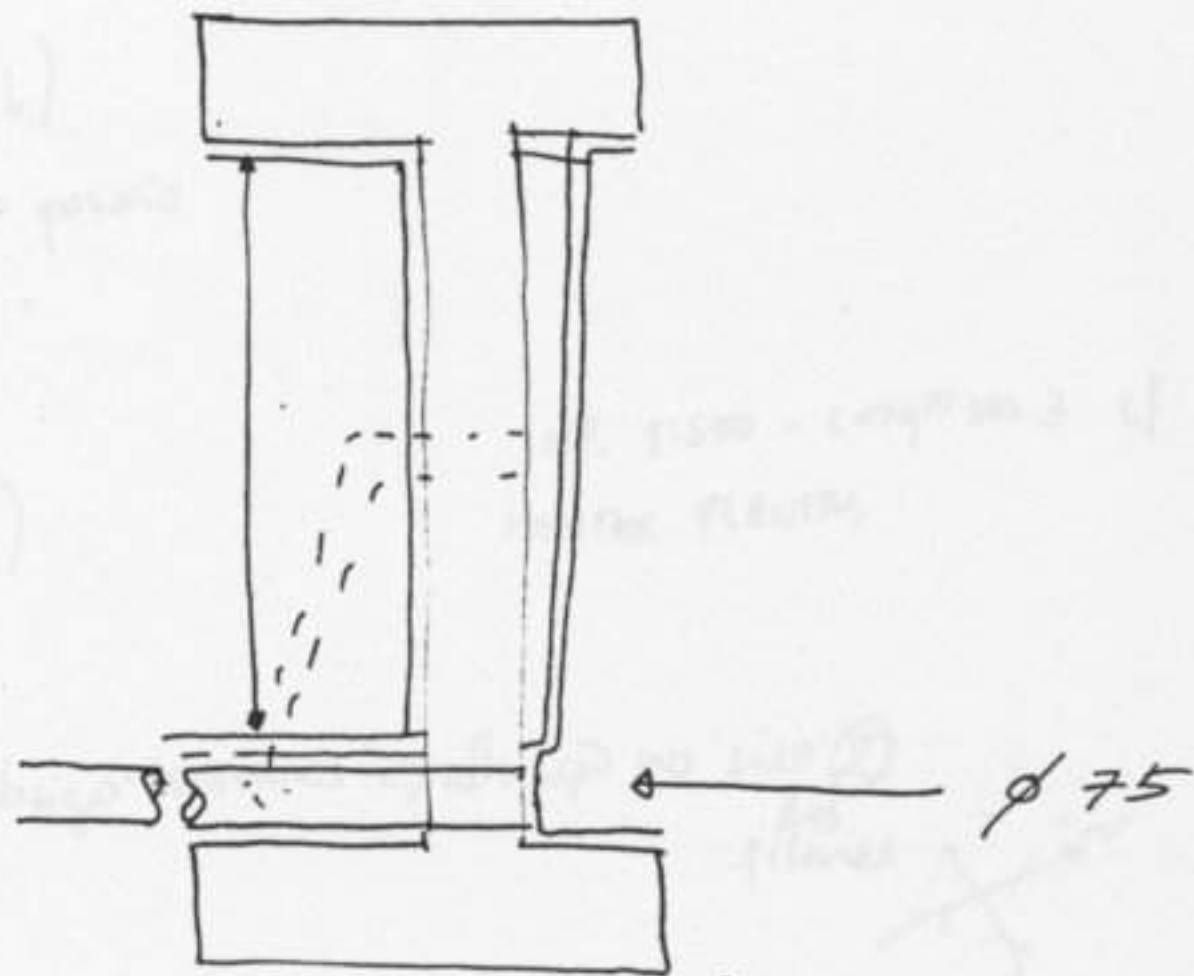
EMBOASAMENTO

30 x 0,07



VISTA VOTA INCLINADA
ONDE APARECE O HENZO





colocar 0.50m afastamento coberturas (liga em relação ao torso do pilar)

limite reboco / sem reboco

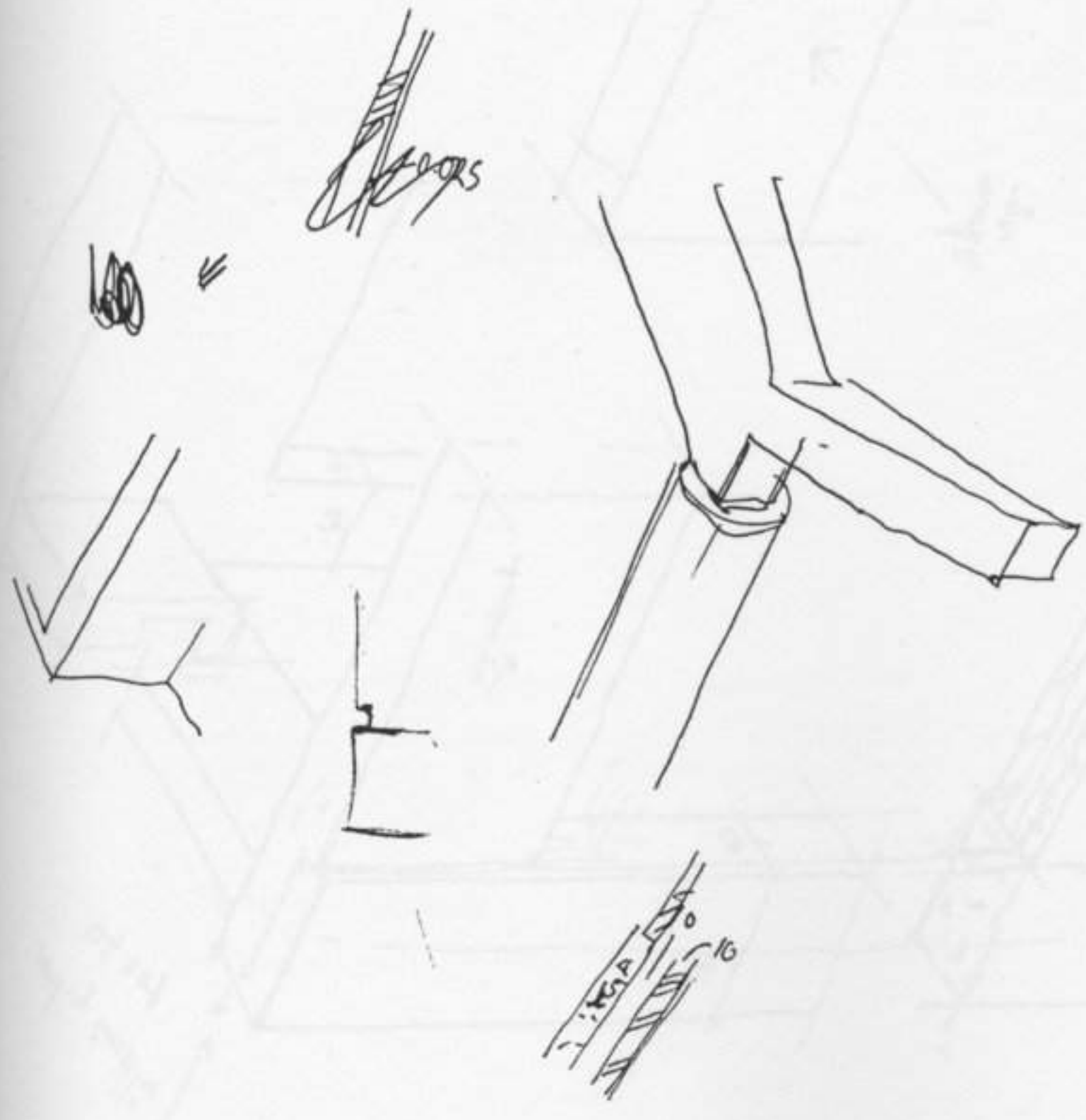
↓
torção paredes

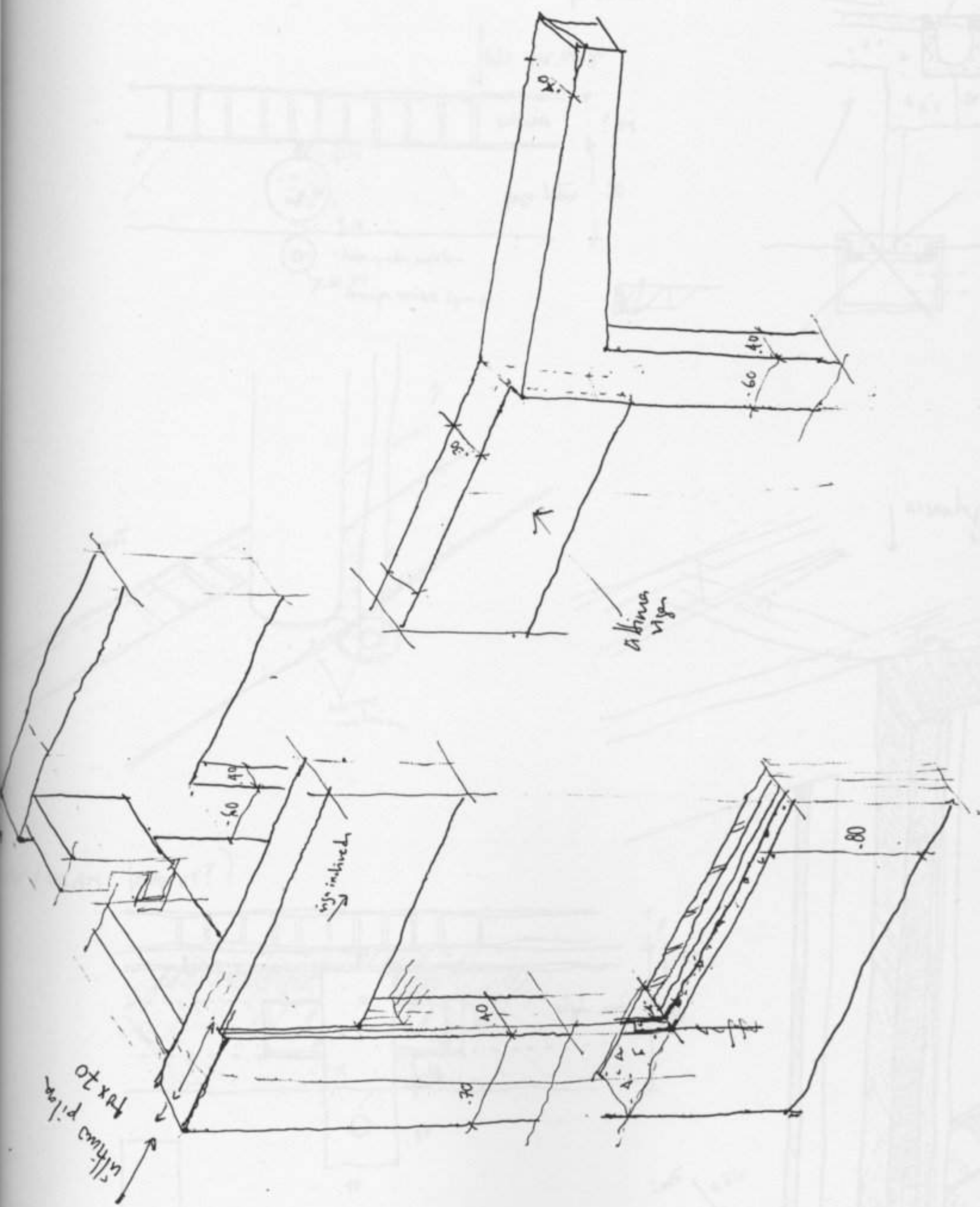
escadas TAP e TRIAM (espelhos h)
alteração cote do passeio

pés de bombeiros (revestimentos)

IMP. 1:500 - CONJUNTO DOS 3 C/ LANÇAS E CORRETORES
MONTAR PLANTAS

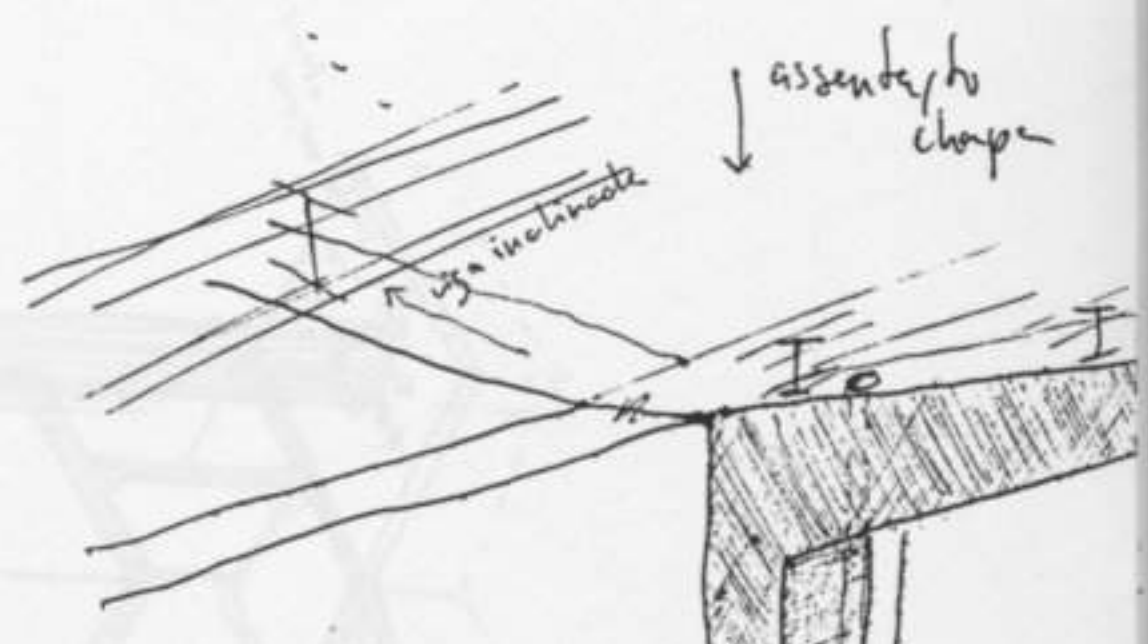
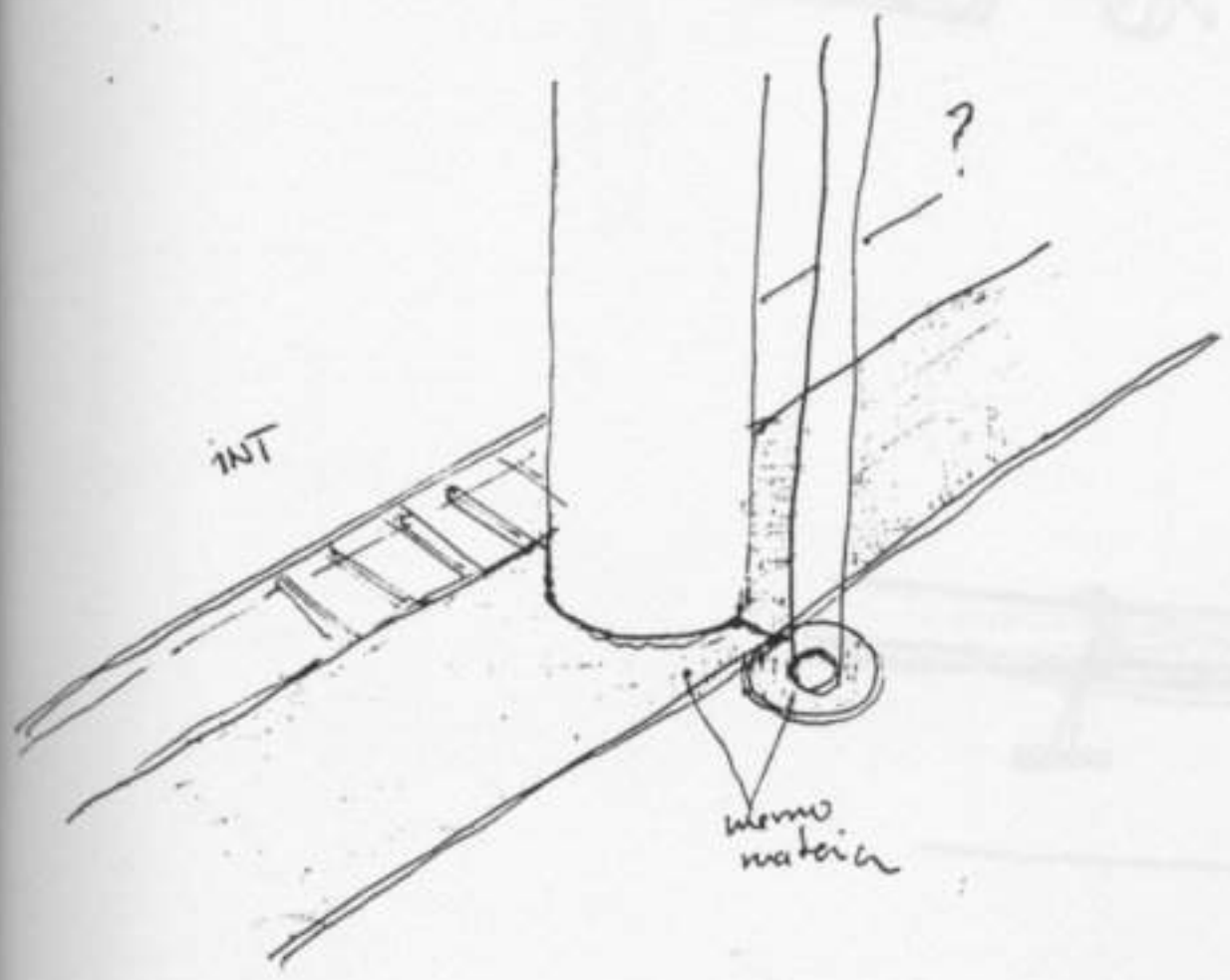
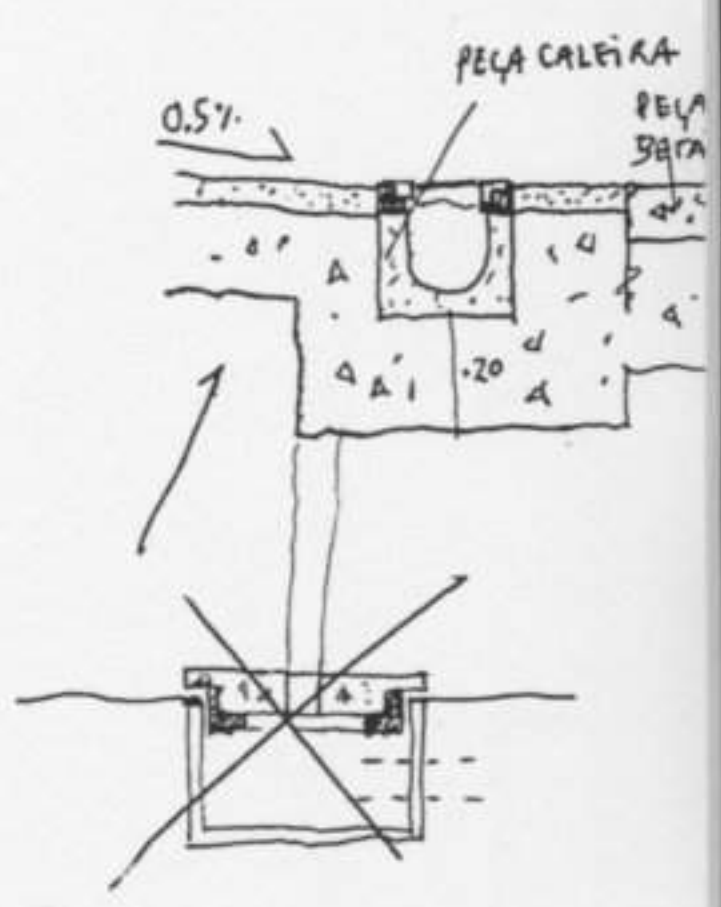
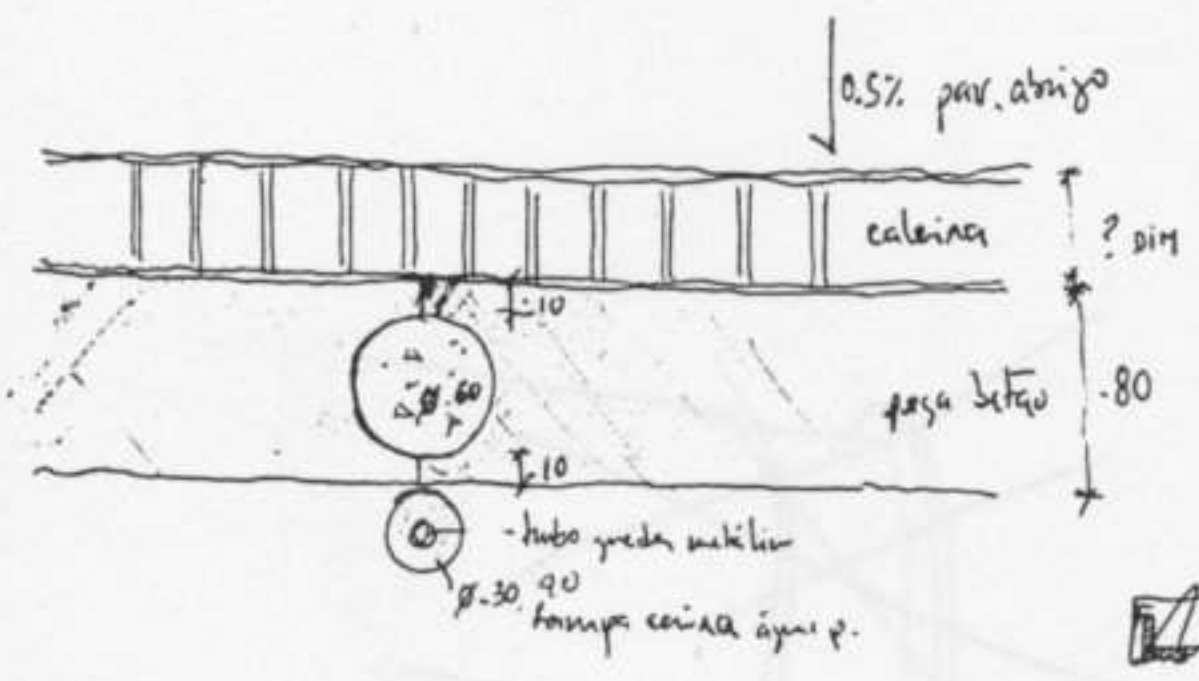
nova solução alçado SE (pontões) abrigo bombeiros => alteração no eixo dos pilares



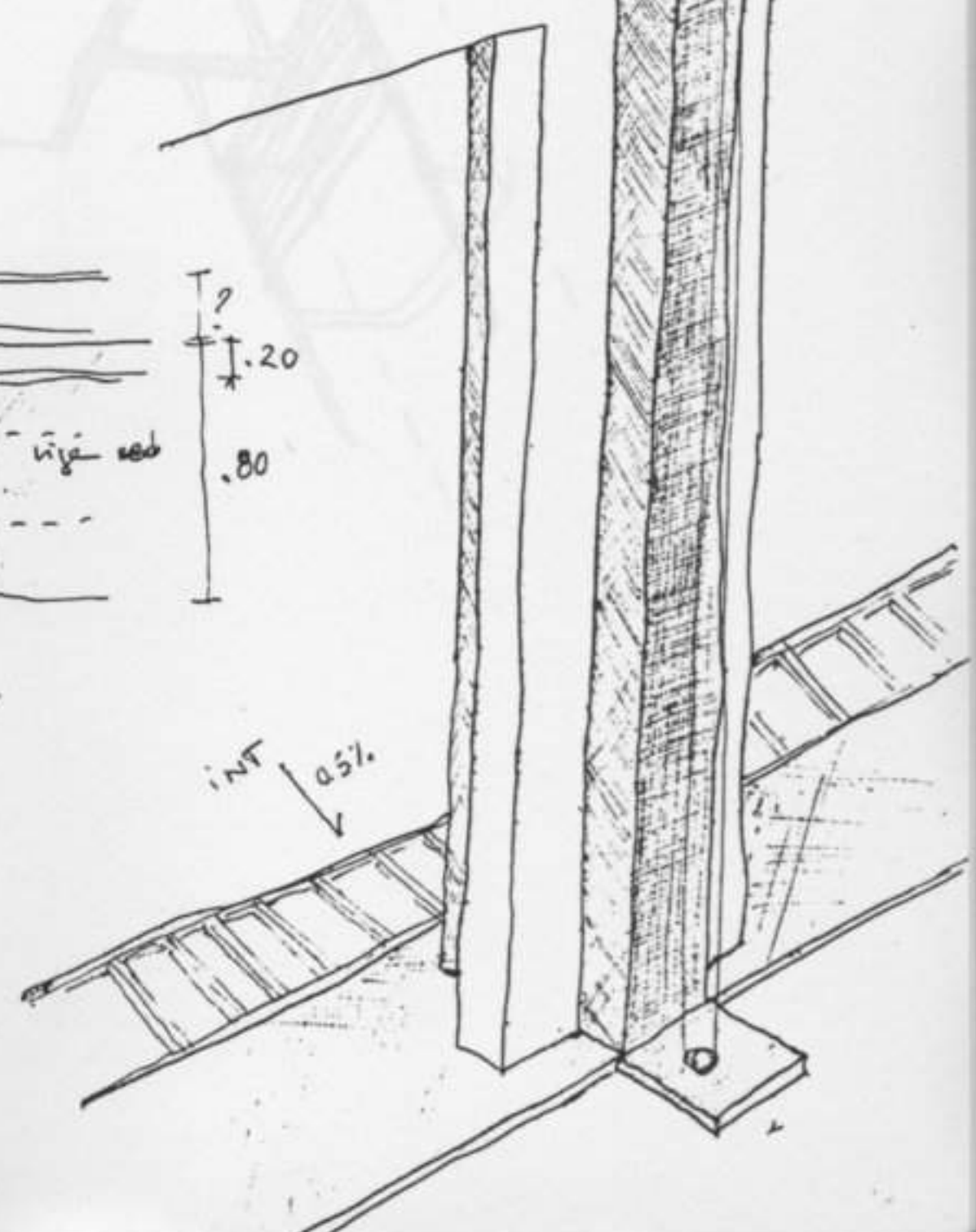
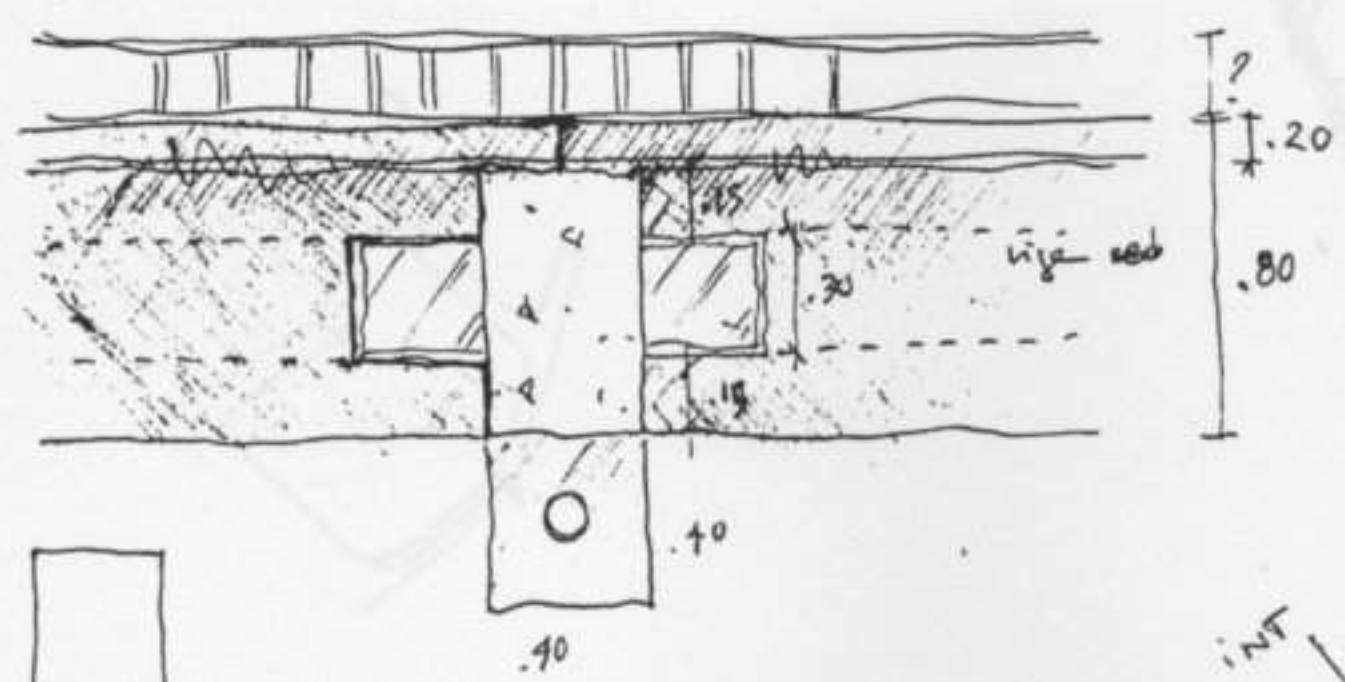


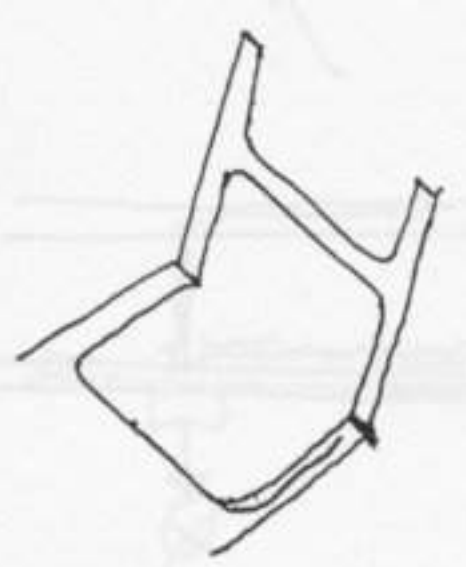
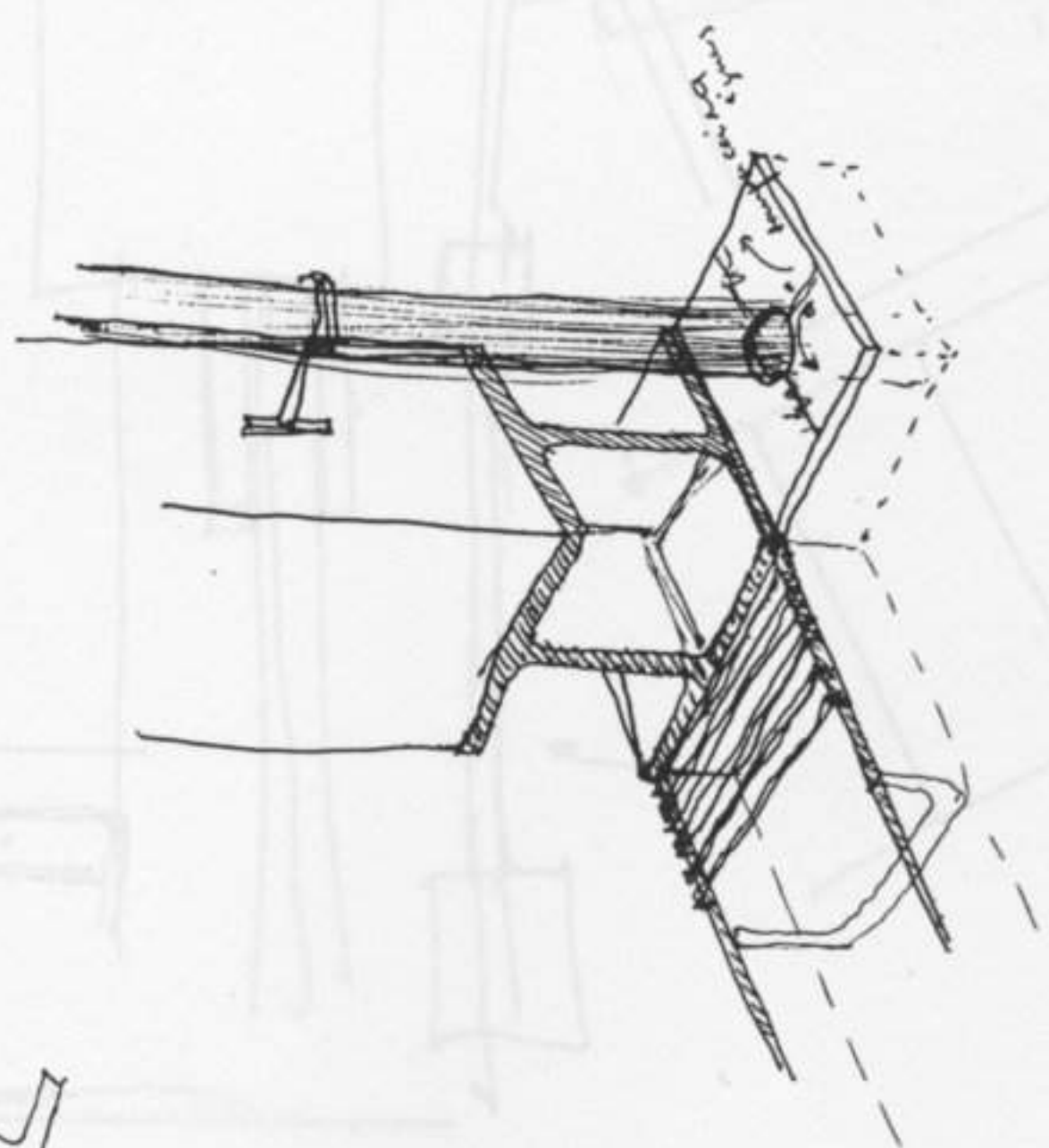
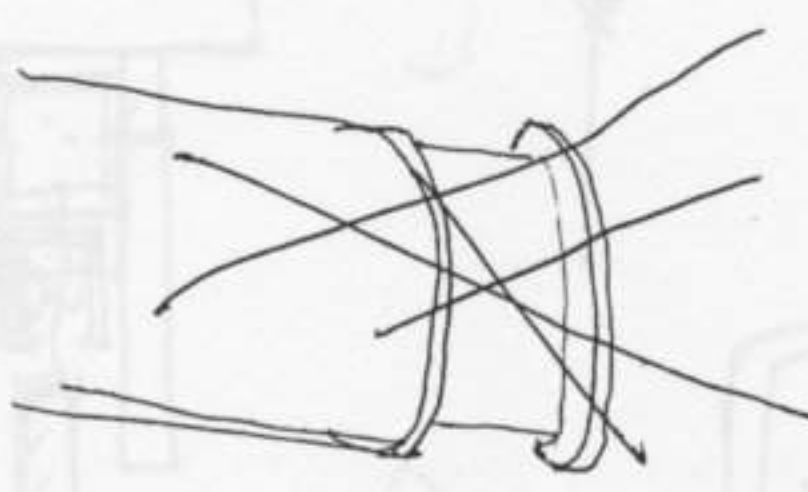
BETÃO REMATE PAVIMENTOS ABRIGOS/OPRINAS / LIGAÇÃO CALEIRA / TAMPA CAIXA ÁGUAS PL.

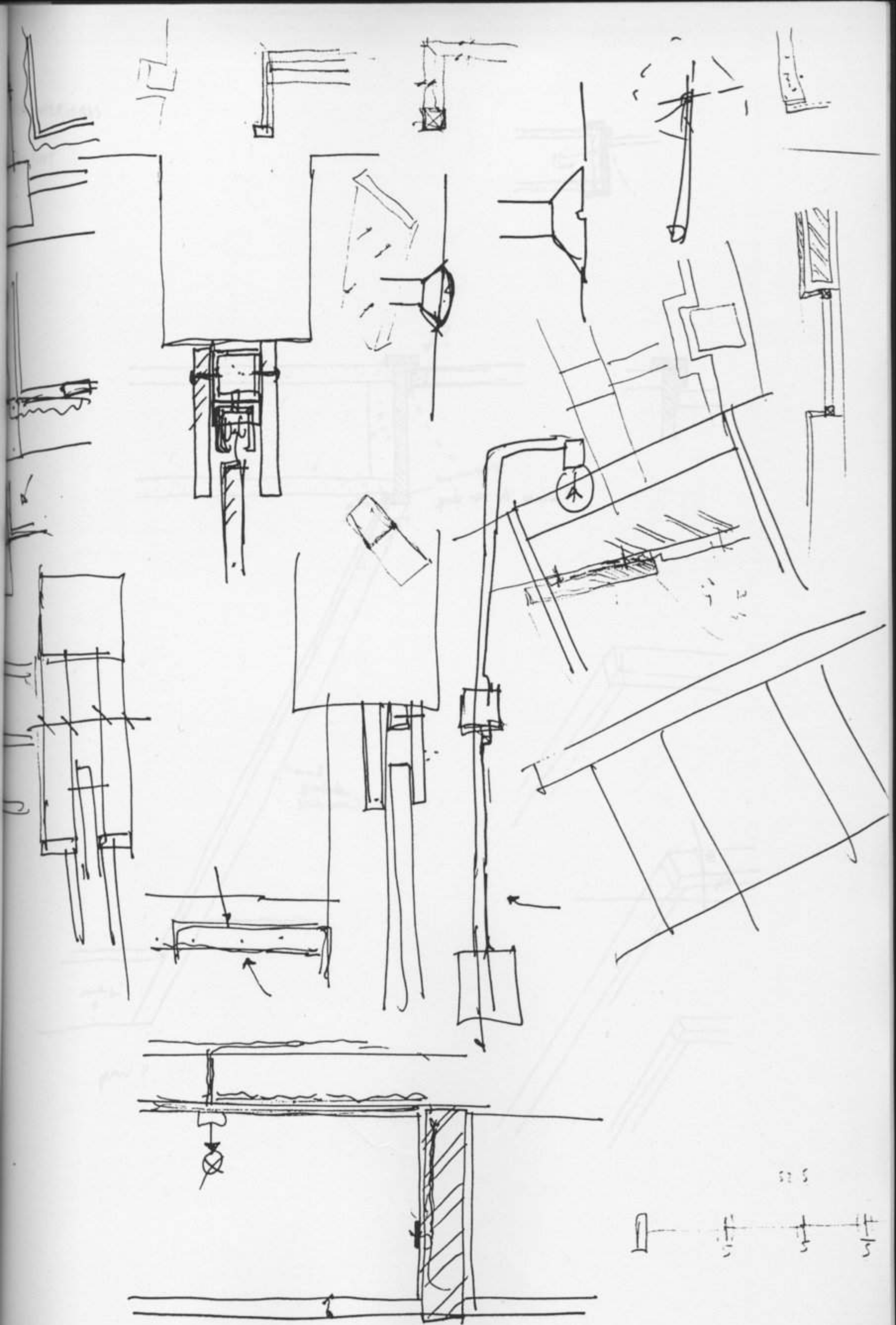
1 - Bombeiros - pilar redondo sem paredes laterais



TAP / TRIAM (MANUT?)



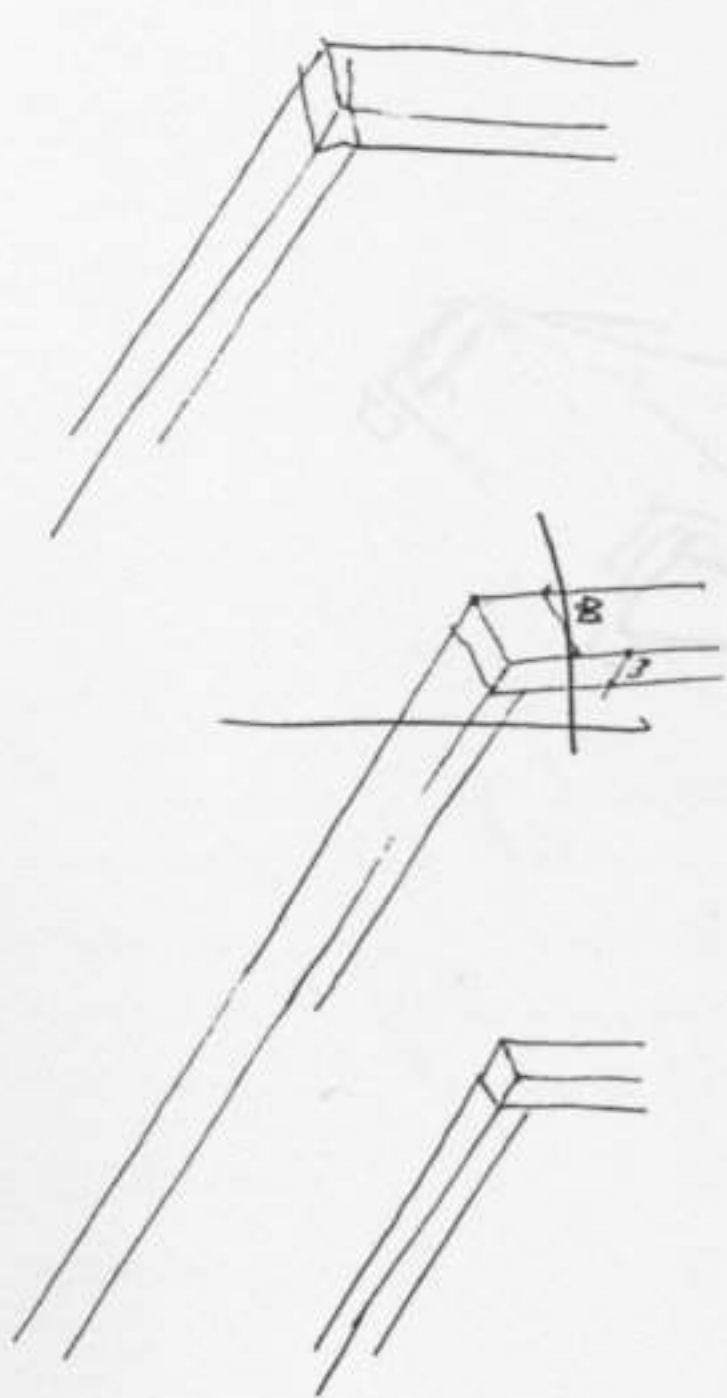
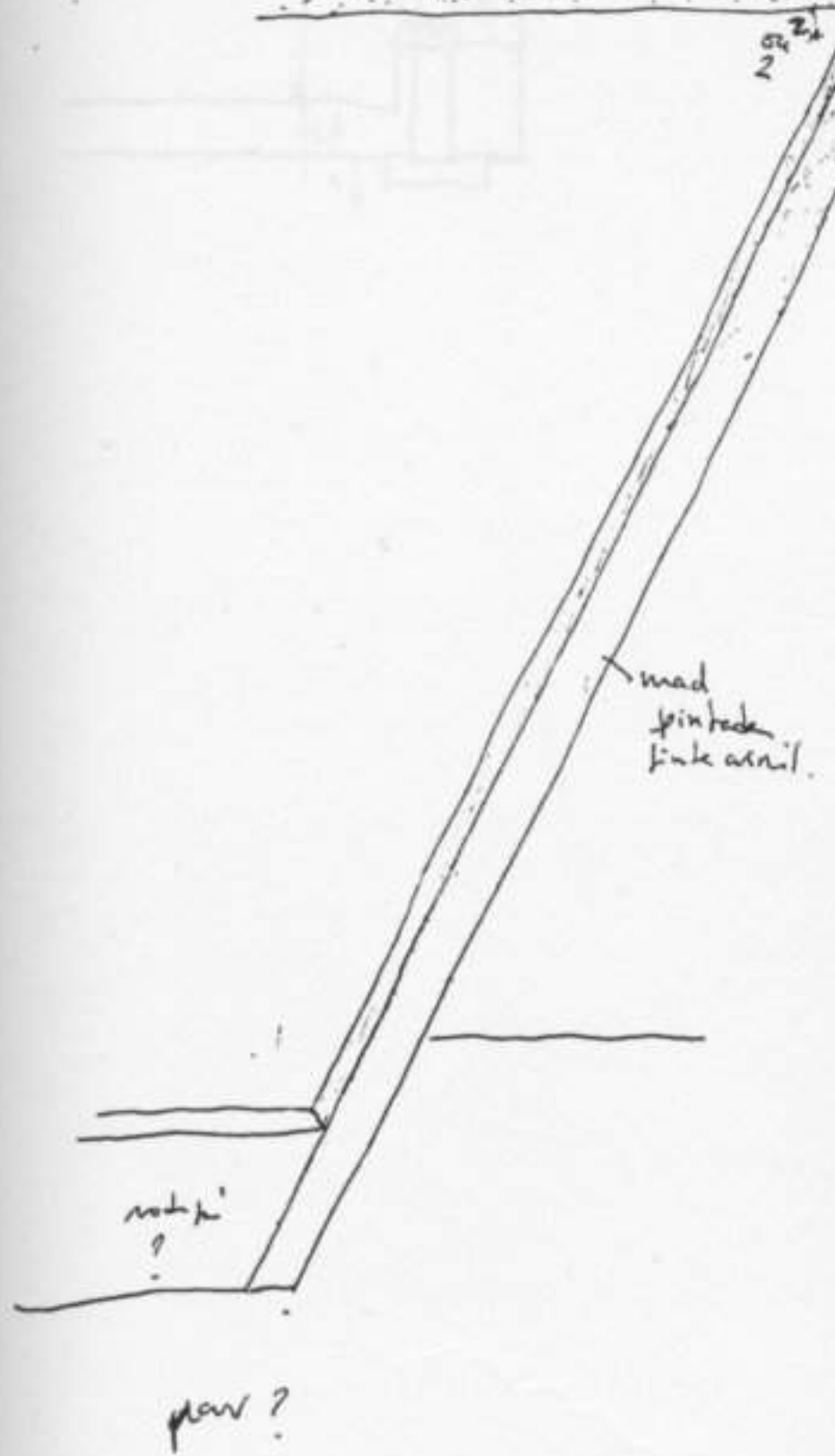
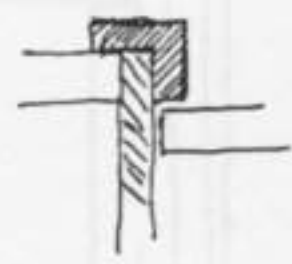
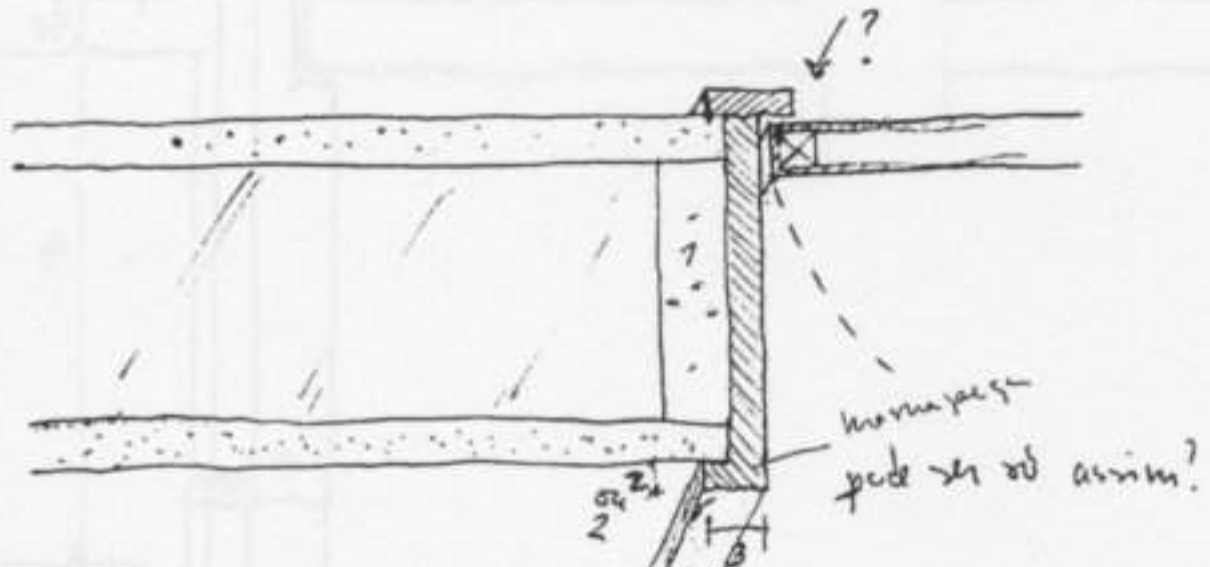
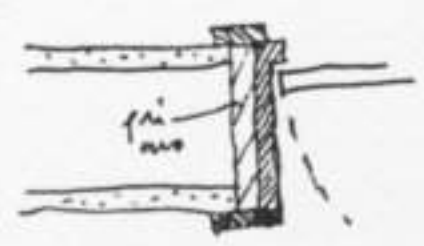


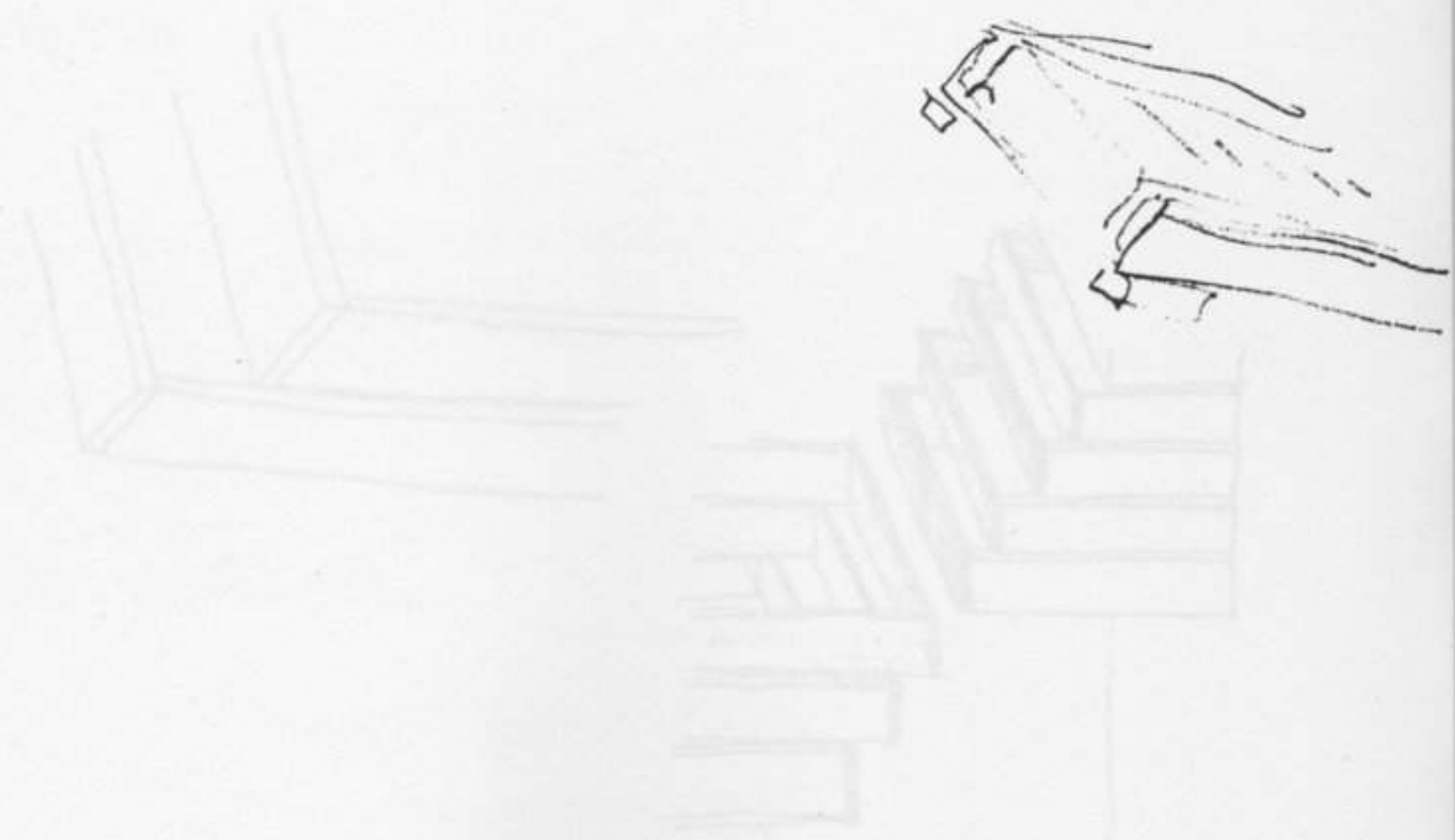
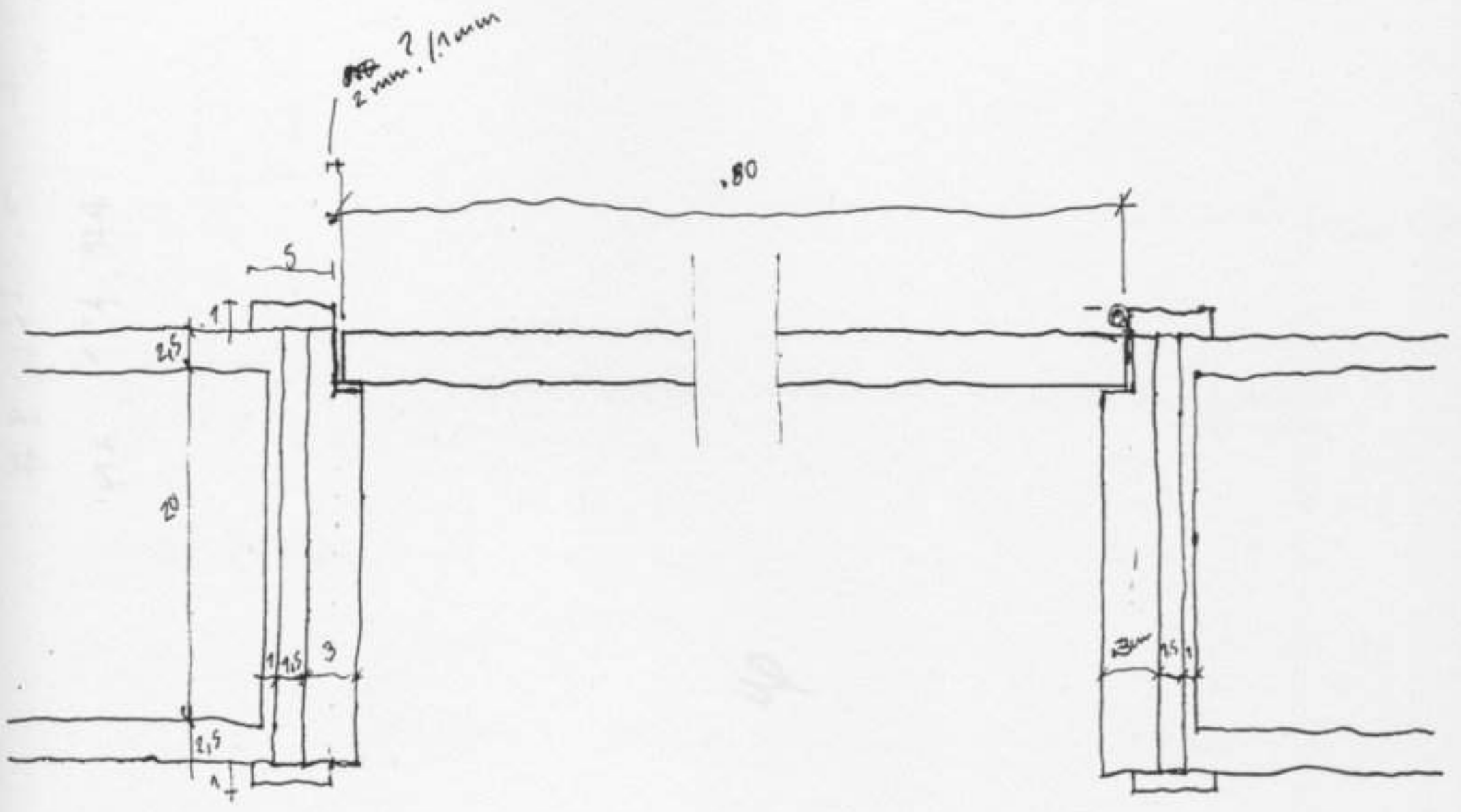


5 2 5
H 1 2
H 1 2
H 1 2

INTERIORES

PINT



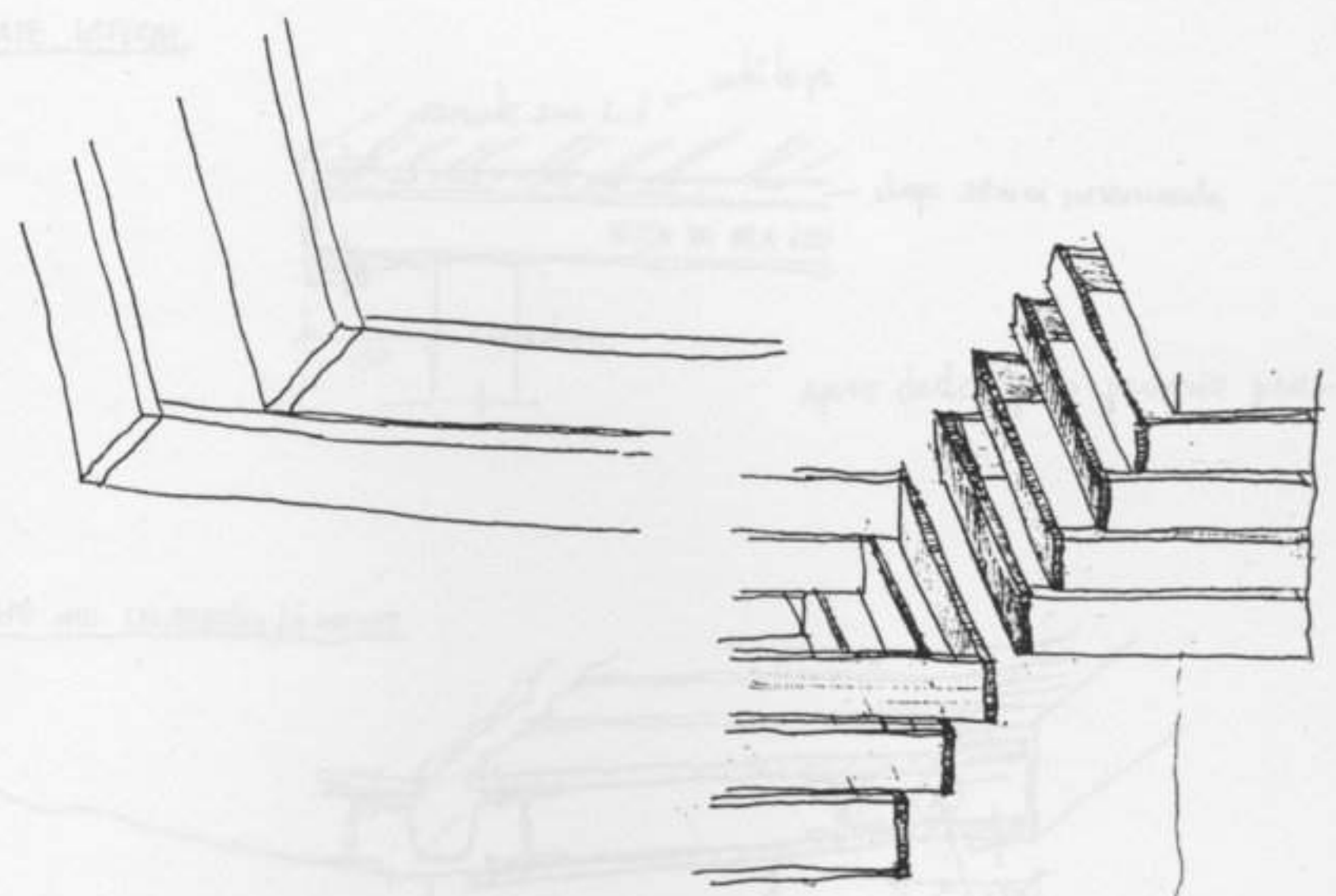


RP: 134.01
PTA: 134.924



40

REFINIS - part of the ...



REFINIS part of the ...
(detail of the ...)

PROVVISOR ...

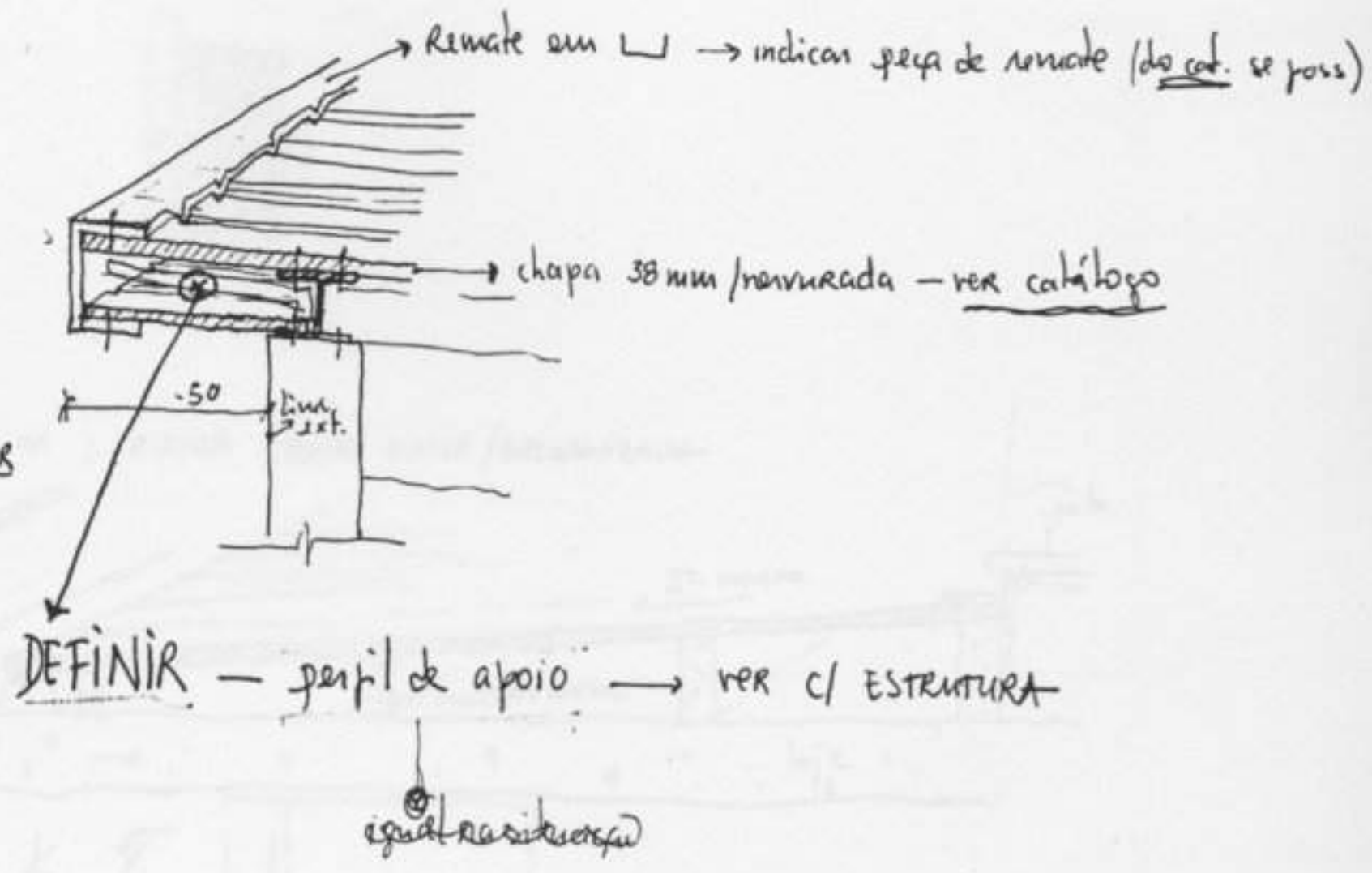
ABERTURAS



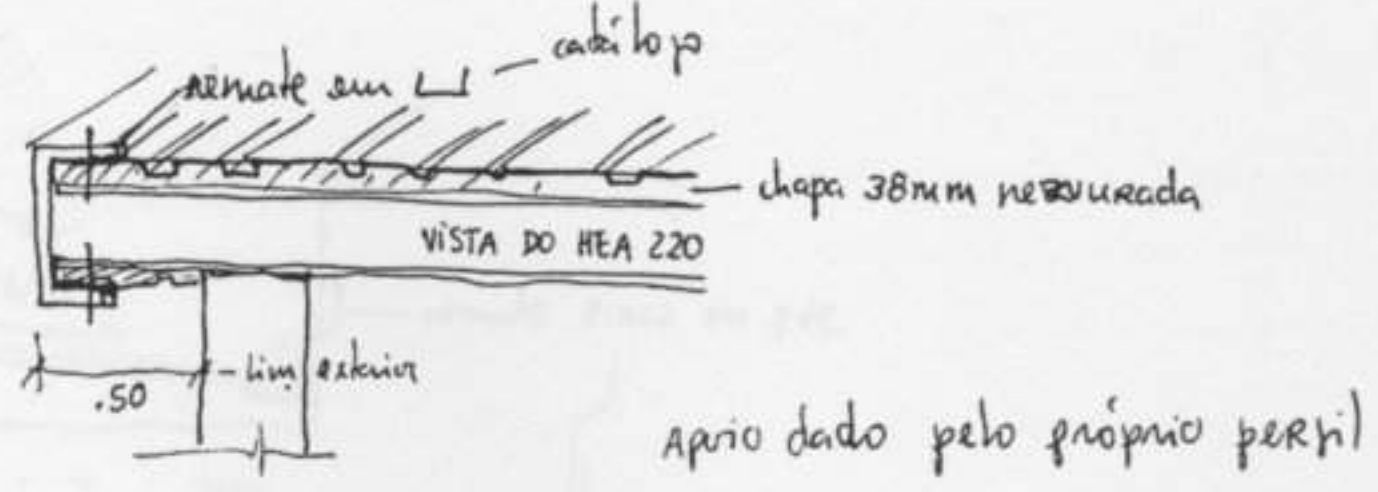
ABERTURAS

colunas e abrigos

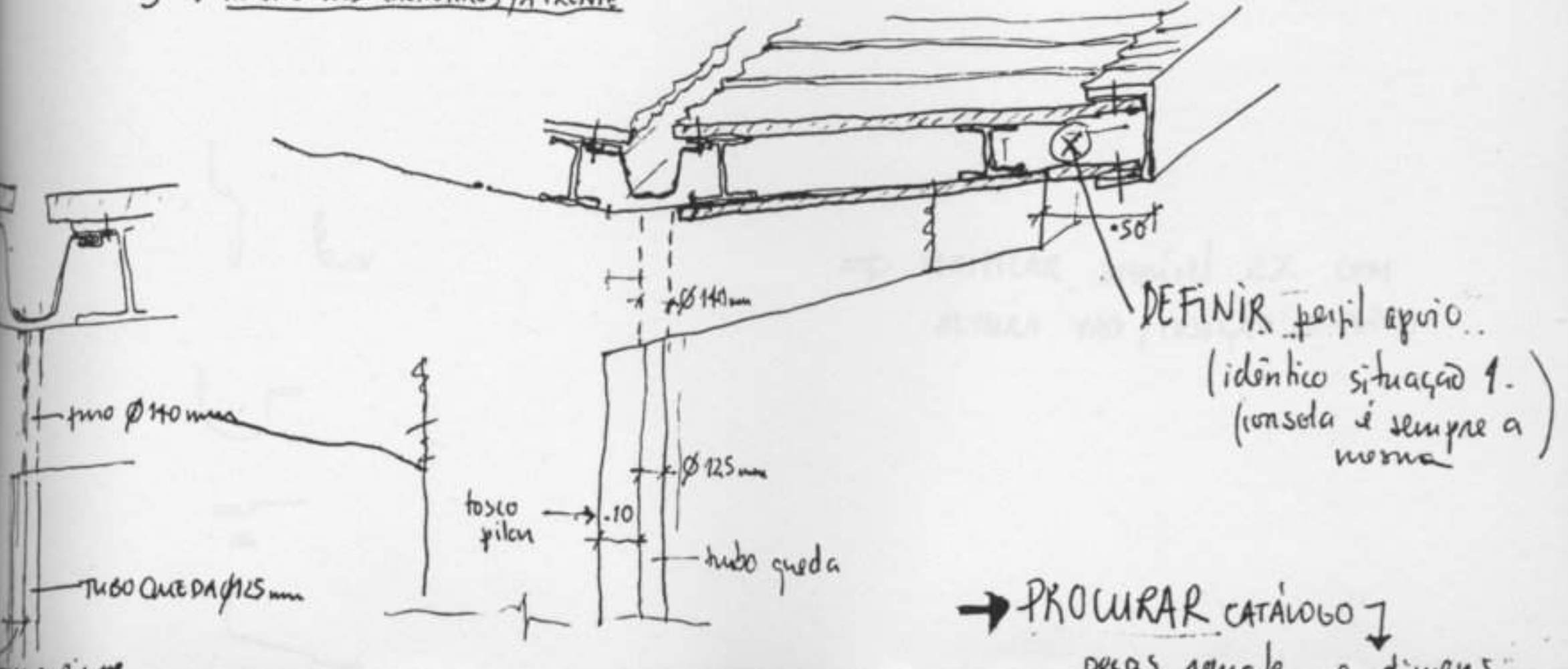
1 → REMATE POSTERIOR



2 → REMATE LATERAL

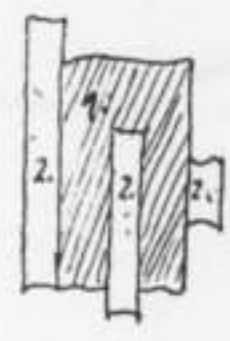


3 → REMATE NOS CALÇADOS / À FRENTE

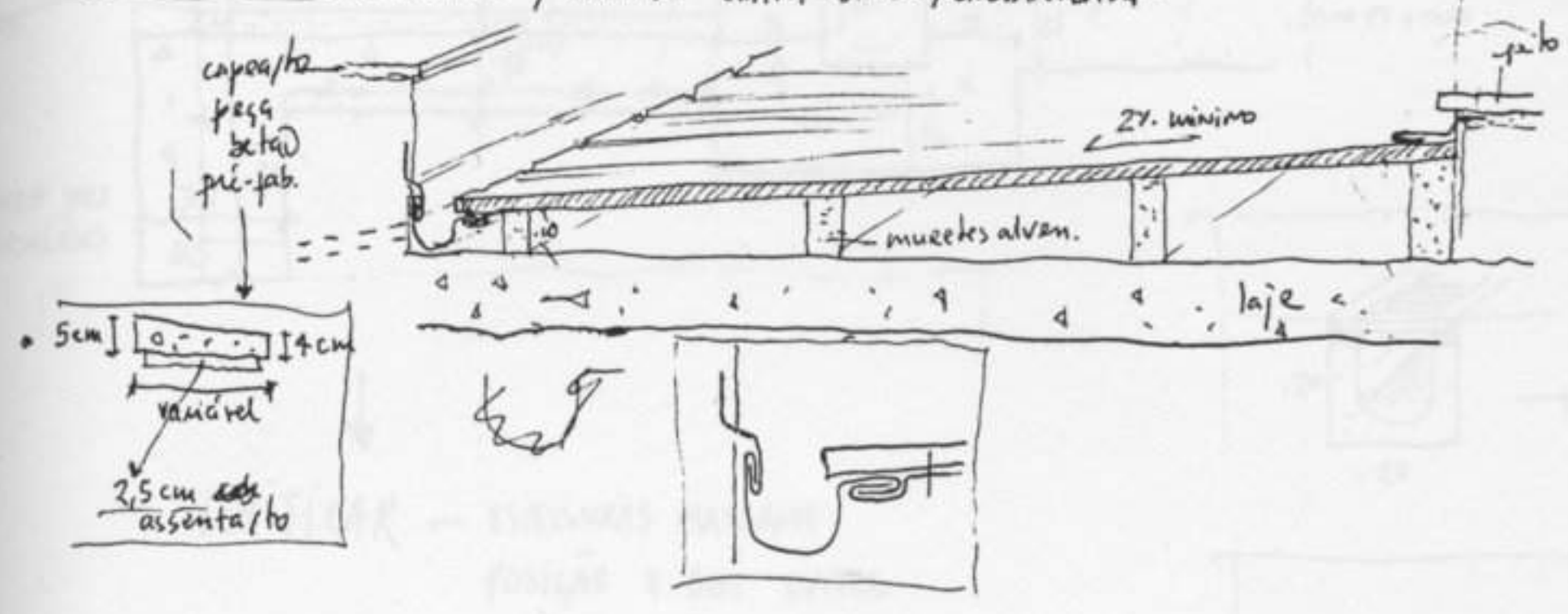


RECURSAS . cont. —

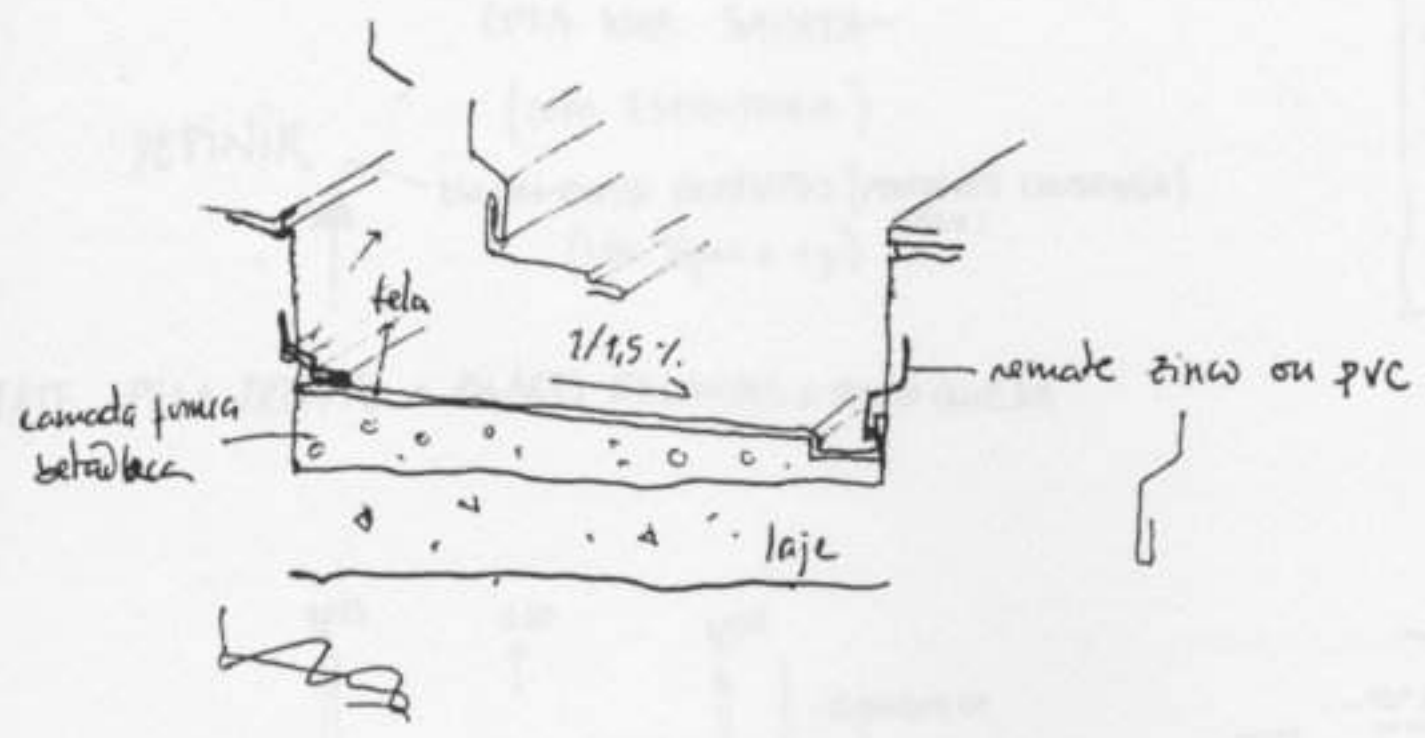
volume pequeno — cob planas



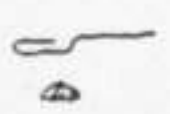
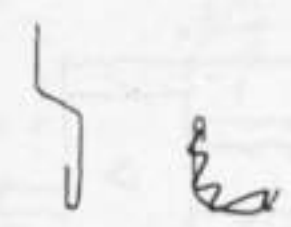
1 → CHAPA METÁLICA / caixa on ; CALIÇA CHAPA ZINCO / GALVANIZADA



2 →

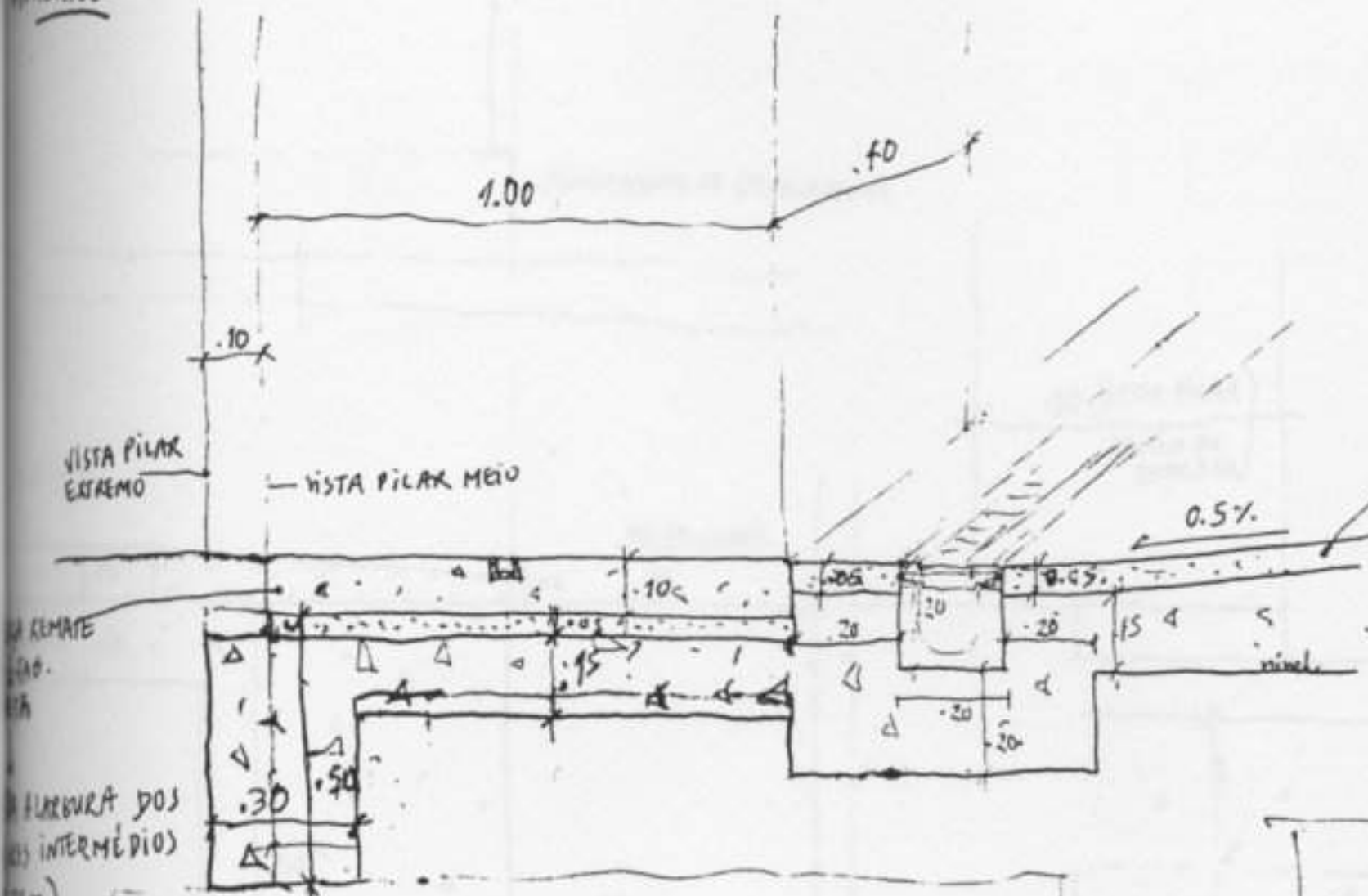


⇒ VERIFICAR desnível 2% COM ALTURA VAO / POSIÇÃO DO PEITO



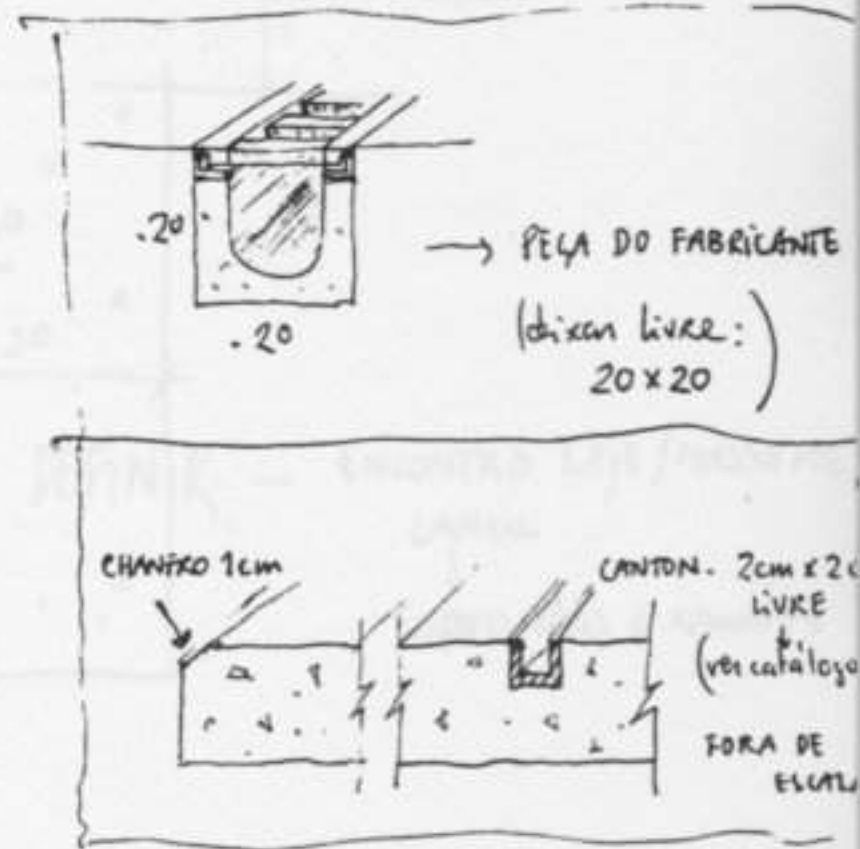
REMATES PAVIMENTO

A. ABRIGO

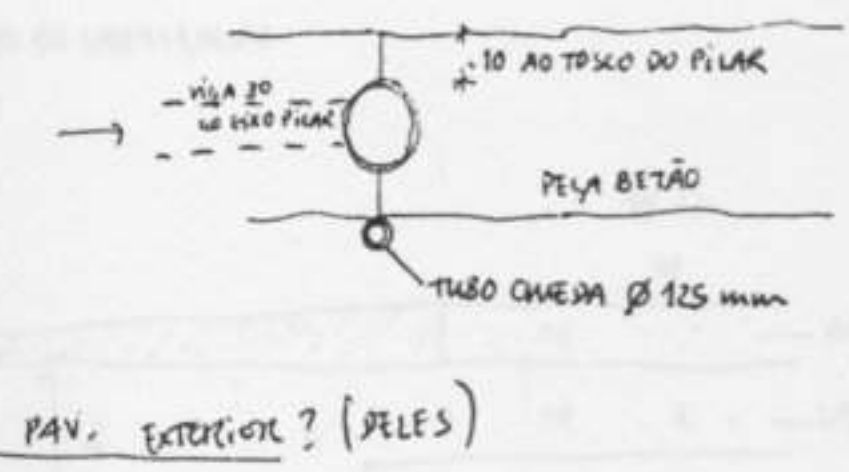
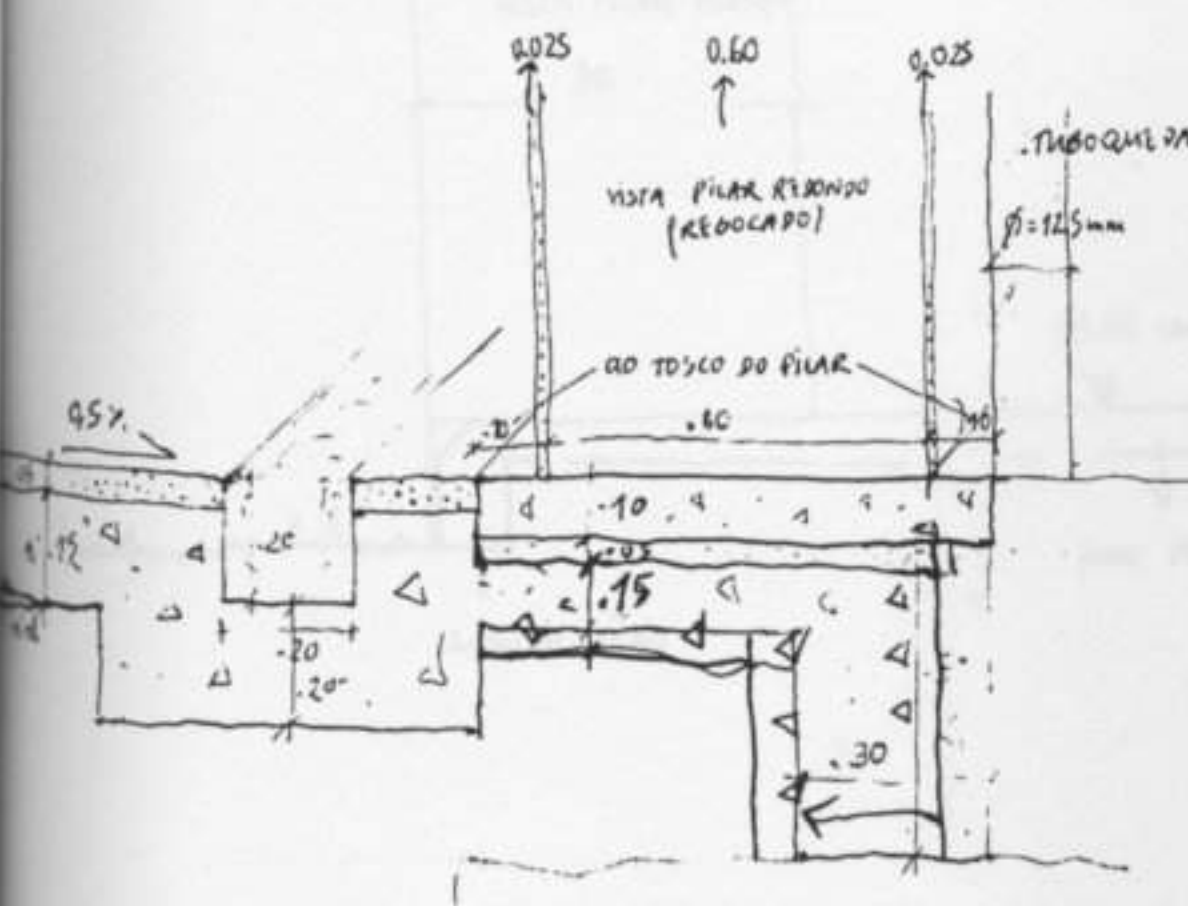


1. REMATE POSTERIOR
 PILARES 10x100 + PORT

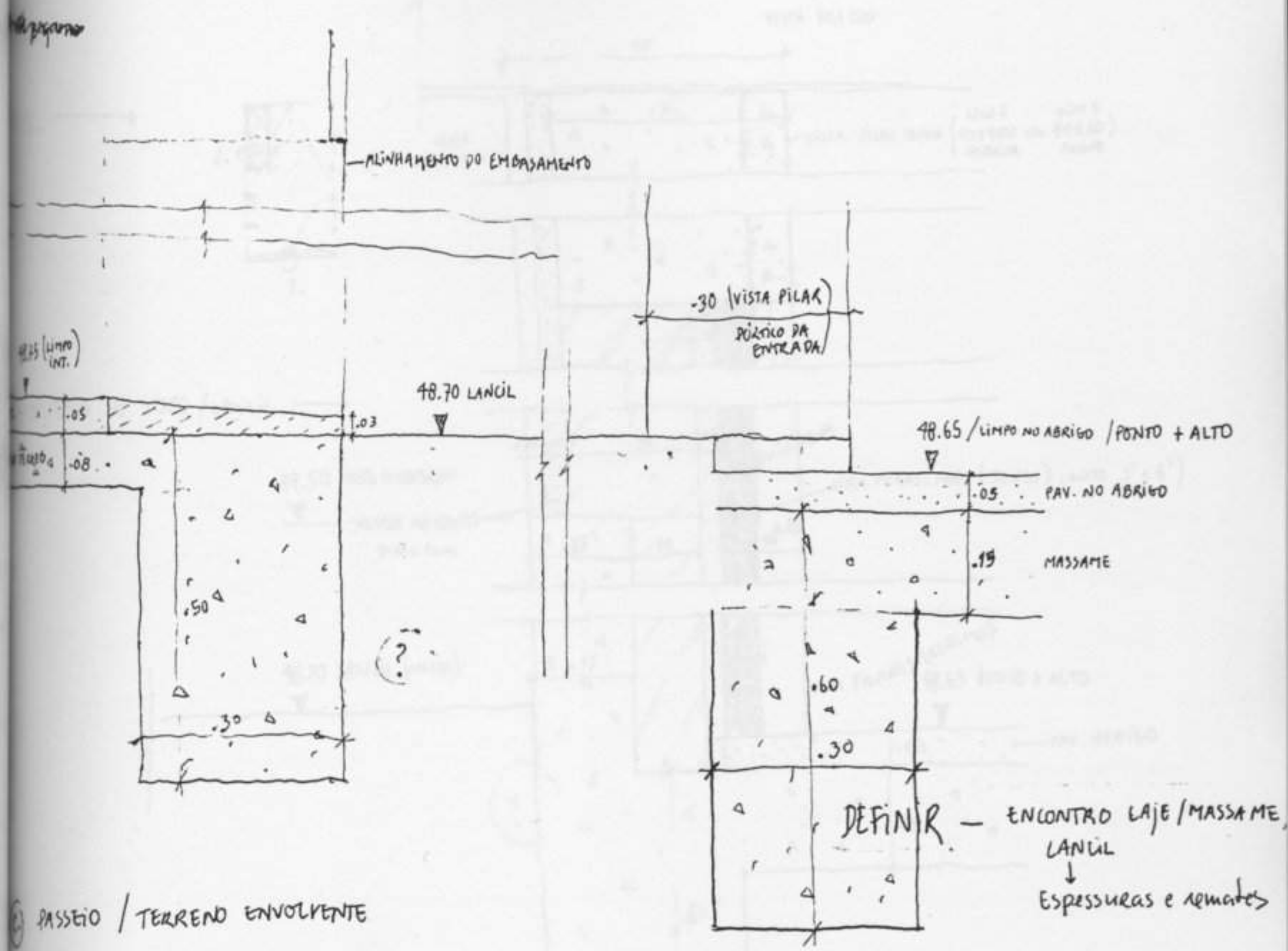
↓
VERIFICAR — ESPESSURAS MASSAME
 POSIÇÃO E DIM LINTEL
 COTA SUP. SAPATA
 (COM ESTRUTURA)
DEFINIR — ESCOAMENTO DEPOSITOS (PENDENTE CONTRÁRIA)
 (COM RIGEL E RJ) RALOS



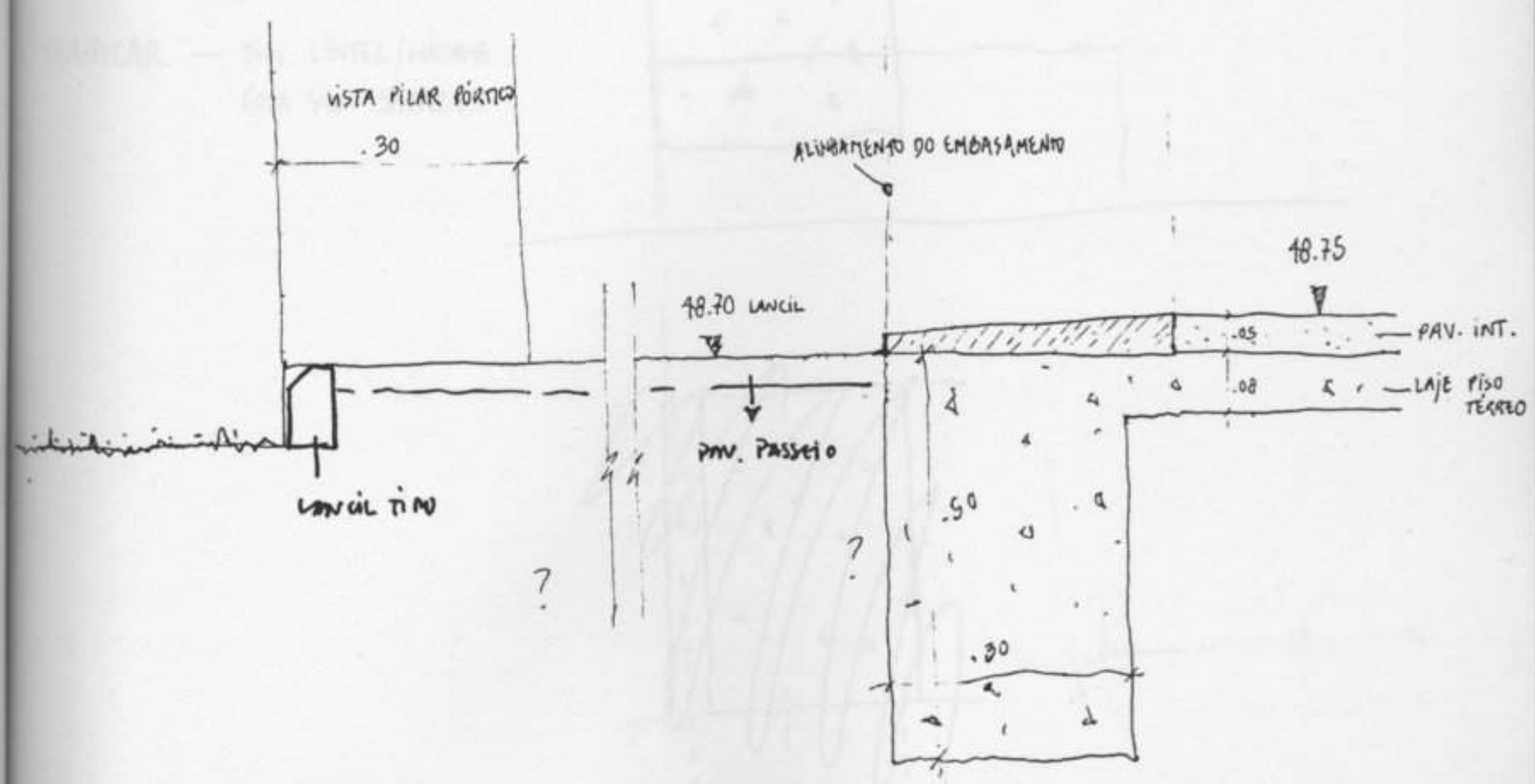
2. REMATE PELA FRENTE - PILARES REDONDOS + TUBO QUEDA



... PAVIMENTO / cont. — (B) PASSEIO / PAV. ABRIGO

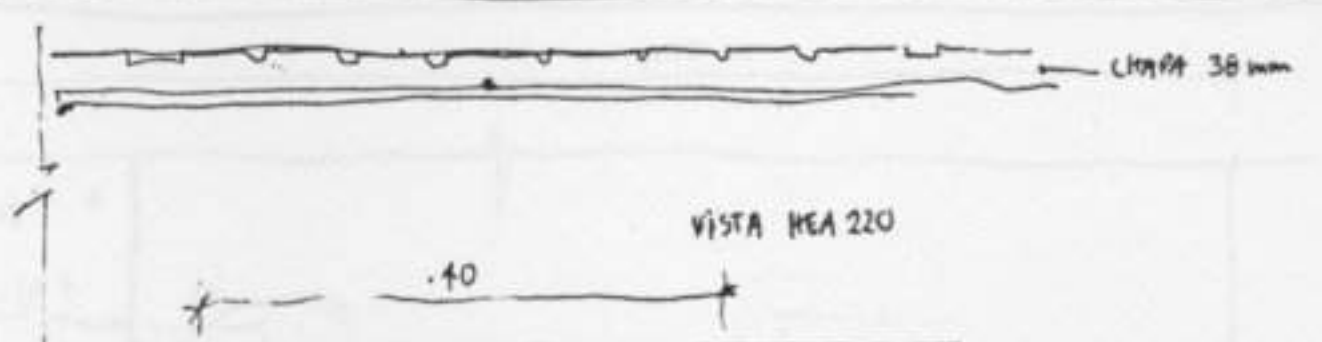
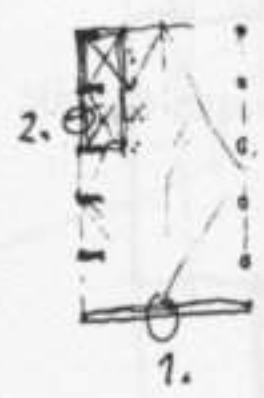


(C) PASSEIO / TERRENO ENVOLVENTE



PARTE PAREDE / 'CHÃO'

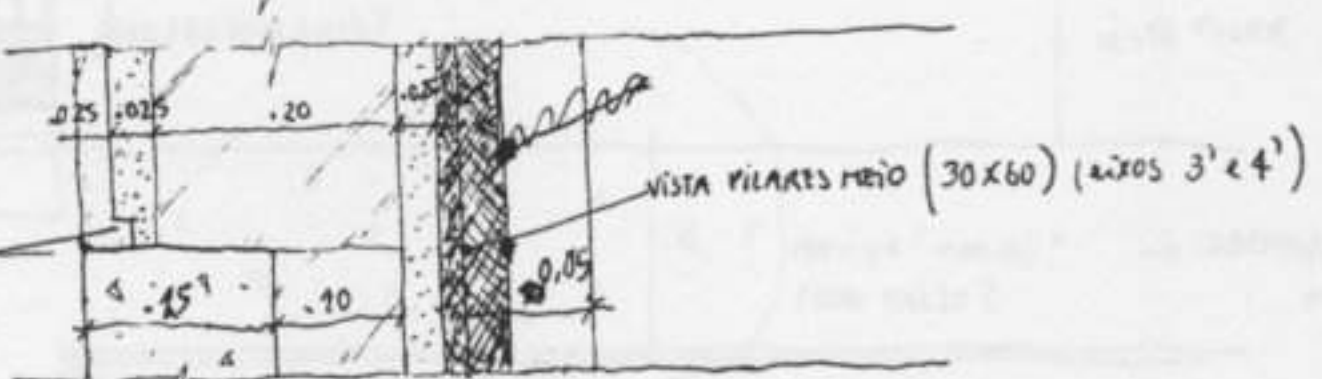
→



VISTA PILAR TOPO (eixo 2 40x700 ou 40x60) (eixo 5 40x60) FICARÁ

EMENA DE TOPO / LANÇIL →

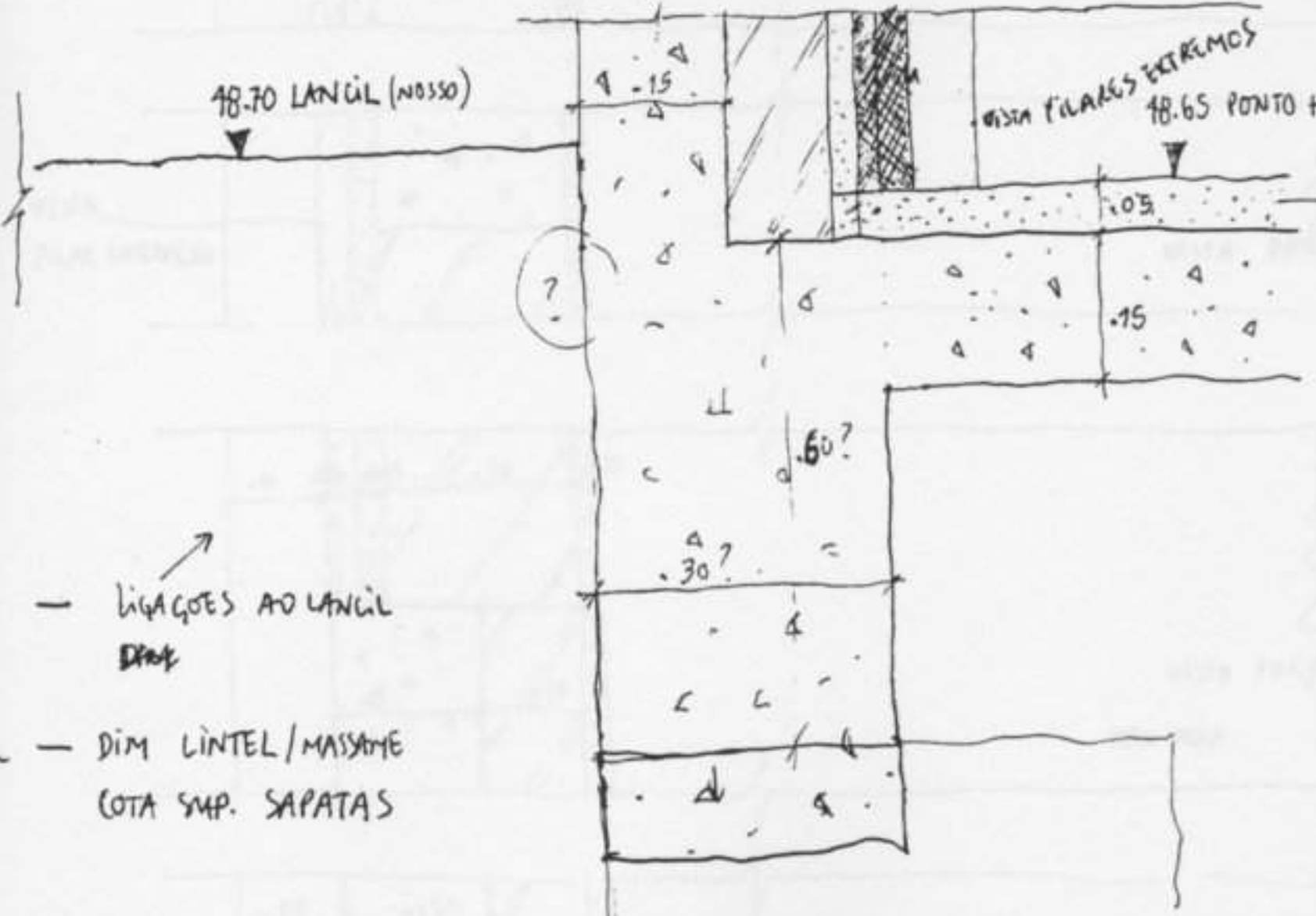
49.50 TOPO ENBASADO
ALHETA NO REDOR 1cm x 1cm



48.70 LANÇIL (NOSSO)

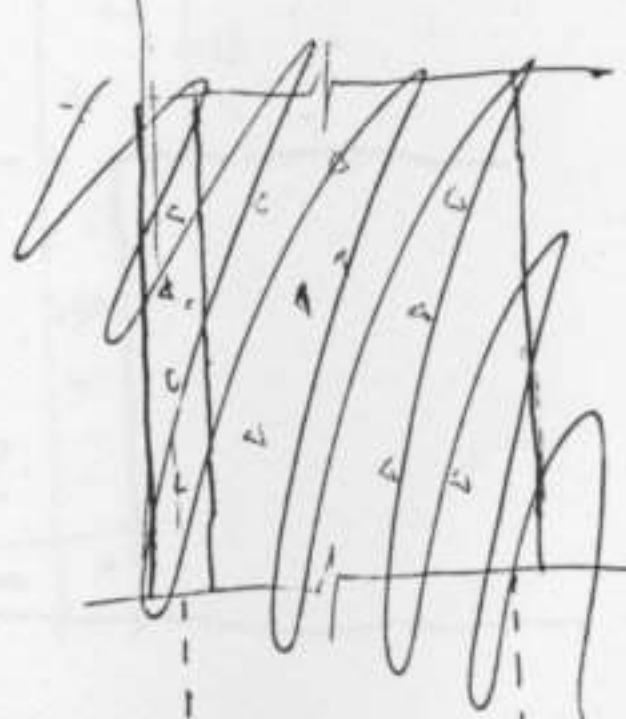
VISTA PILARES EXTREMOS
48.65 PONTO + ALTO

PAV. ABRIGO



DEFINIR — LIGAÇÕES AO LANÇIL

VERIFICAR — DIM LINTEL / MASSAME
COTA SUP. SAPATAS



condições PAREDE / 'CHÃO' / cont.

ABRIGO

(ver esquema) situação depósito parede posterior
A DEFINIR PELA
LARGURA / DIMENSIONAMENTO
PORTÕES

1.00 m

DIM E LEOM. A DEFINIR
EM FUNÇÃO DOS PORTÕES

VISTA PILAR

REMATE VÃOS NO BETÃO

vista pilar

FIXO / BASULANTE?

VISTA PILAR

VISTA
PILAR EXTREMO

.16 ? MALHA / VIGAS?
TECIDO FALSO? → COBERTURA DEP.
MATERIAL

VISTA
PILAR INTERMÉDIO

VISTA PAREDE DEPÓSITO

VISTA PAREDE DEPÓSITO

VISTA PAREDE

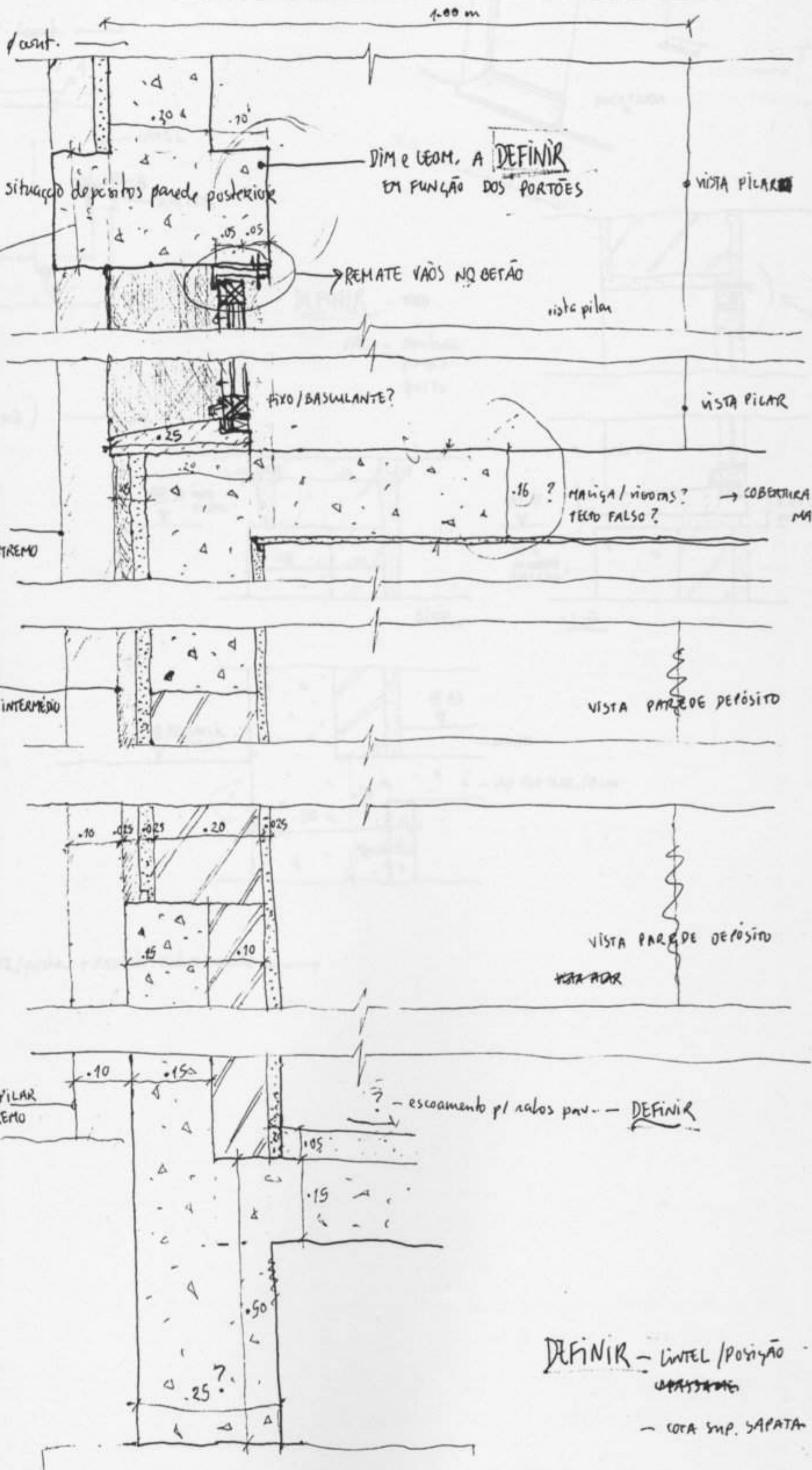
VISTA PILAR
EXTREMO

escoramento pt cabos par. - DEFINIR

DEFINIR (ARG)

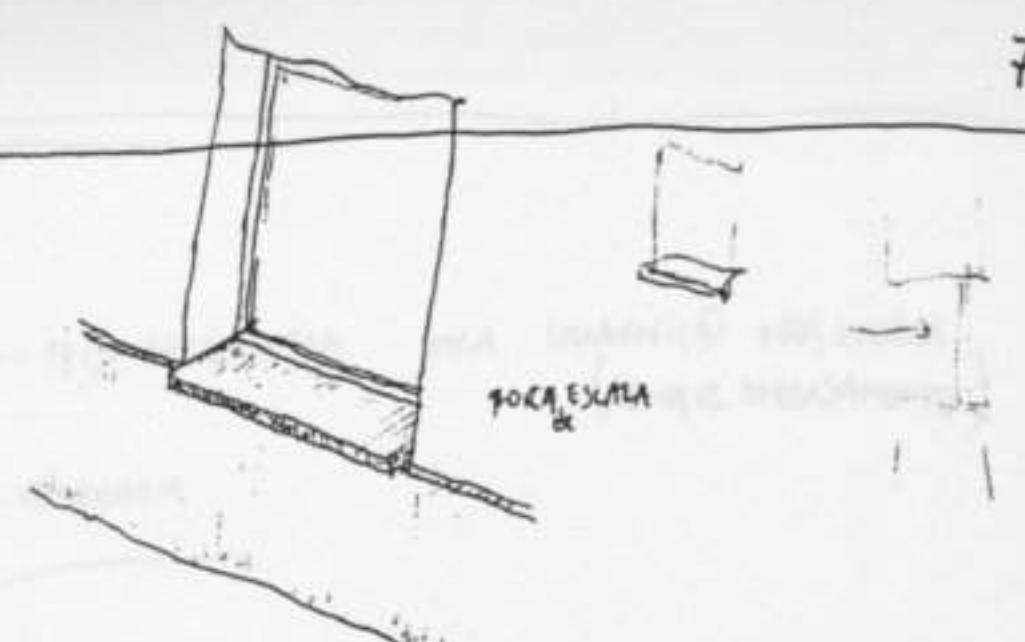
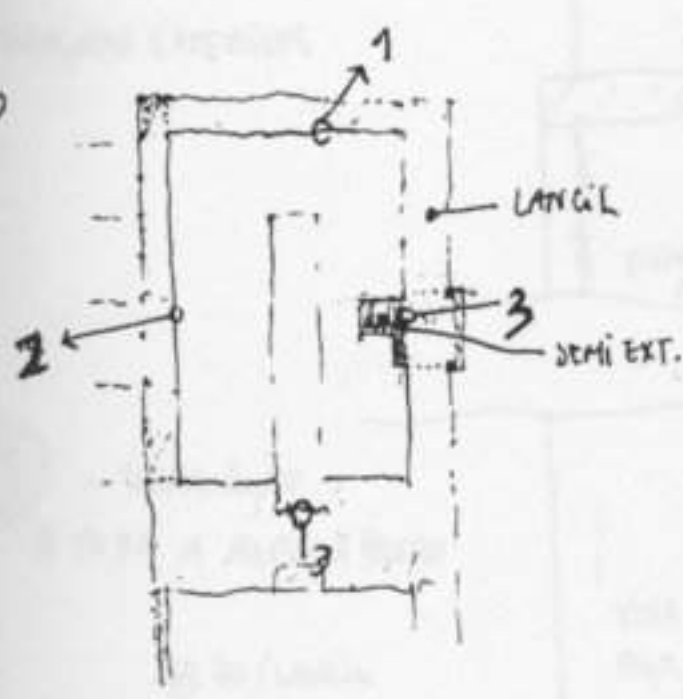
PERFIL - CHIXILHO / PERFIS
ABERTURA / FIXO
PEITO
DIM

DEFINIR - LINTEL / POSIÇÃO
- COFA SUP. SAPATA



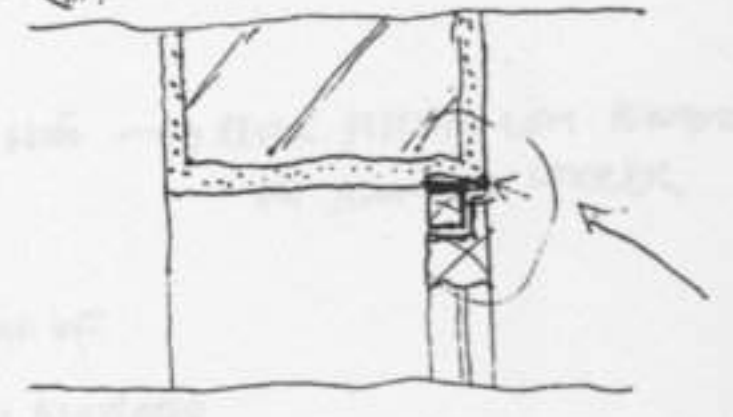
CONTRO) PAREDE / 'CHÃO' / cont.

REQUANTO

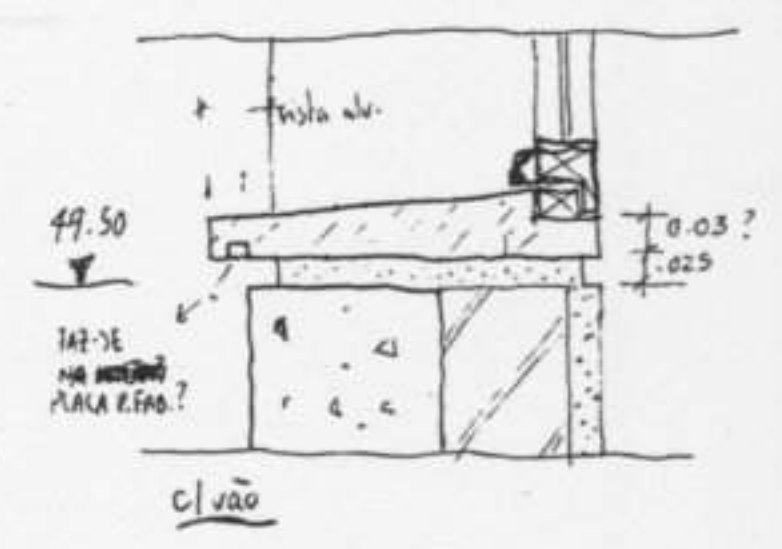
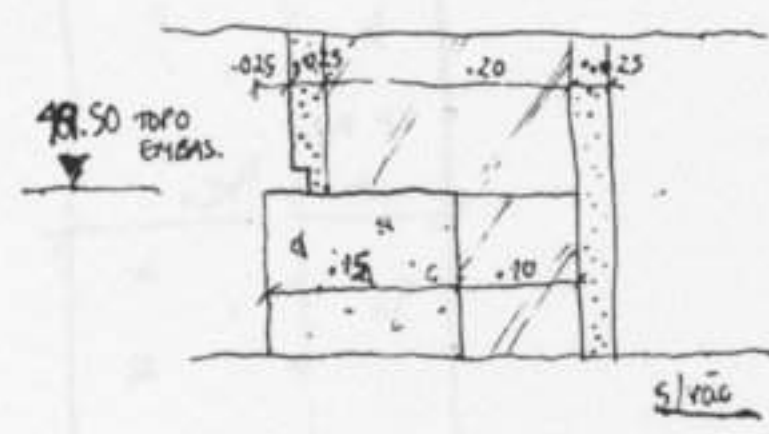


DEFINIR - FERR

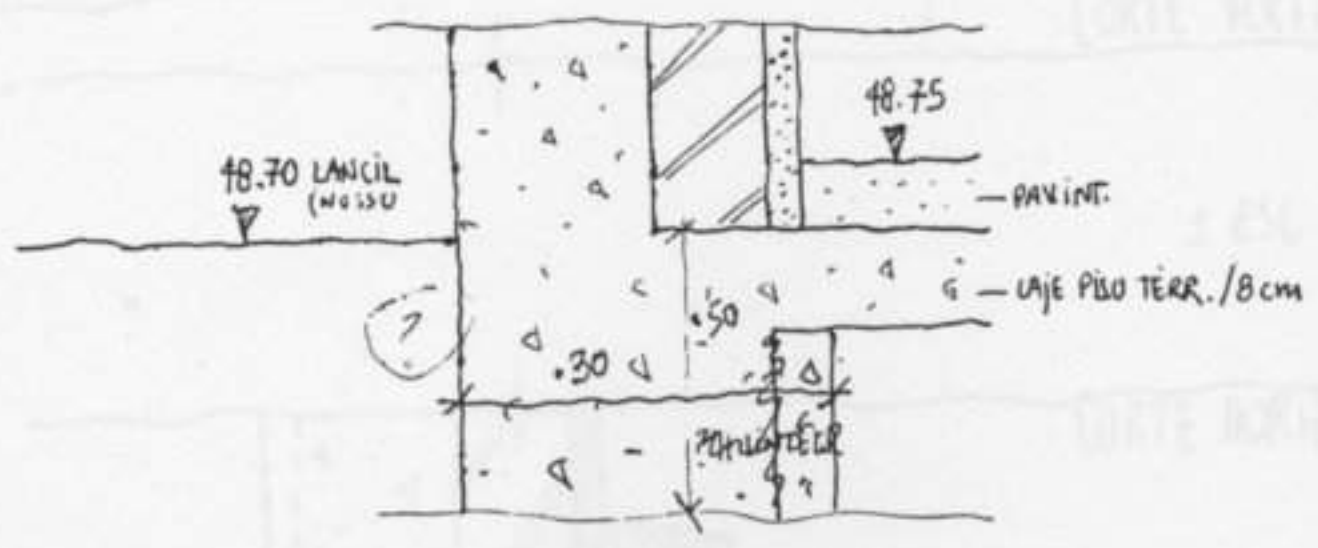
VAO - Abertura para o peito



parede / lançil (vão ou não) →



DEFINIR - transição lançil



para vao envid. exterior / porta + remate subasamento →

... VÃO ENVIDRAÇADO EXTERIUR

PEÇA BETÃO P. FAB. PARA GUARNIÇÃO VÃO SOLEIRA (REMATE EMBASAMENTO)

VE CORRER

VISTA ~~...~~ PEÇA REMATE

... LUZÃO ① - GUARNIÇÃO A TODA A ALTURA DO VAO

48.70/LANCIL

BOCEIRA EM PEÇA BETÃO → REVER DESENHO COM FORMADOR VAO ALUMINIO CORRER

48.75

VISTA ~~...~~ PEÇA DE REMATE

PAV. INT

laje ISOTÉRMICO

50

30

CORTE VERTICAL

± ESC. 1:10

CORTE HORIZONTAL

ALINHAMENTO DA ALVENARIA (POR CIMA)

EXT

INT

REMATE EMBASAMENTO E VÃO SOLEIRA PEÇA BETÃO : 30 x 255 x 5

: 30 x 80(?) x 5

VISTA DA SOLEIRA

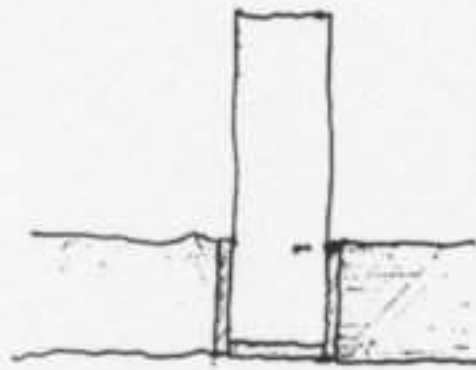
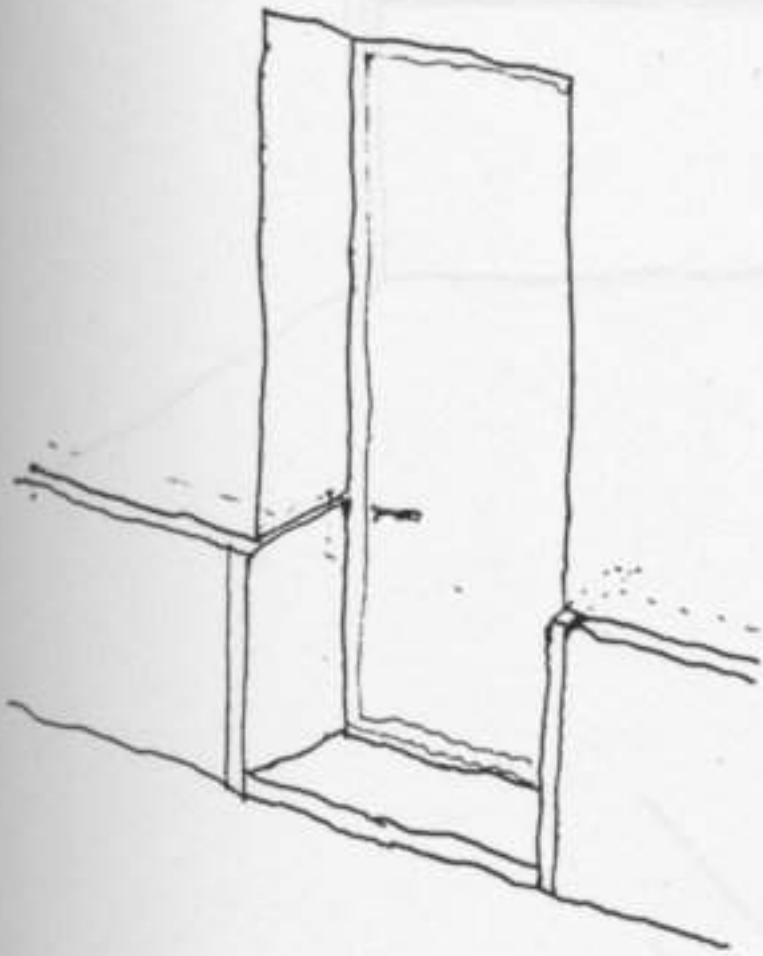
VE CORRER



... / cont.

... NÃO ENVIGRAÇADO EXTERIOR

... ② - GUARAR REMATE SÓ ATÉ ALTURA EMBASAMENTO

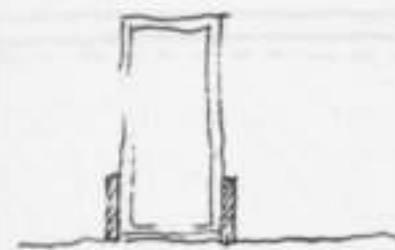
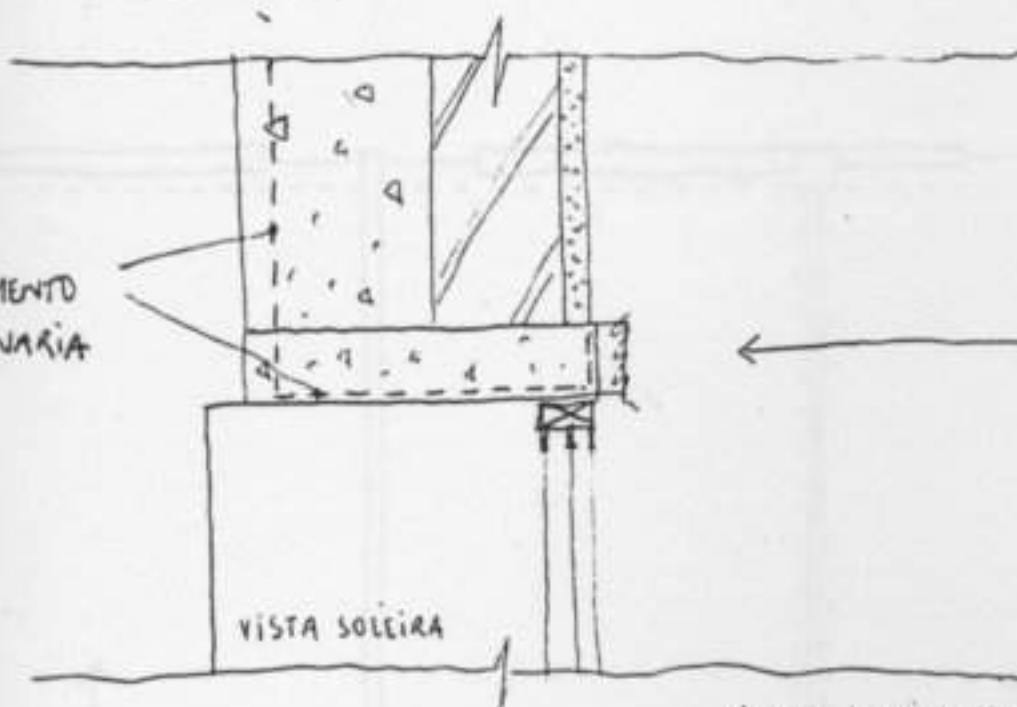


ALINHAMENTO ALVENARIA



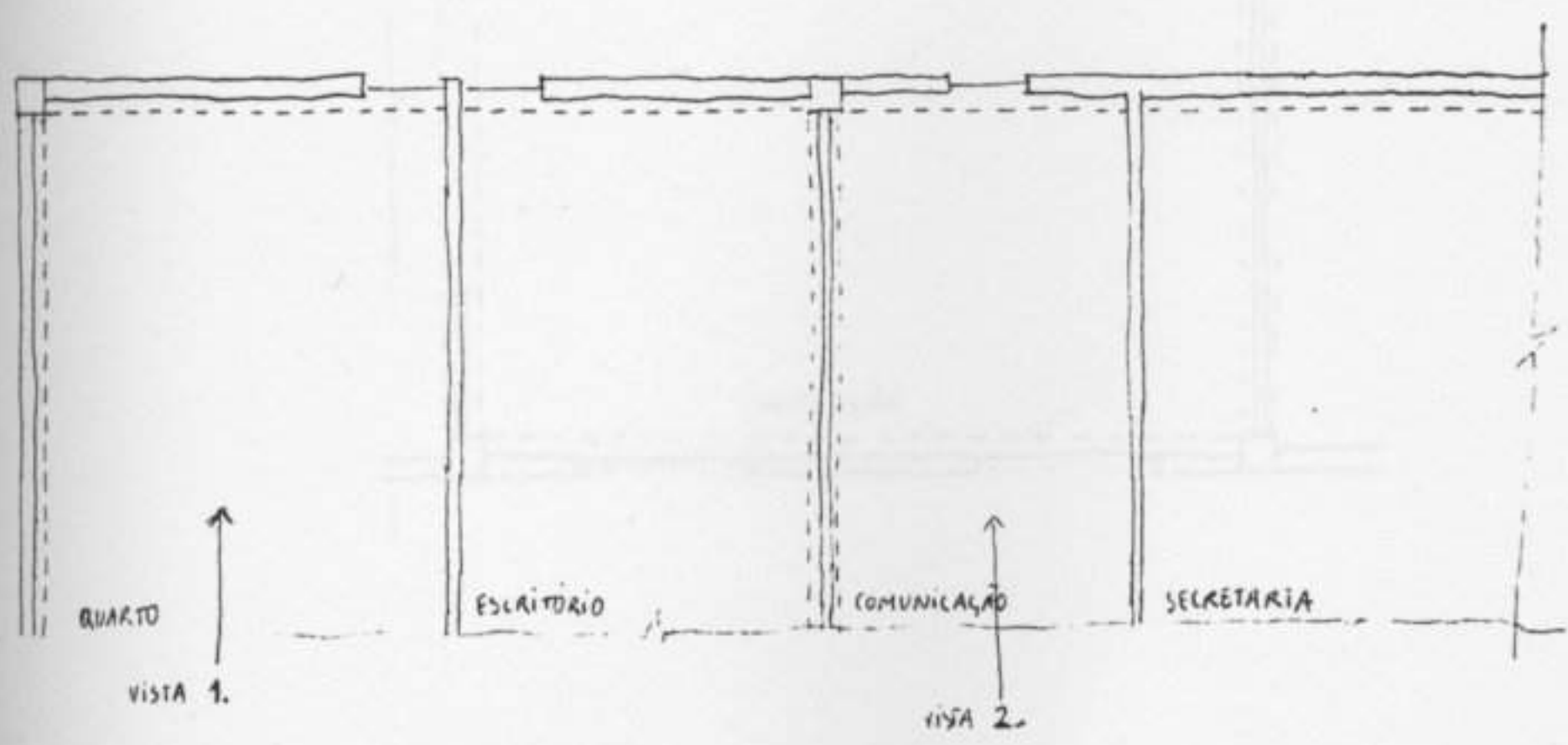
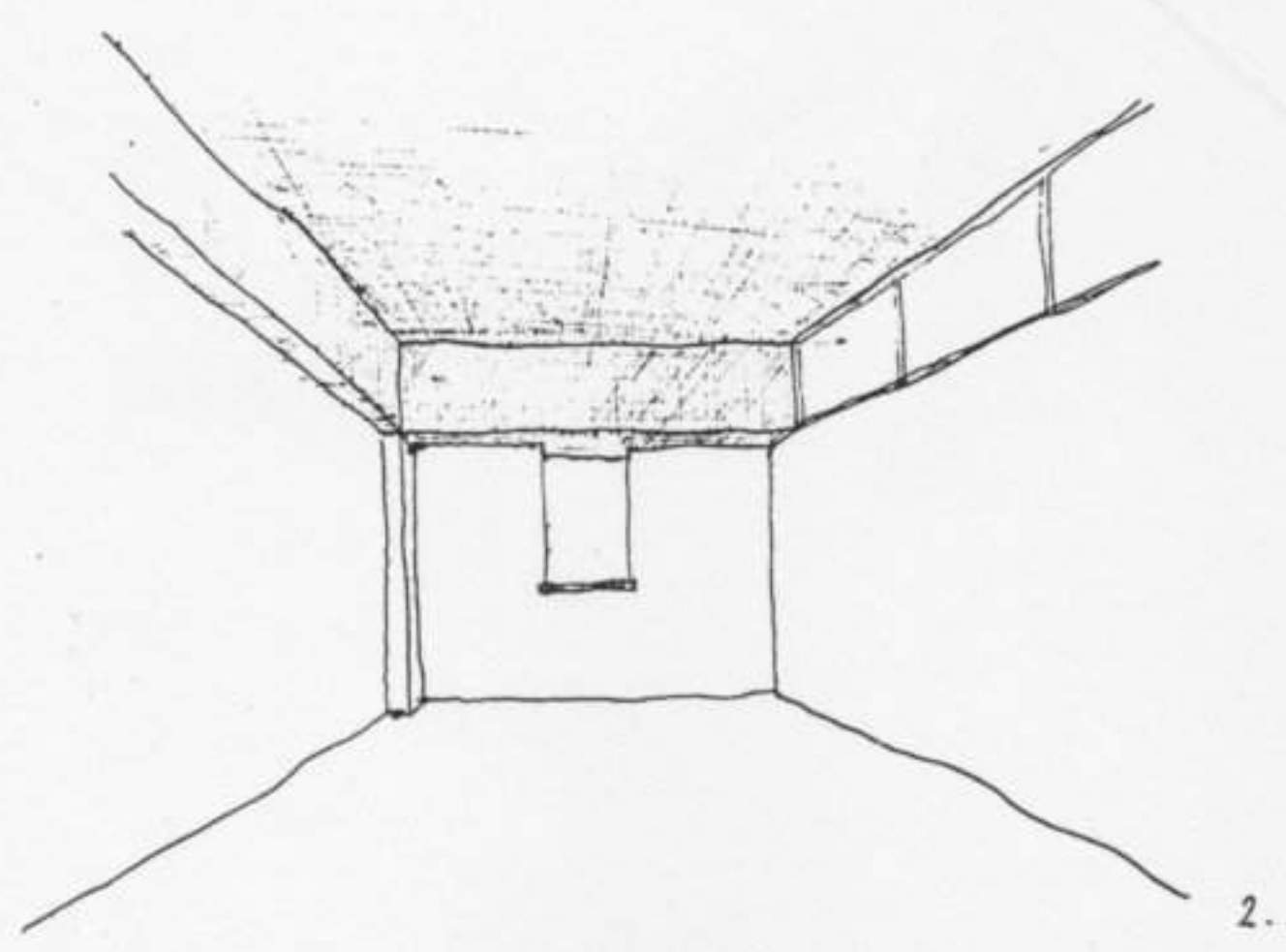
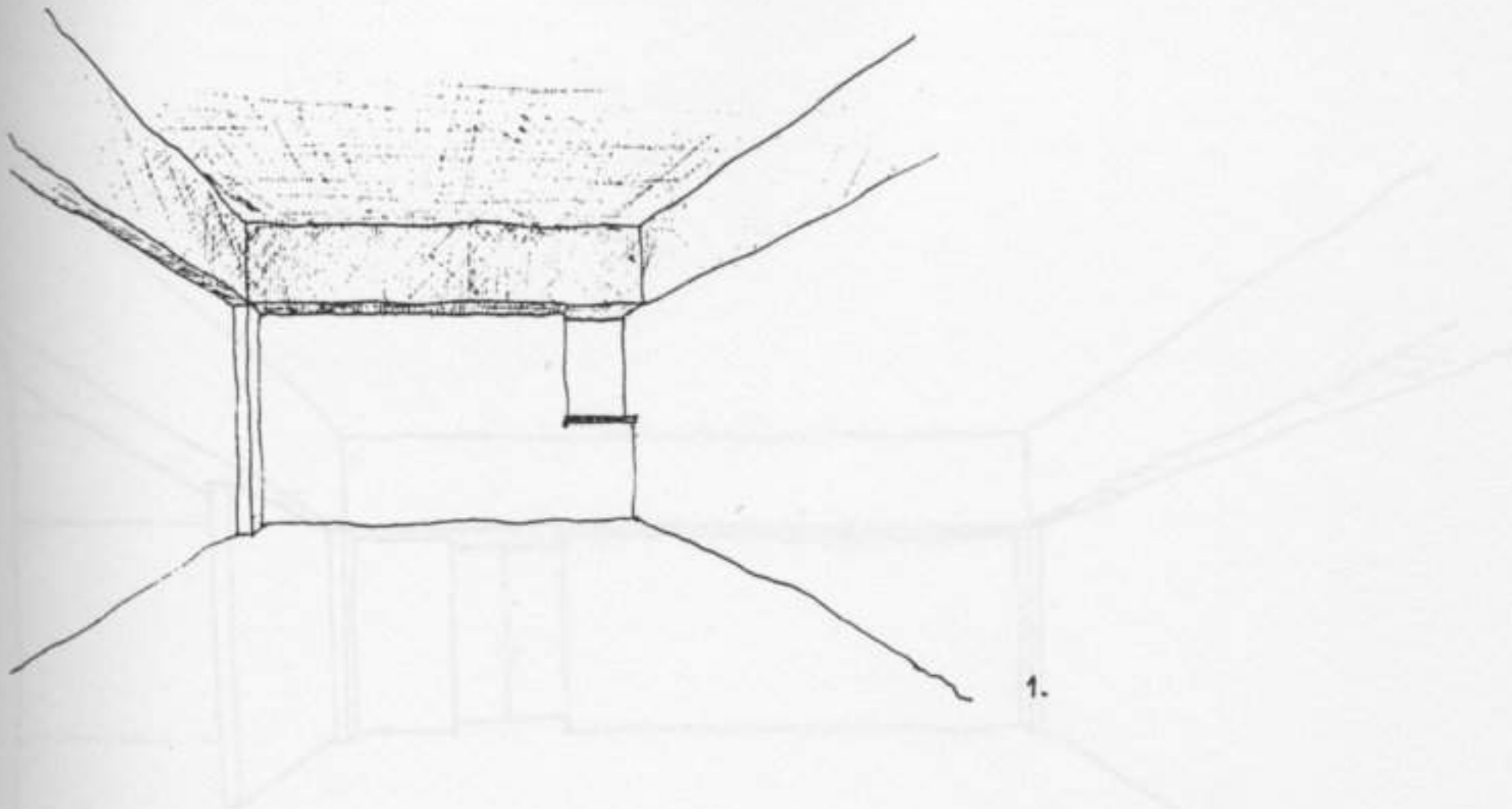
VISTA PELO INTERIOR

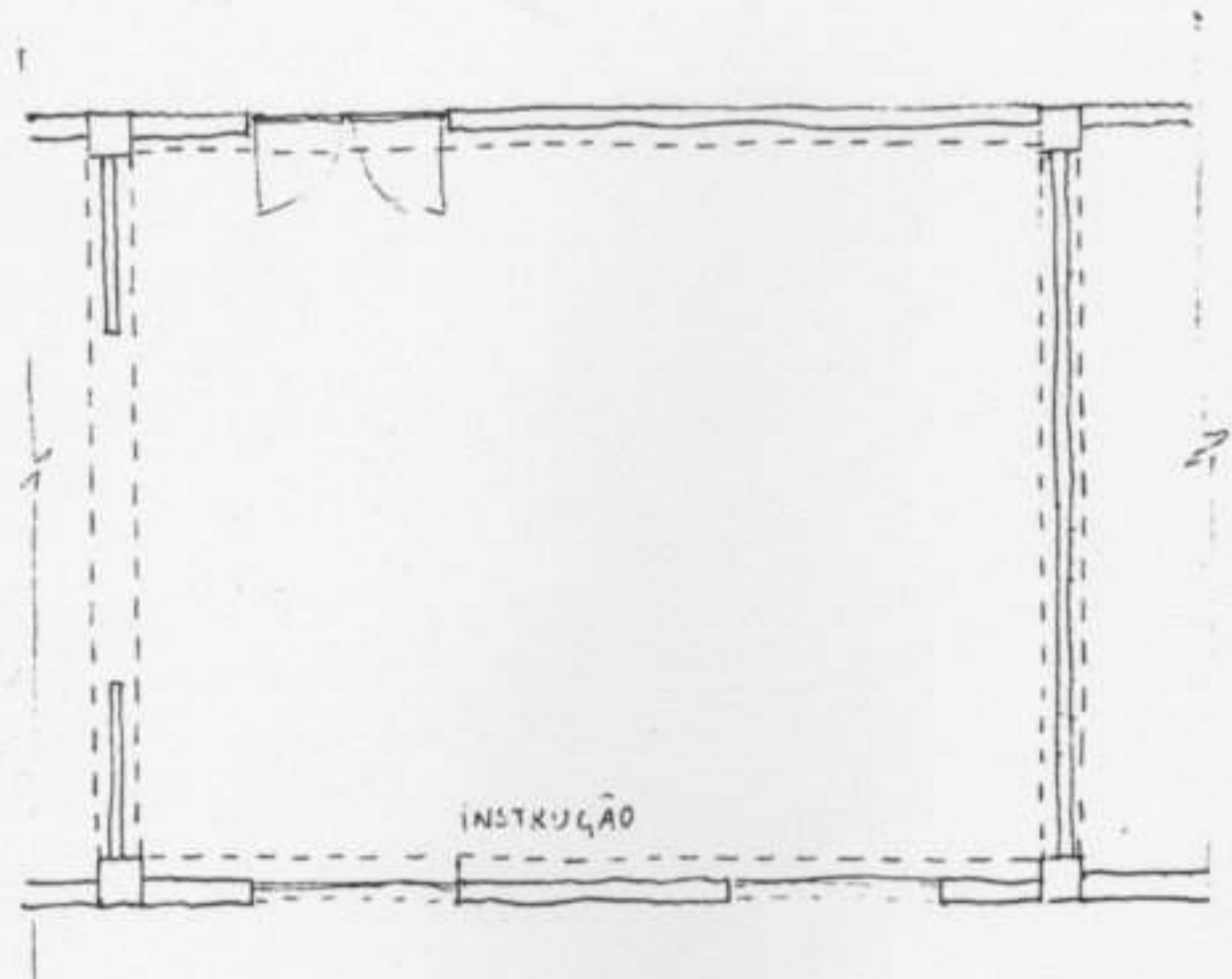
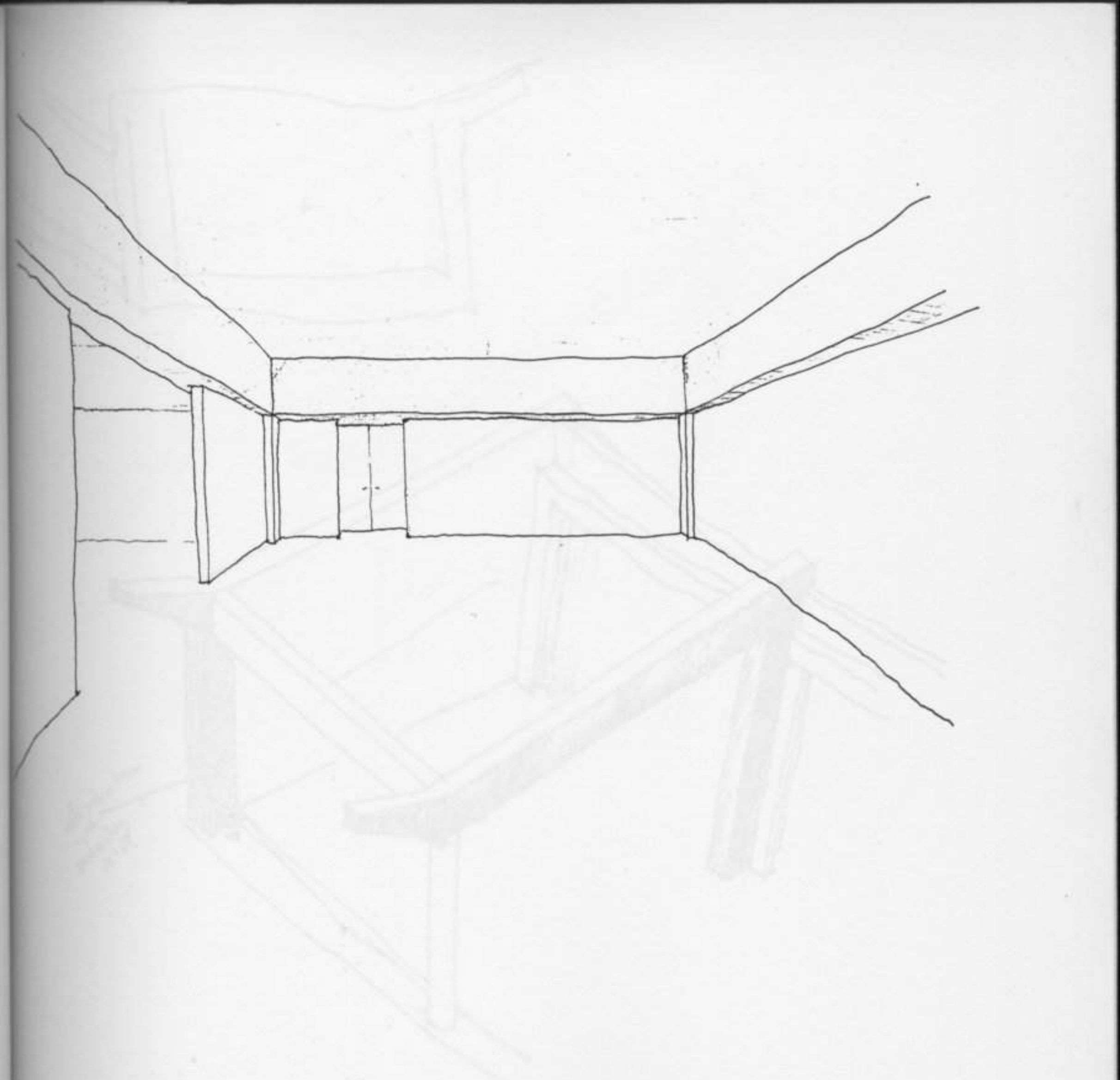
ALINHAMENTO ALVENARIA

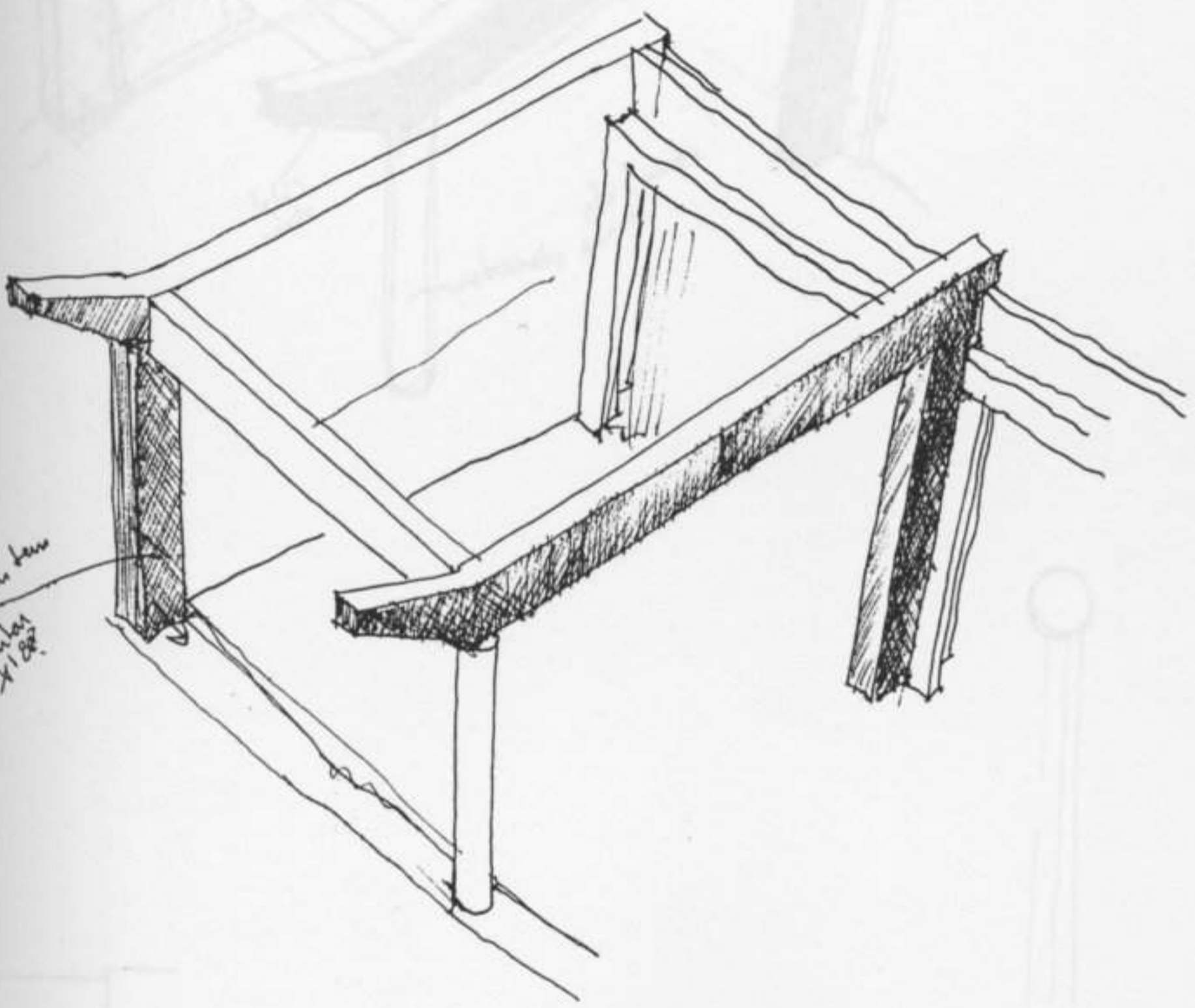
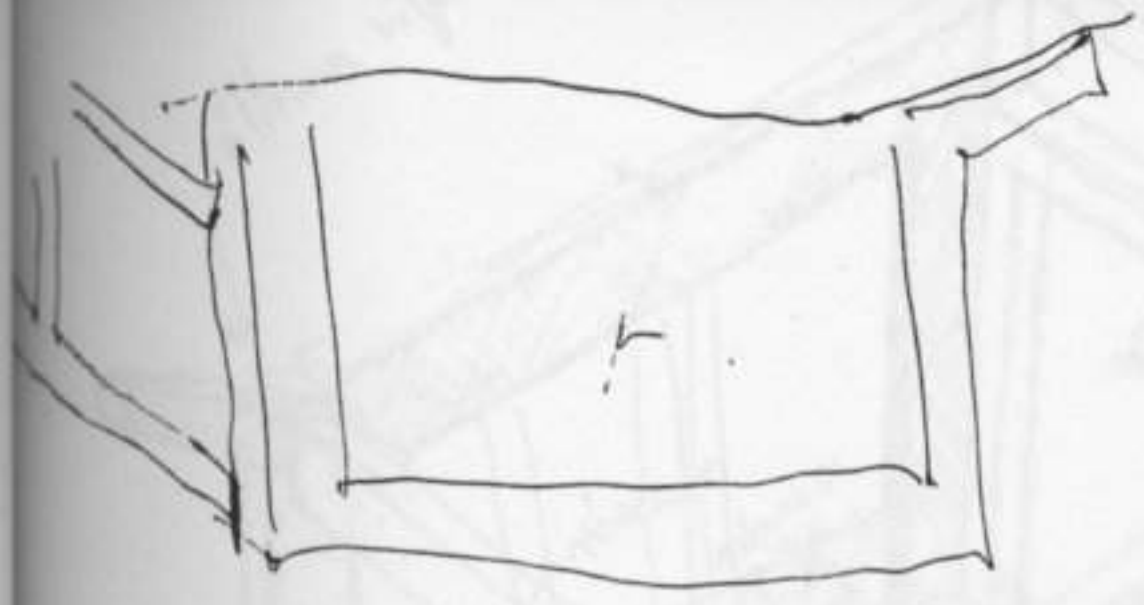


VISTA PELO INTERIOR

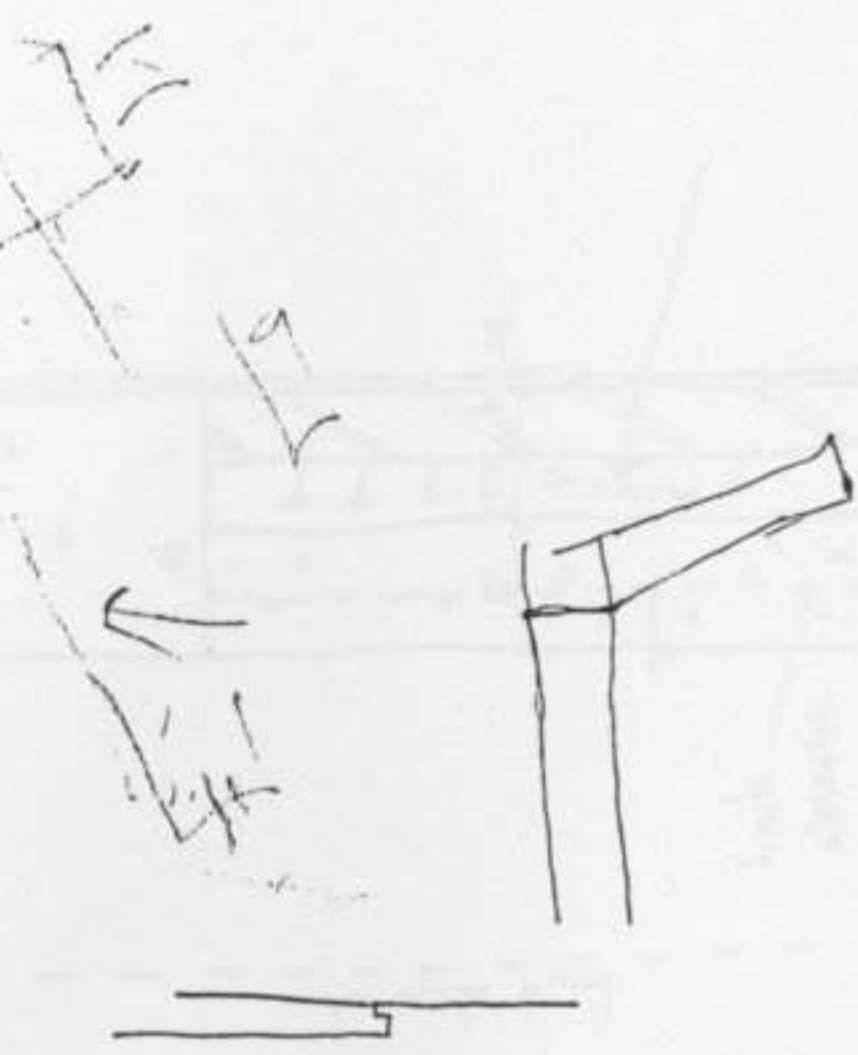
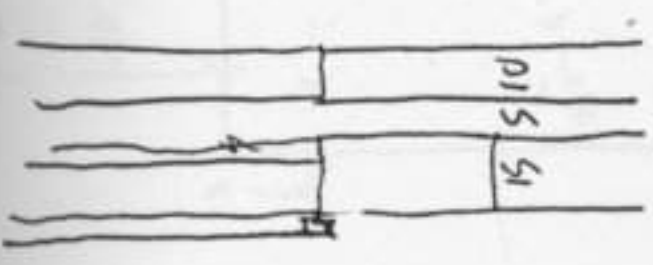
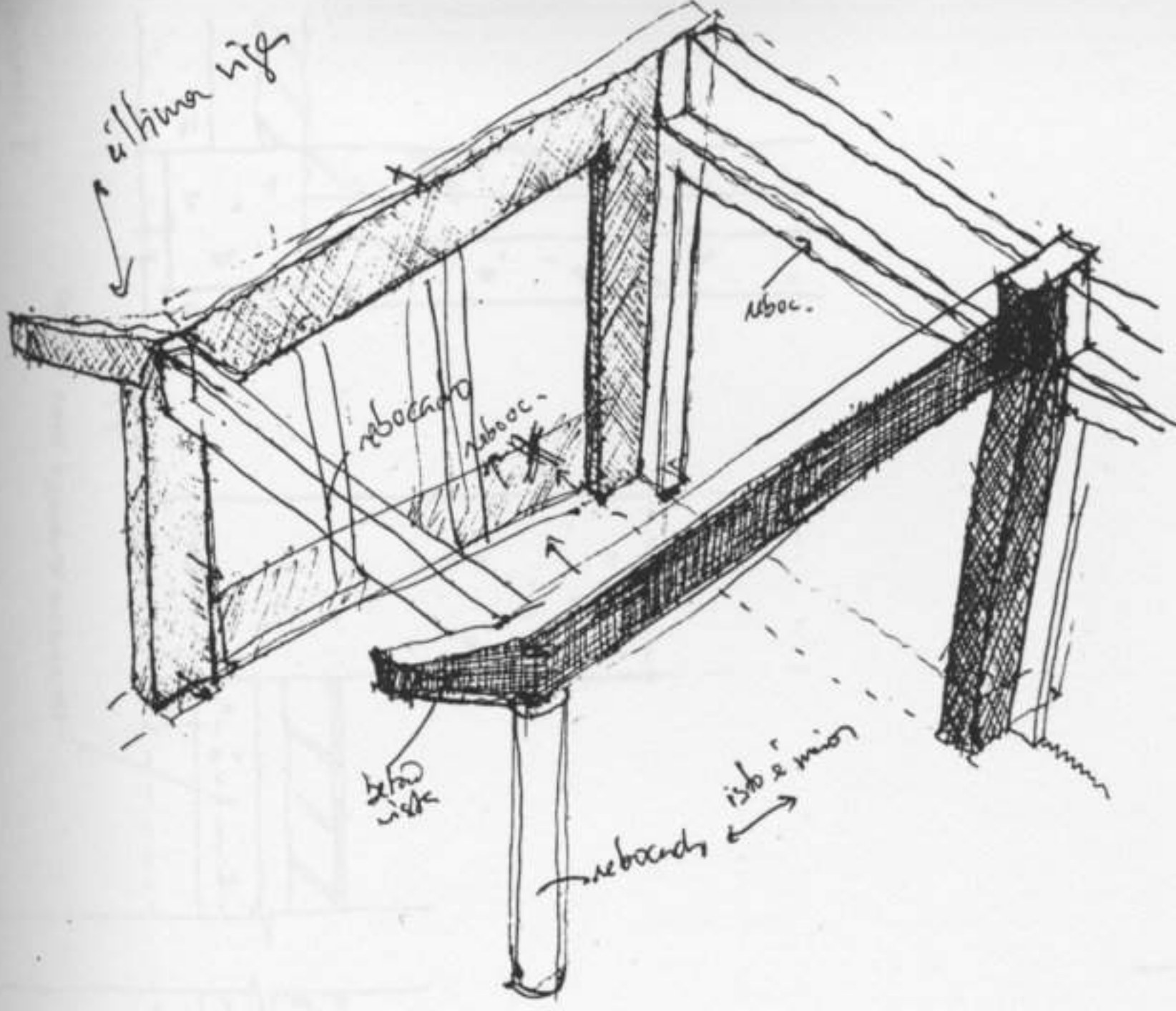
CORTE HORIZONTAL







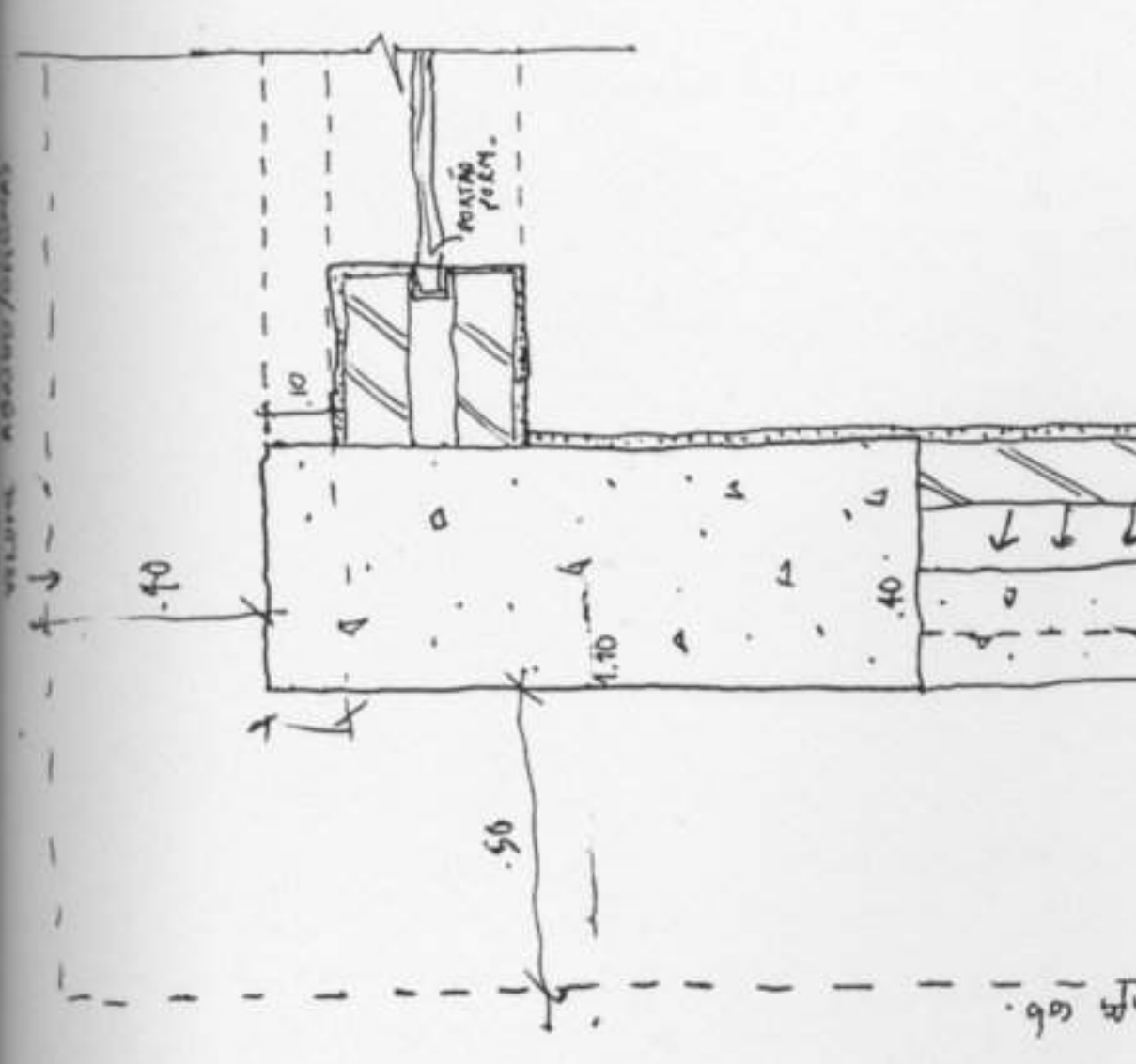
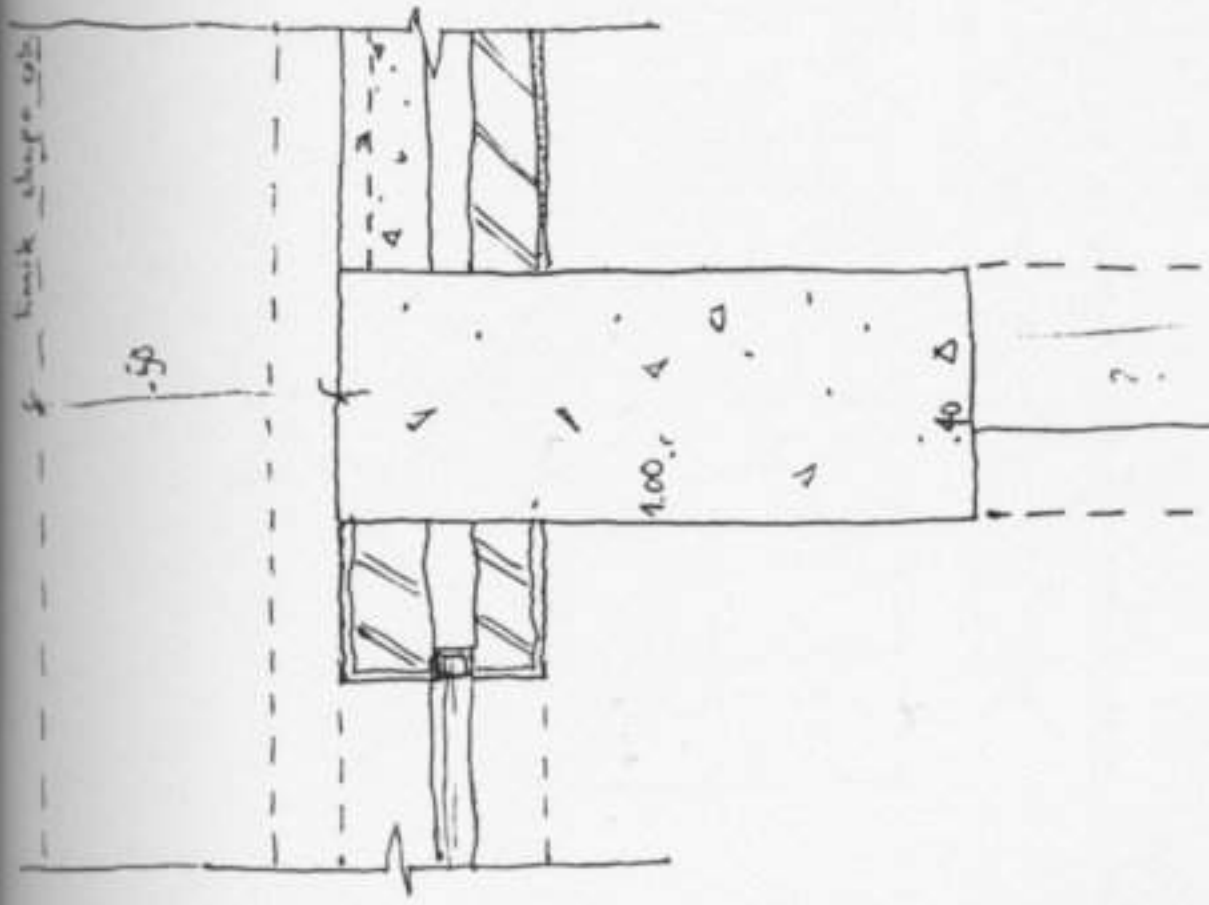
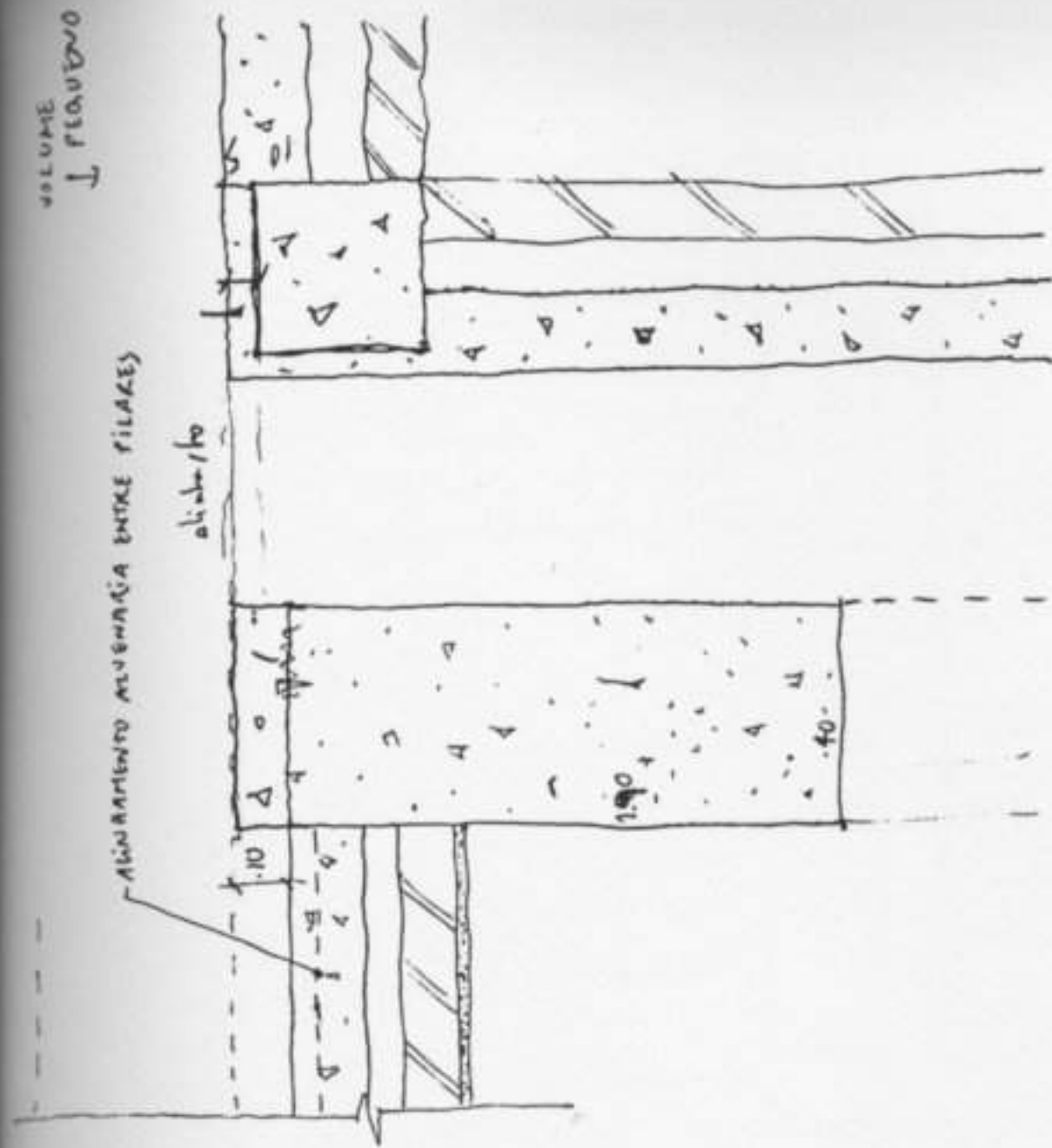
step into base
year
columns
X 1887



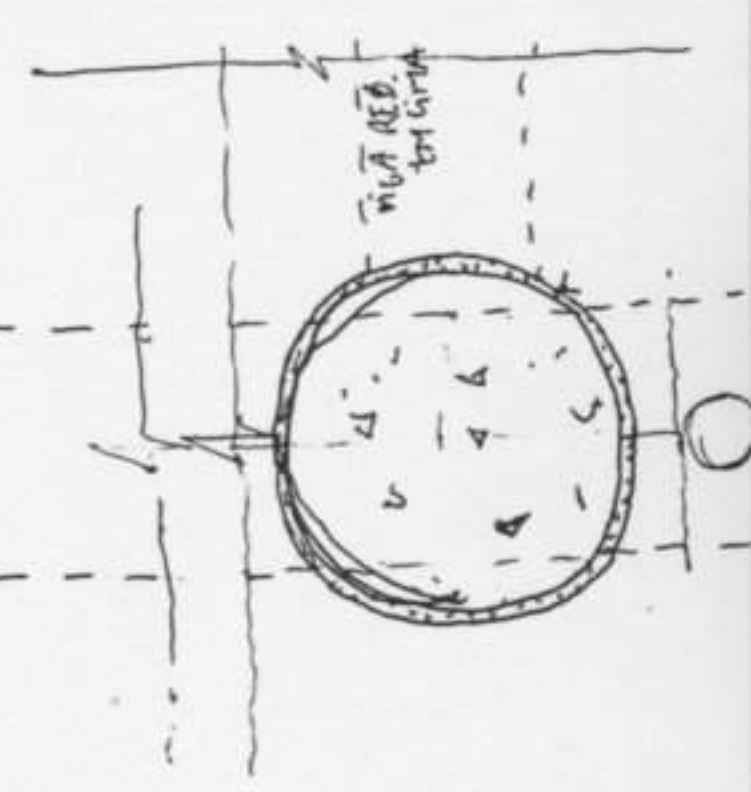
VOLUME
↓
RELEVANO

AGUARRAMENTO ALTERNANCIA ENTRE FILAZES

alinhado



Plano de Fôrça - A

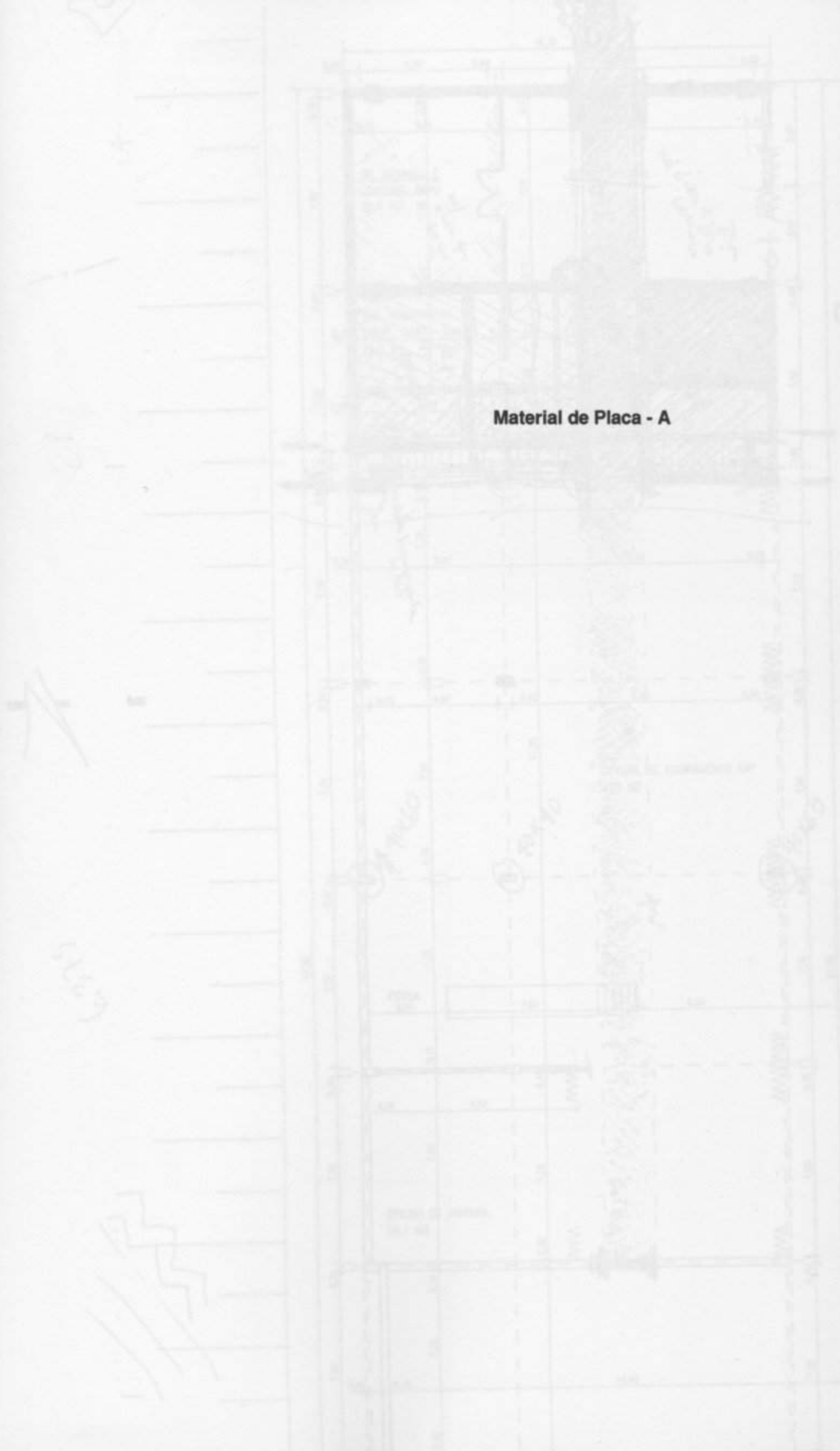


limite
atenuada

limite chapé cob.

alinhado

3



Material de Placa - A

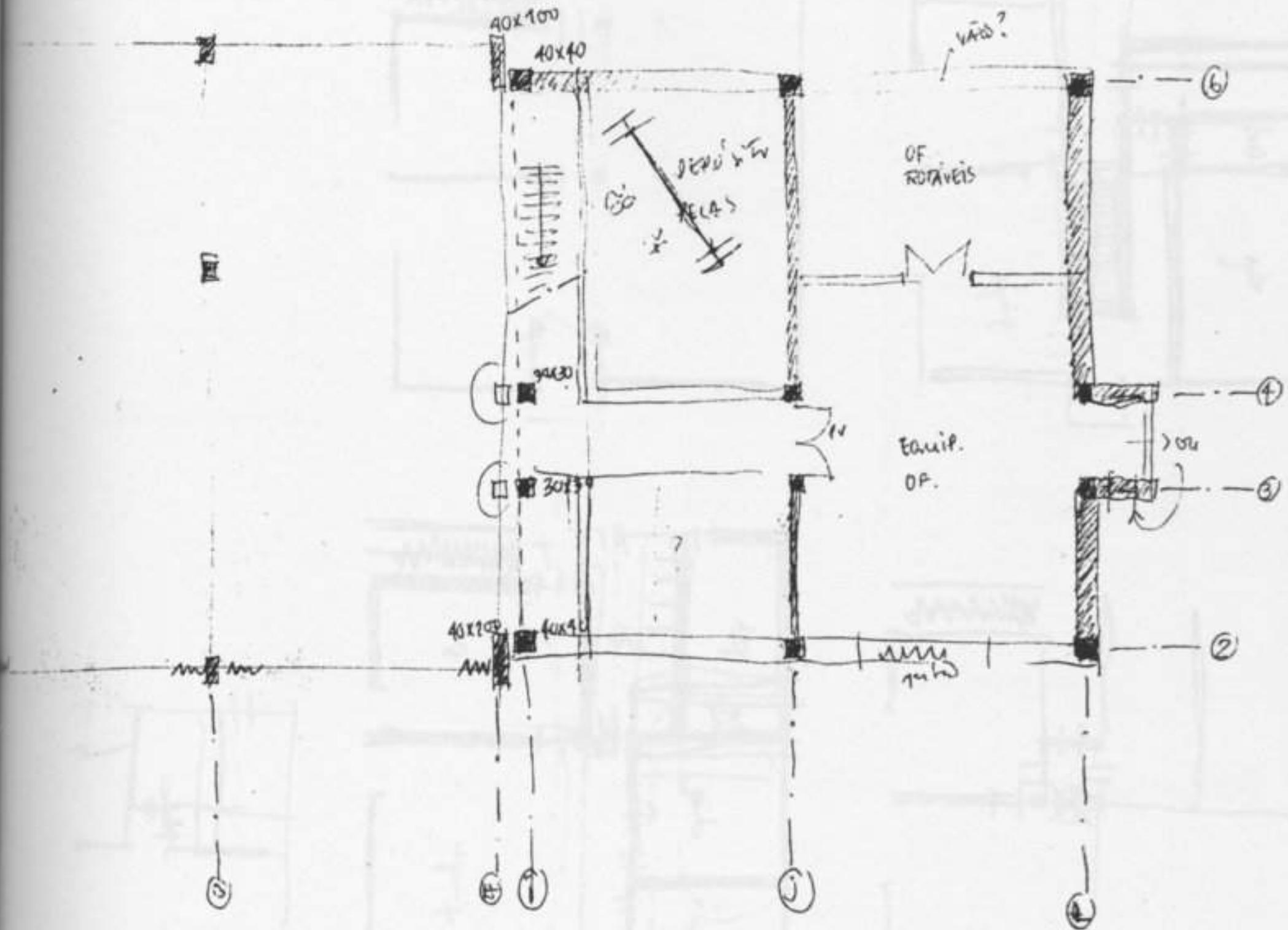
1/2

F. YAT
T-MALTA

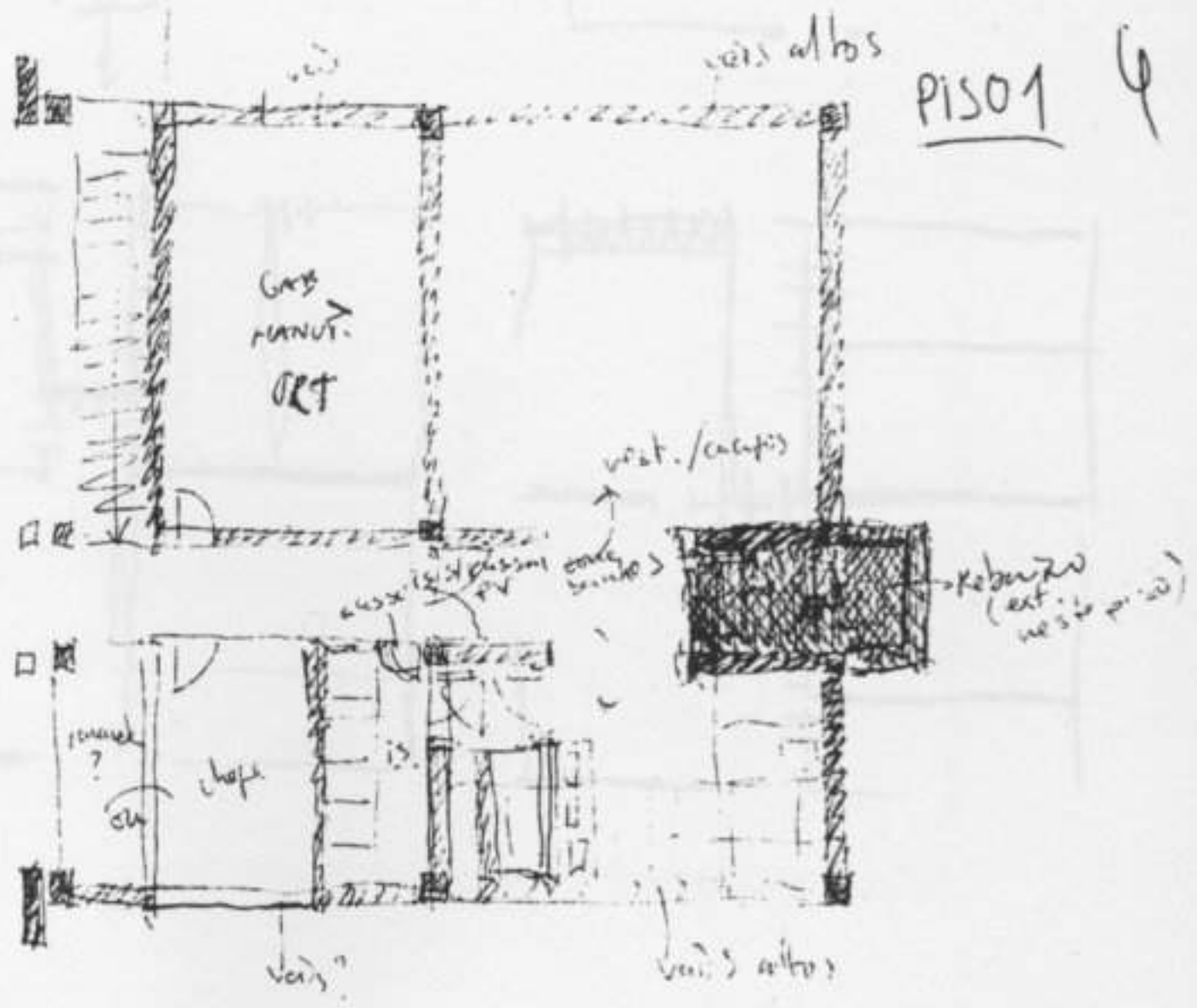
MATERIAL DE PLACA - TAP 1:200 / OAYS

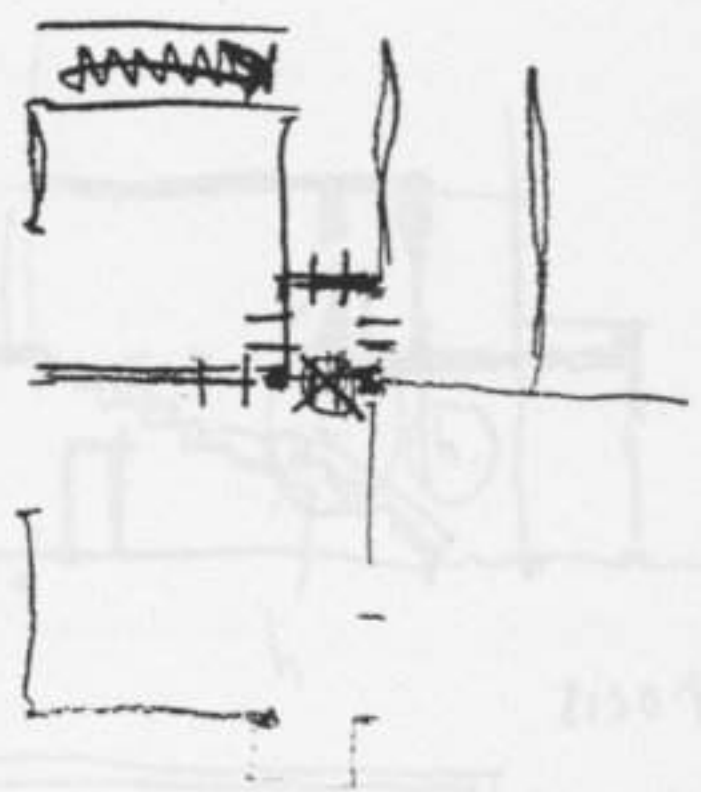
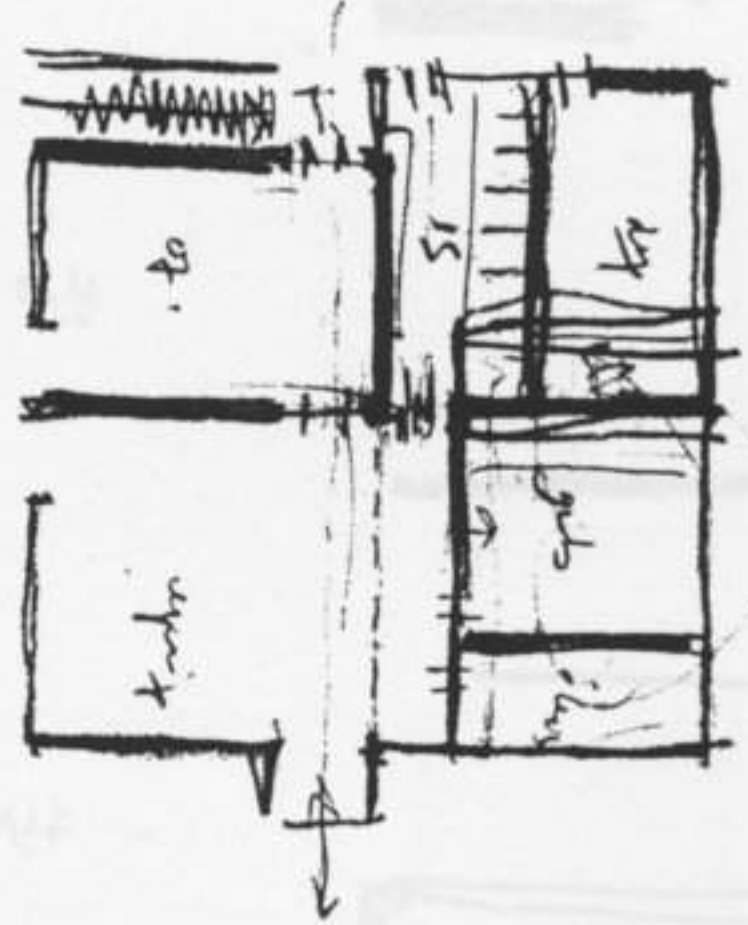
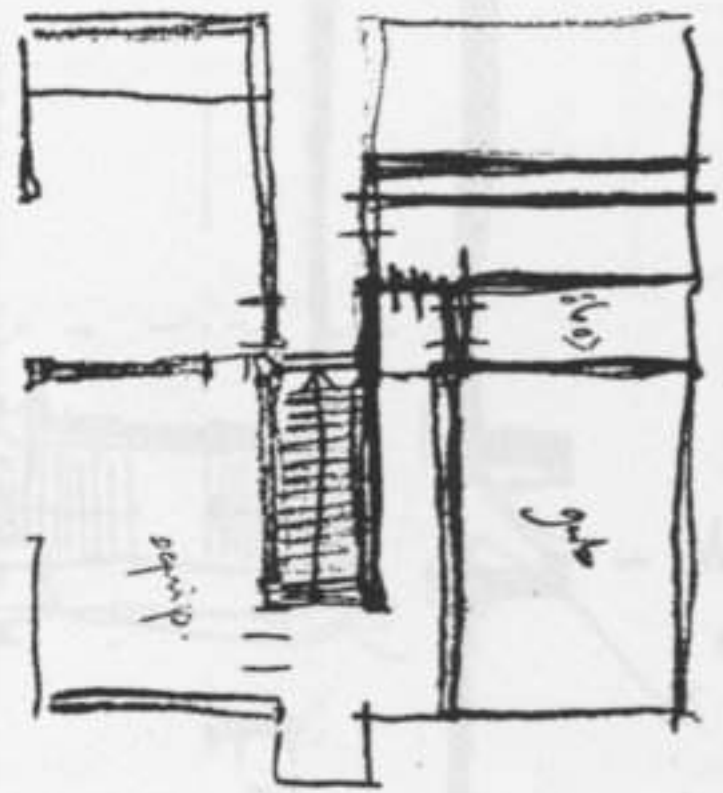
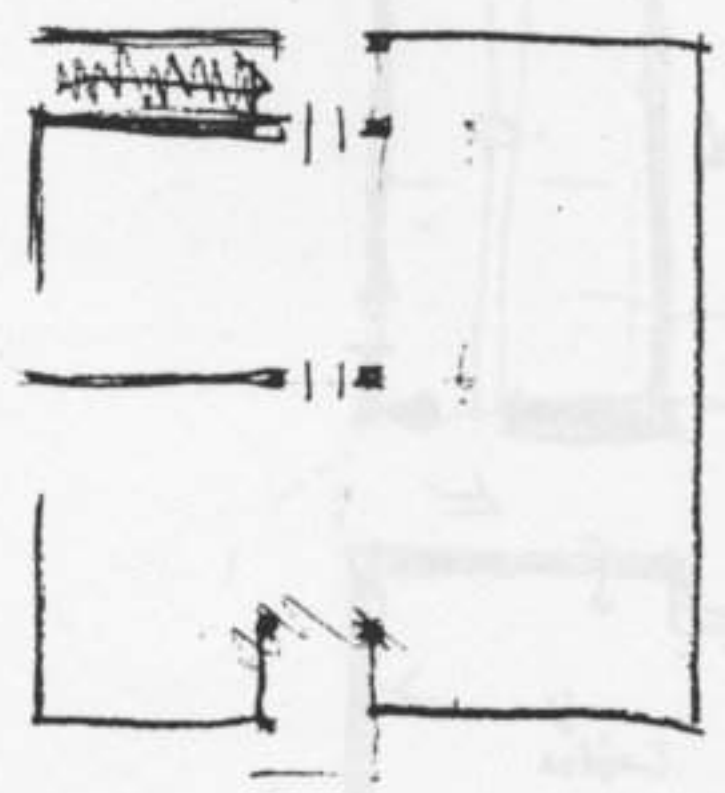
18.3.98

TAP - PISO 0

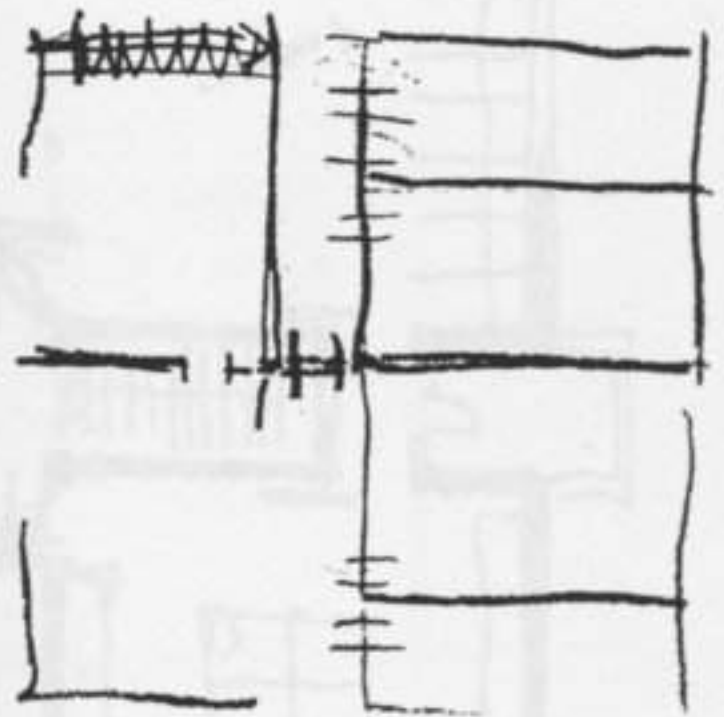
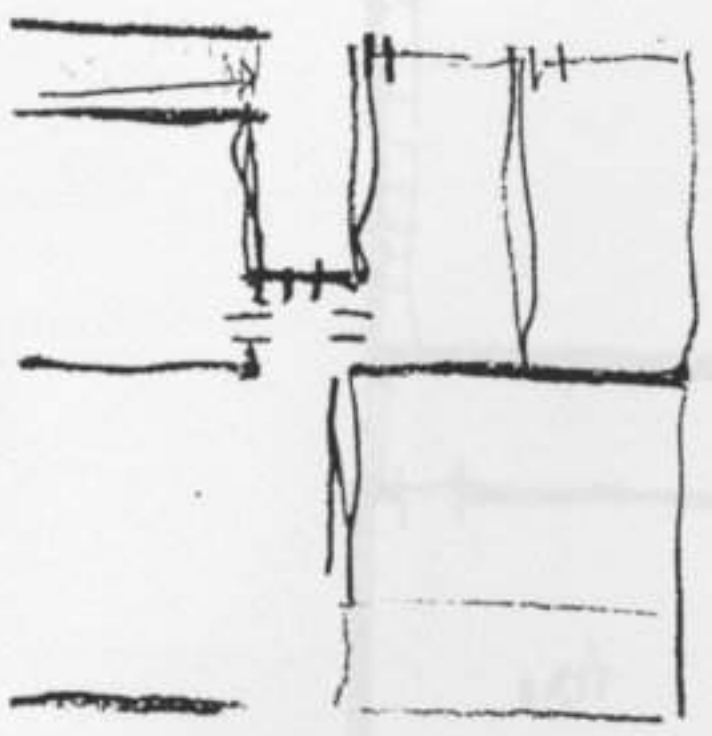
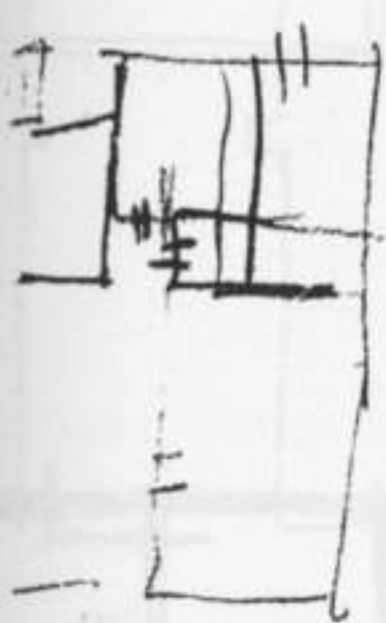


LOAD C.

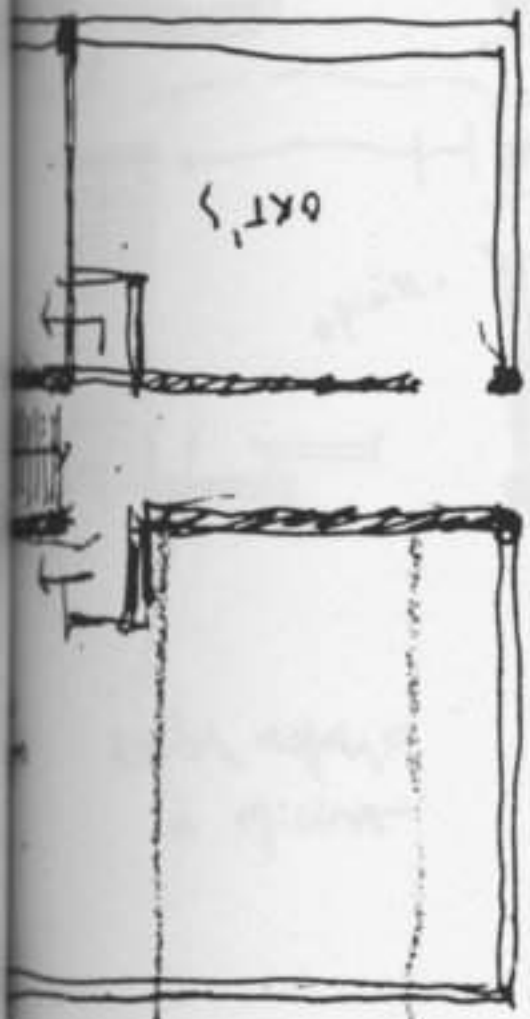
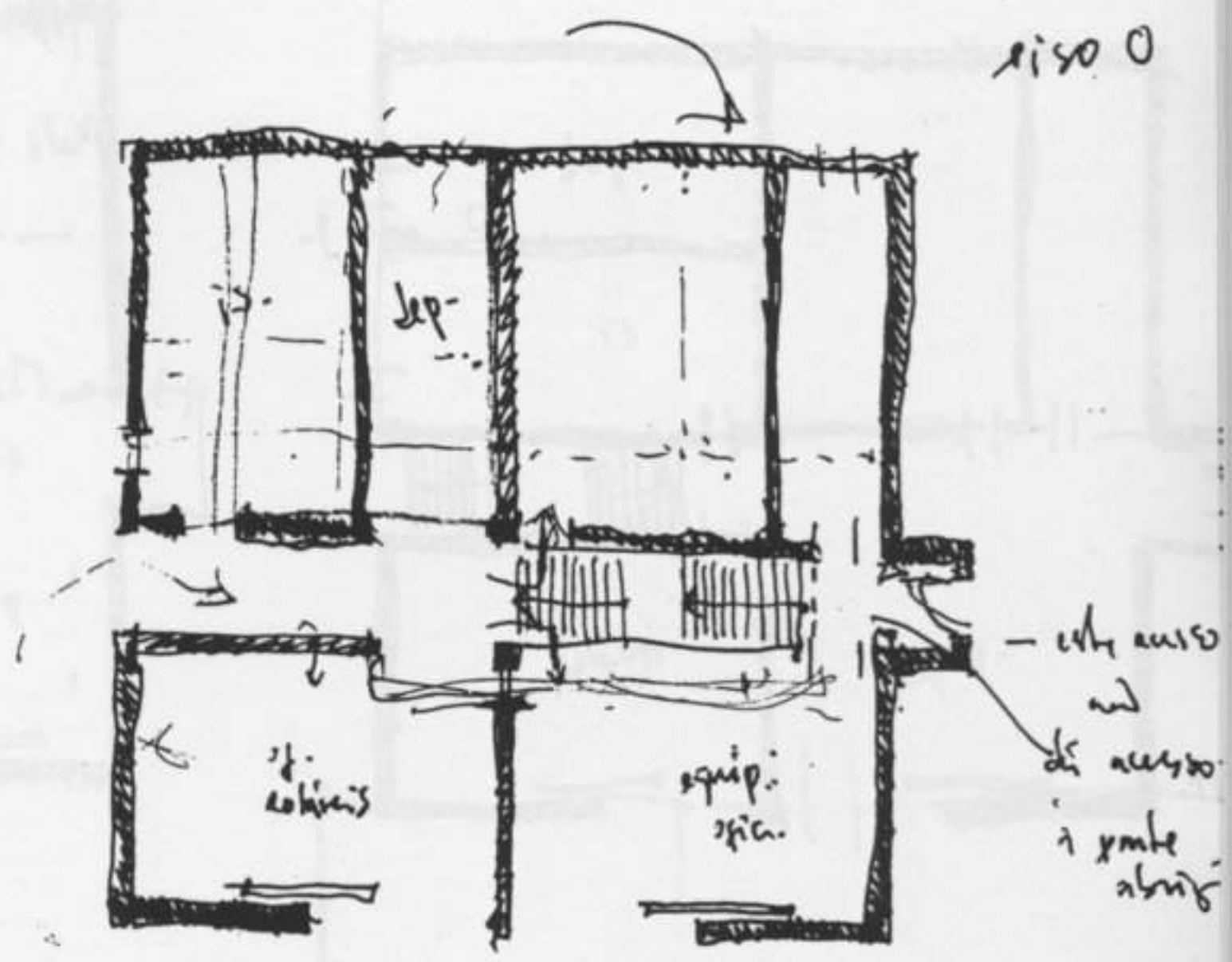




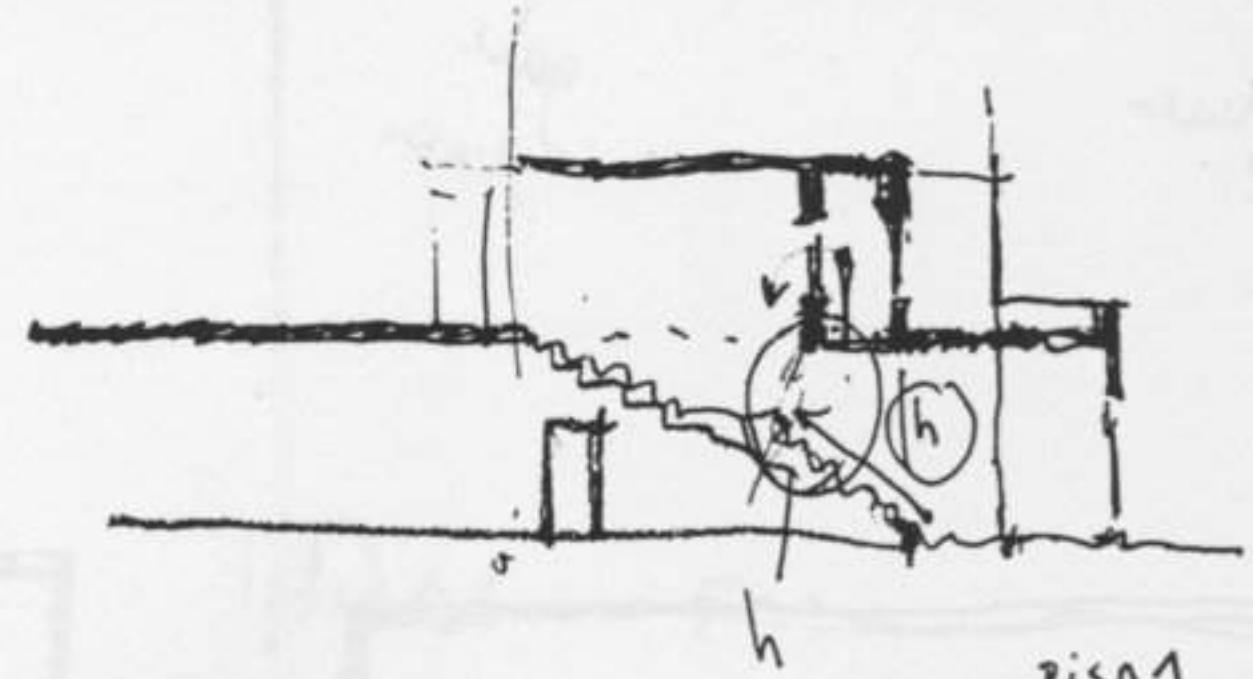
1958X



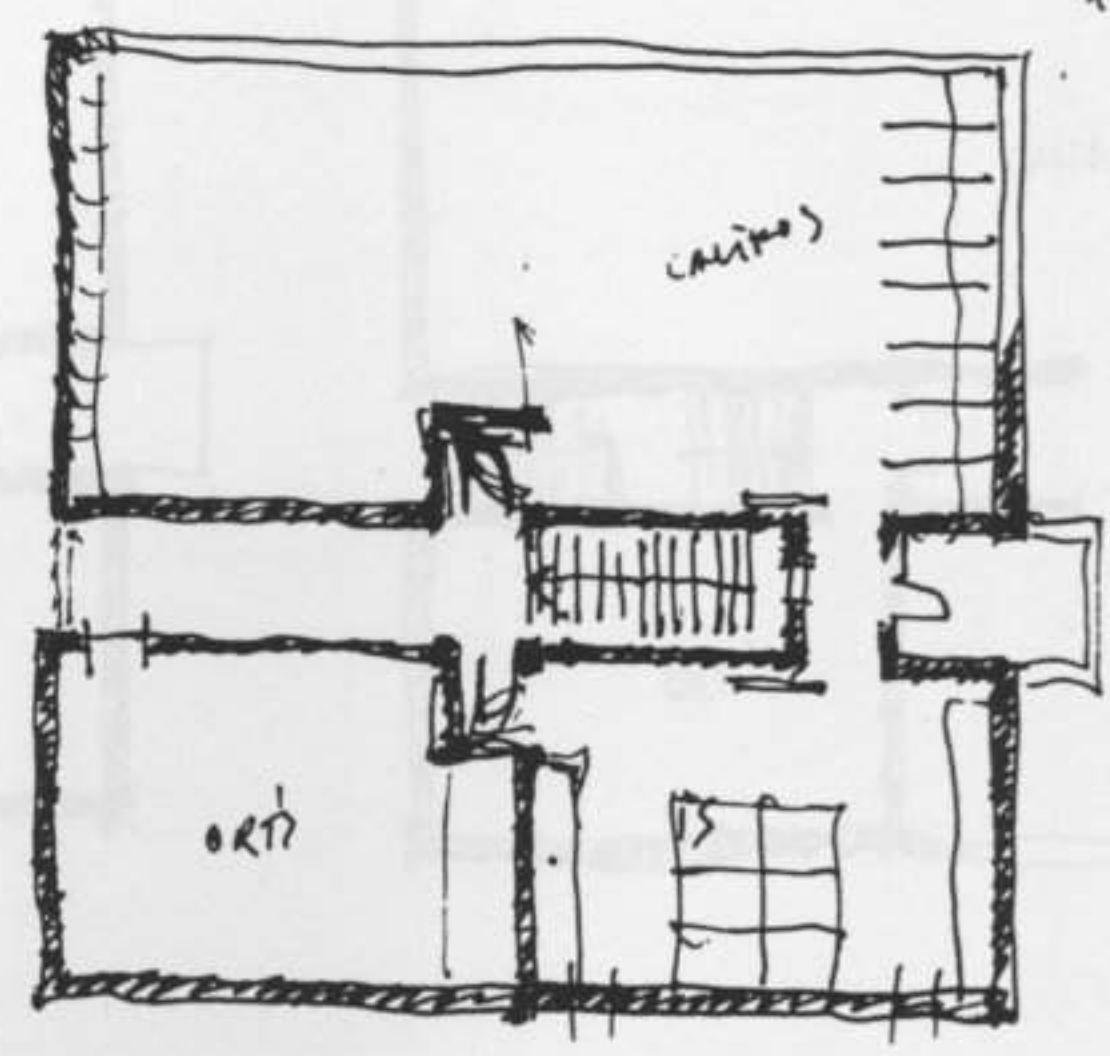
riso 0

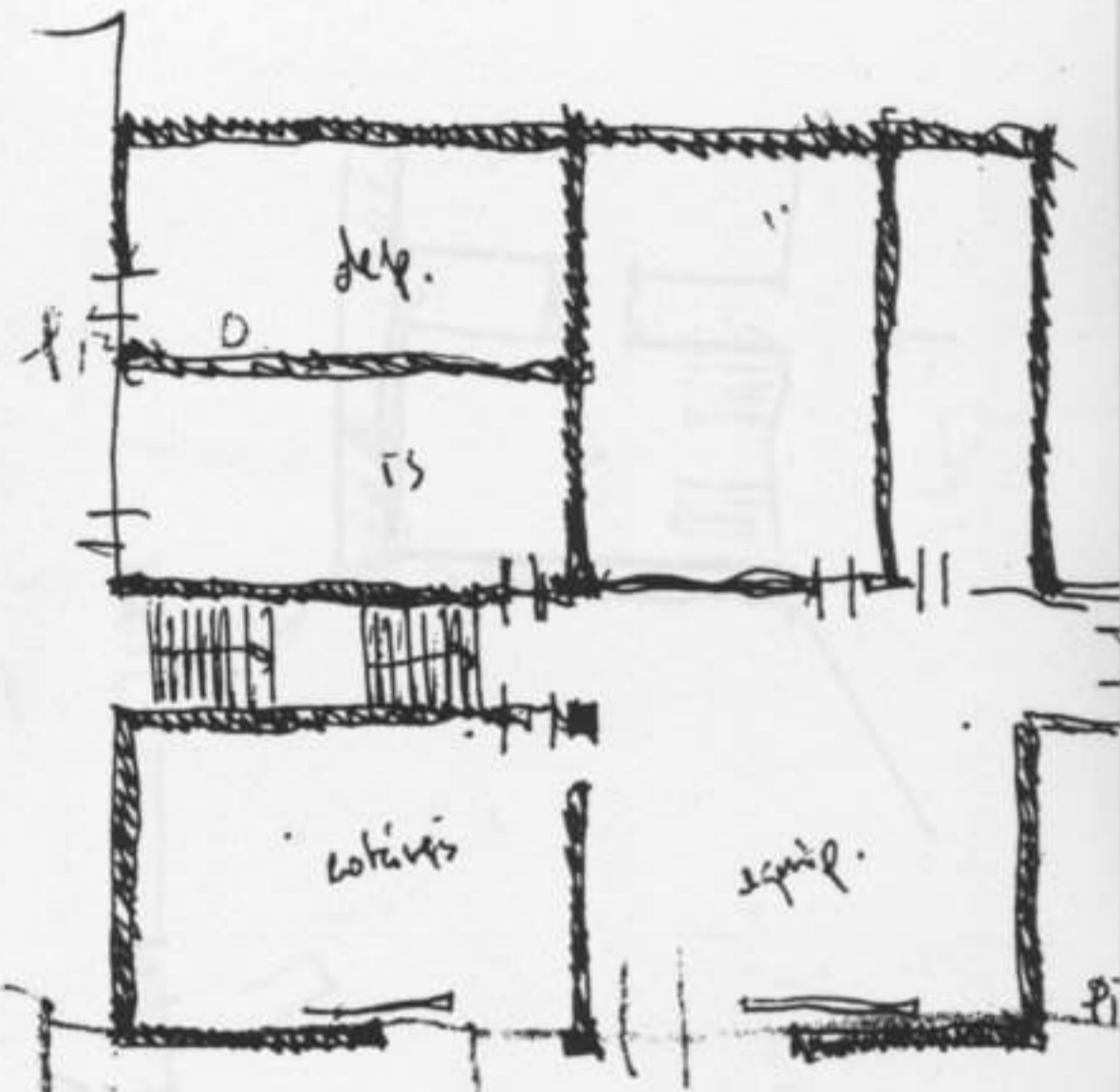
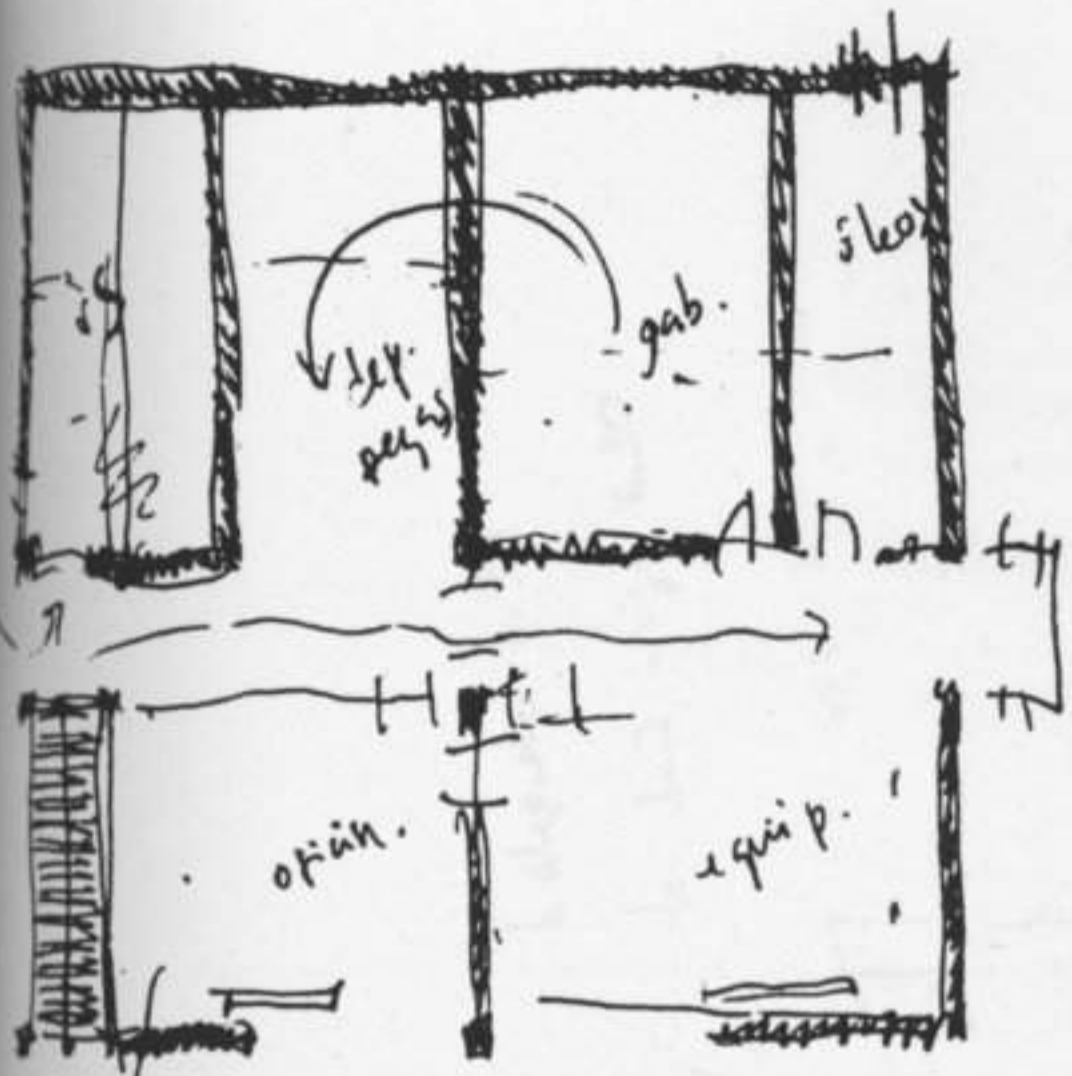


riso 1



riso 1

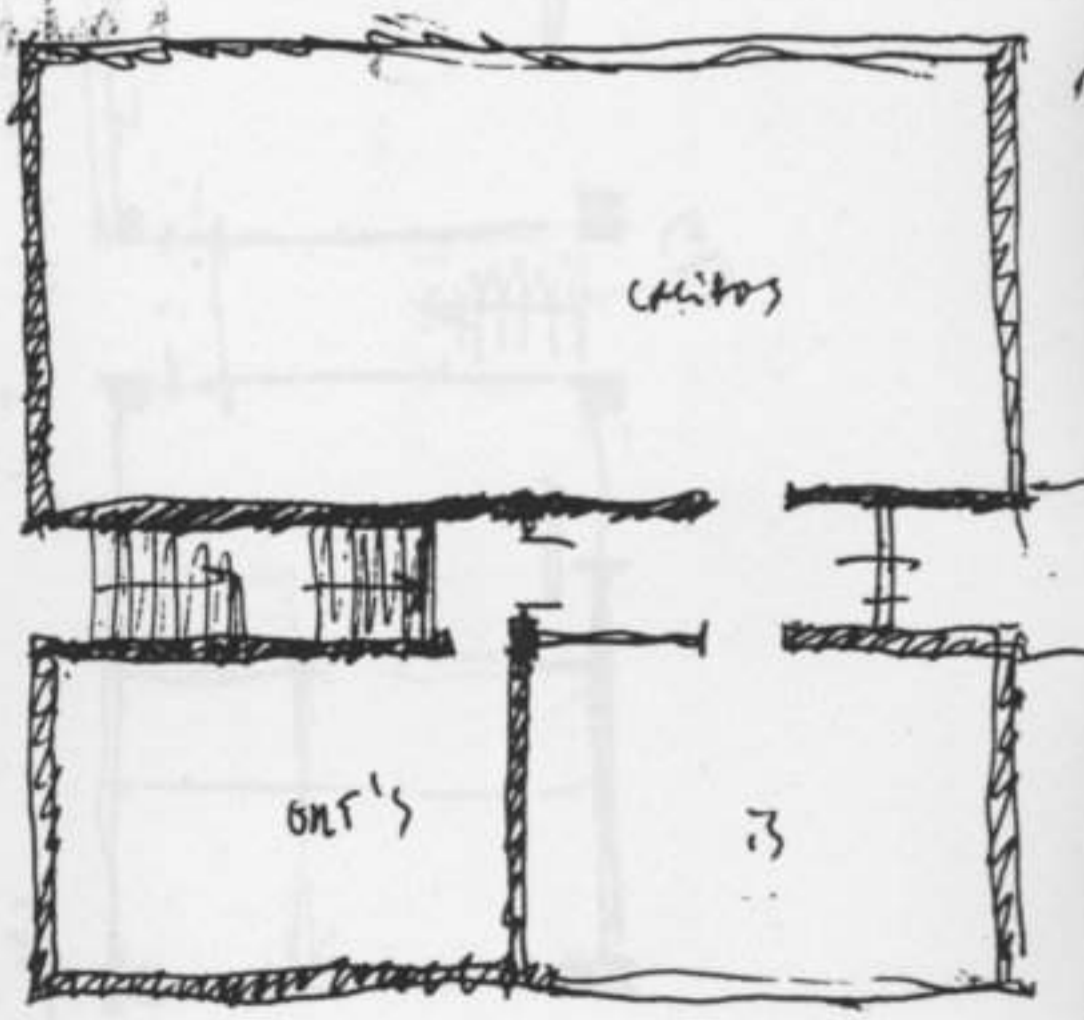
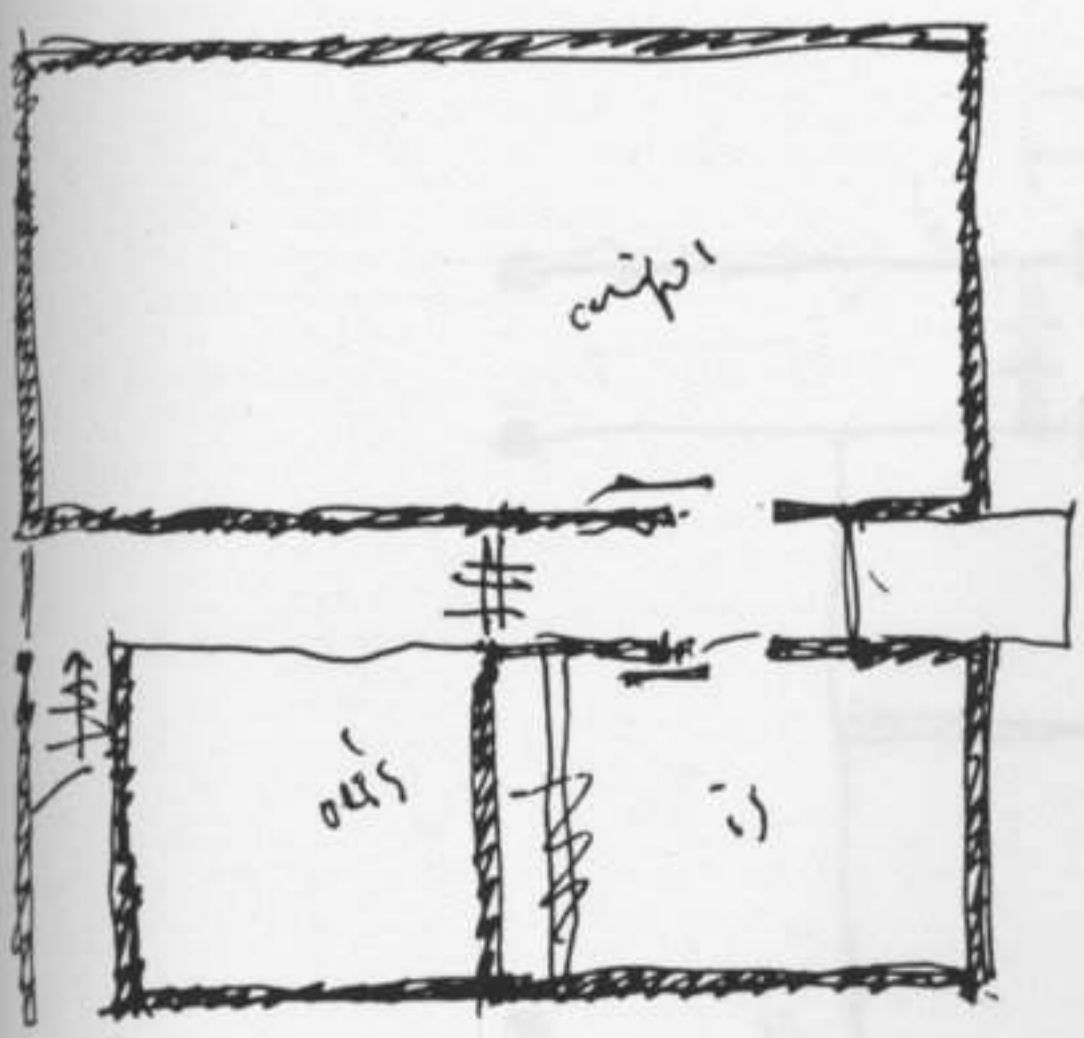




ambie espazo
a opim.

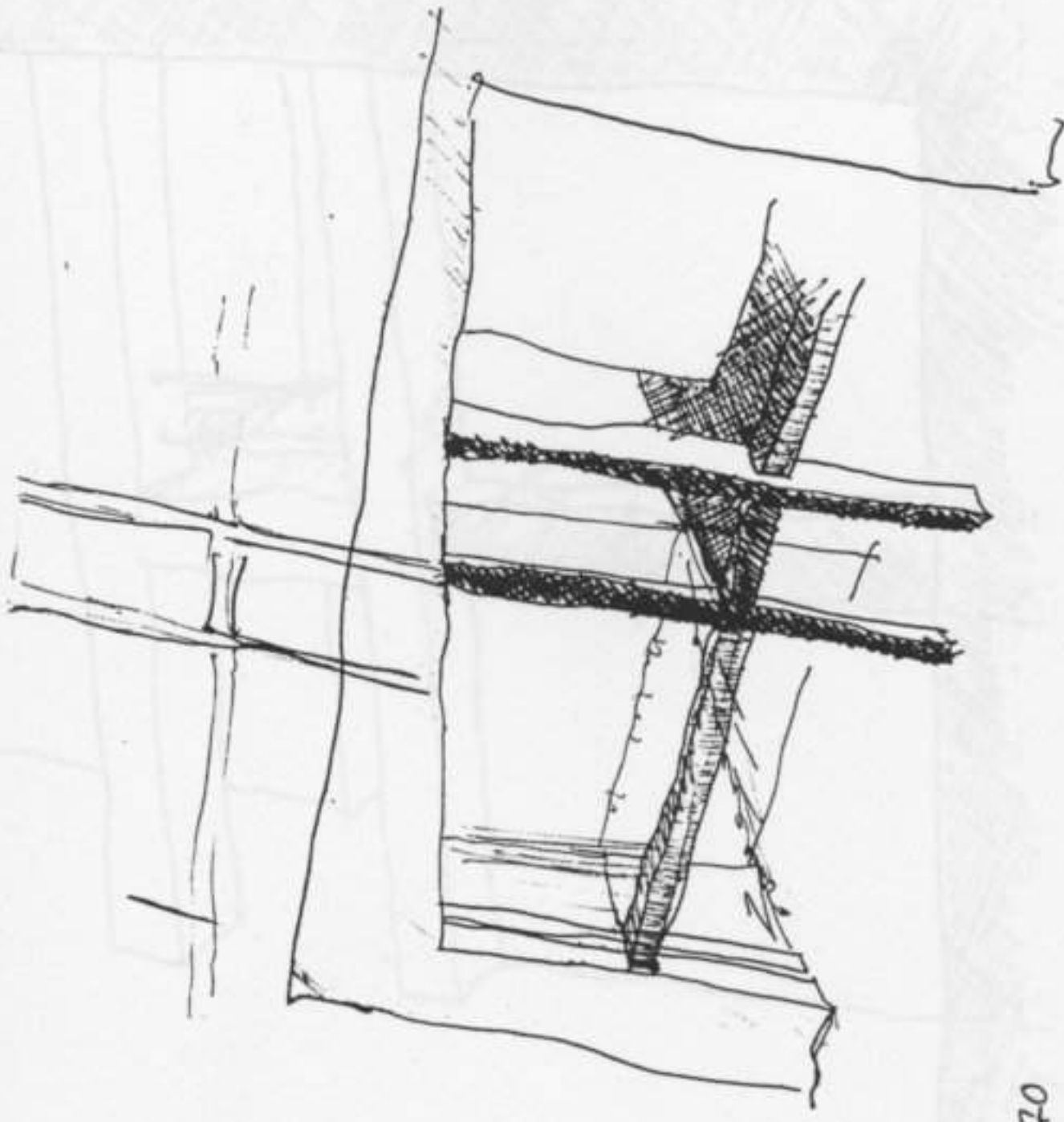
ambie
espazo

ambie
espazo



3.38 m
19 de 9

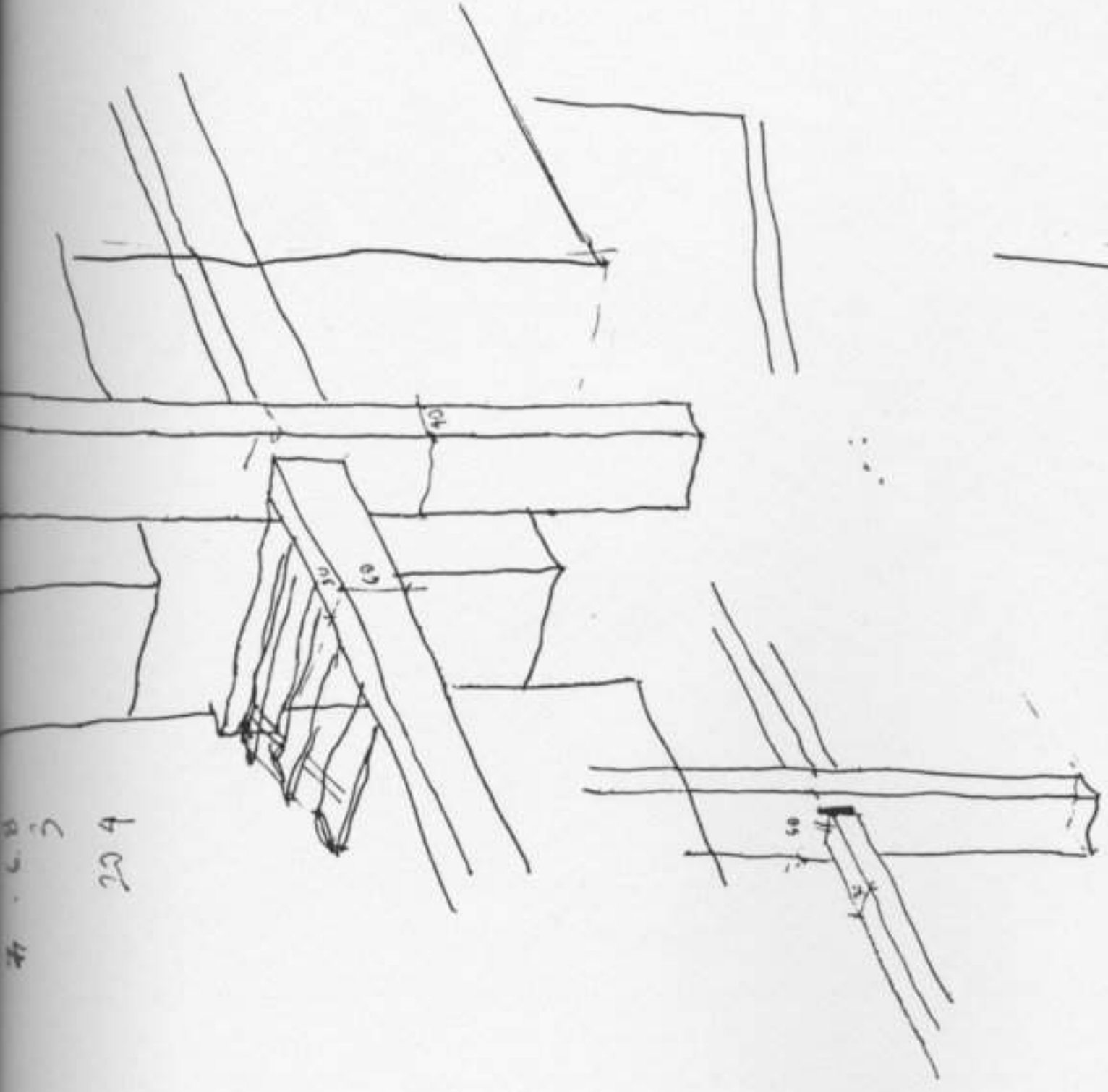
$$\begin{array}{r} 2.6 \\ 6.025 \\ \hline 6.39 \end{array}$$



270
 90 90 90
 88



204



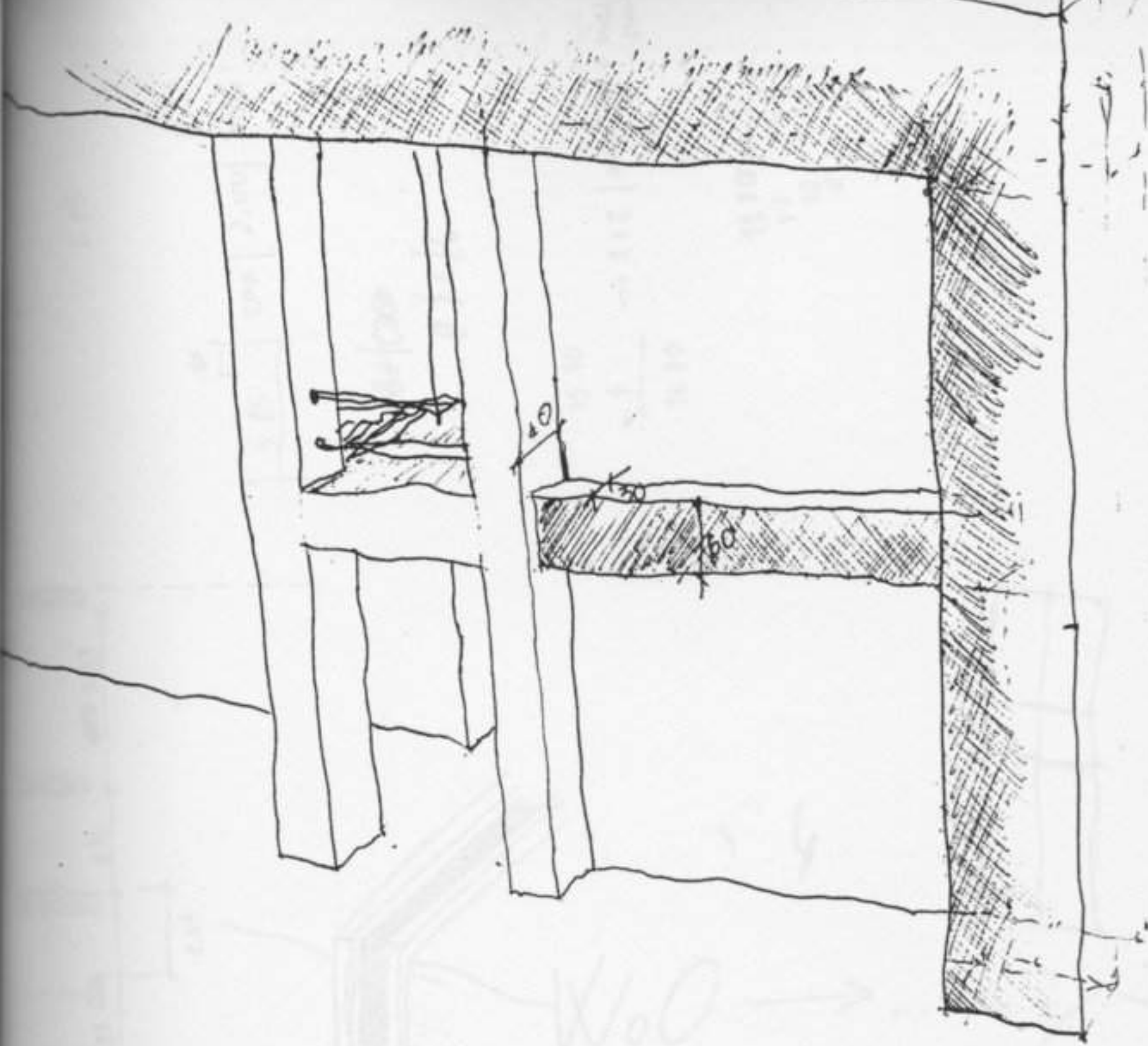
375

$$\begin{array}{r} 680 \\ 08 \\ \hline 226 \\ 20 \end{array}$$

~~122~~
~~488~~

3,375

Q



8

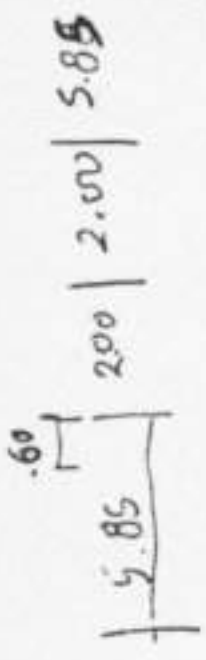
4

Wool →
Hens →

8



5.45



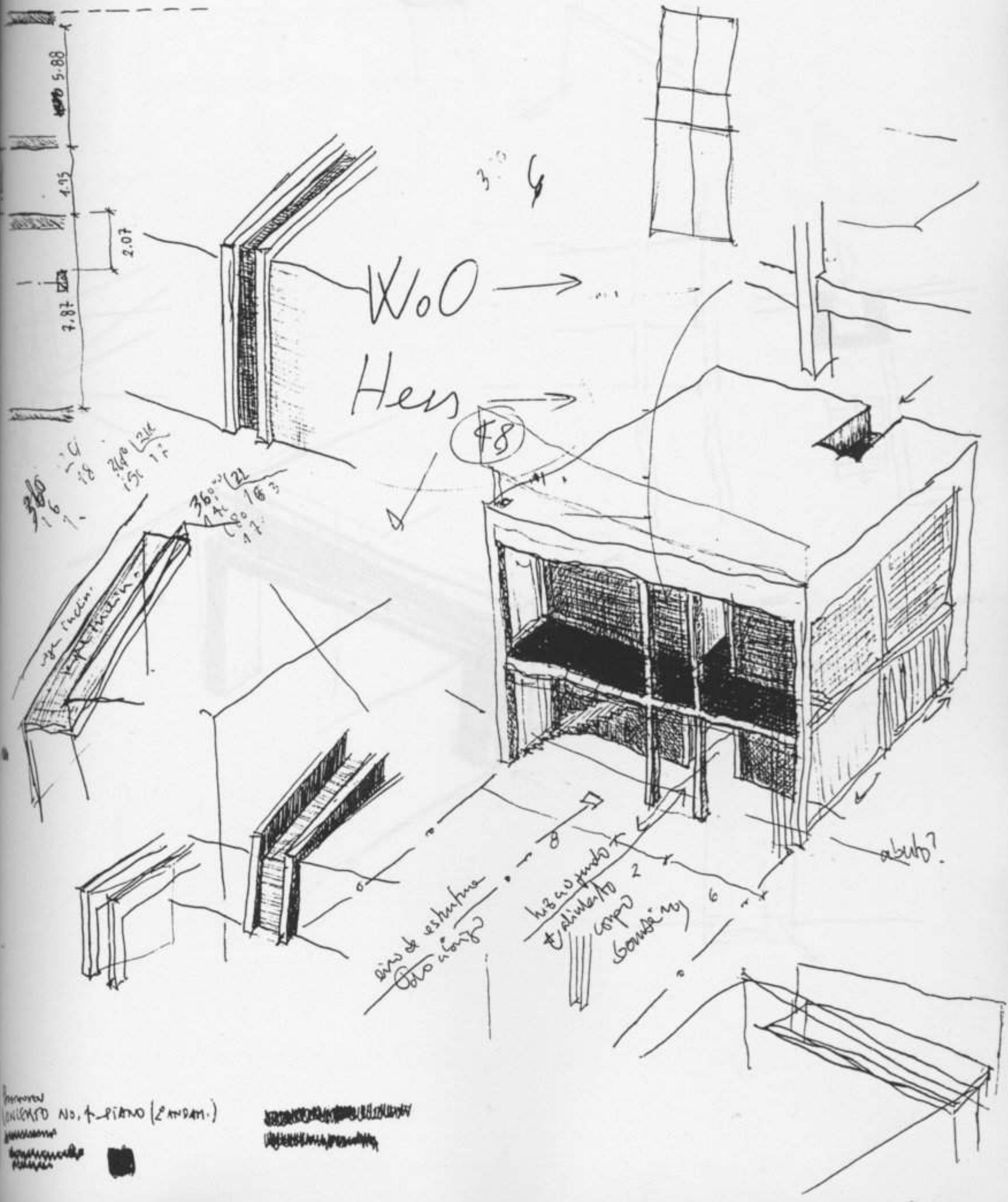
8/2/16

15.70
- 4

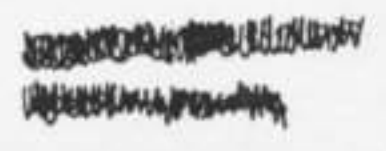
11.70

→ 2+2 | alimbi hut + cage
from

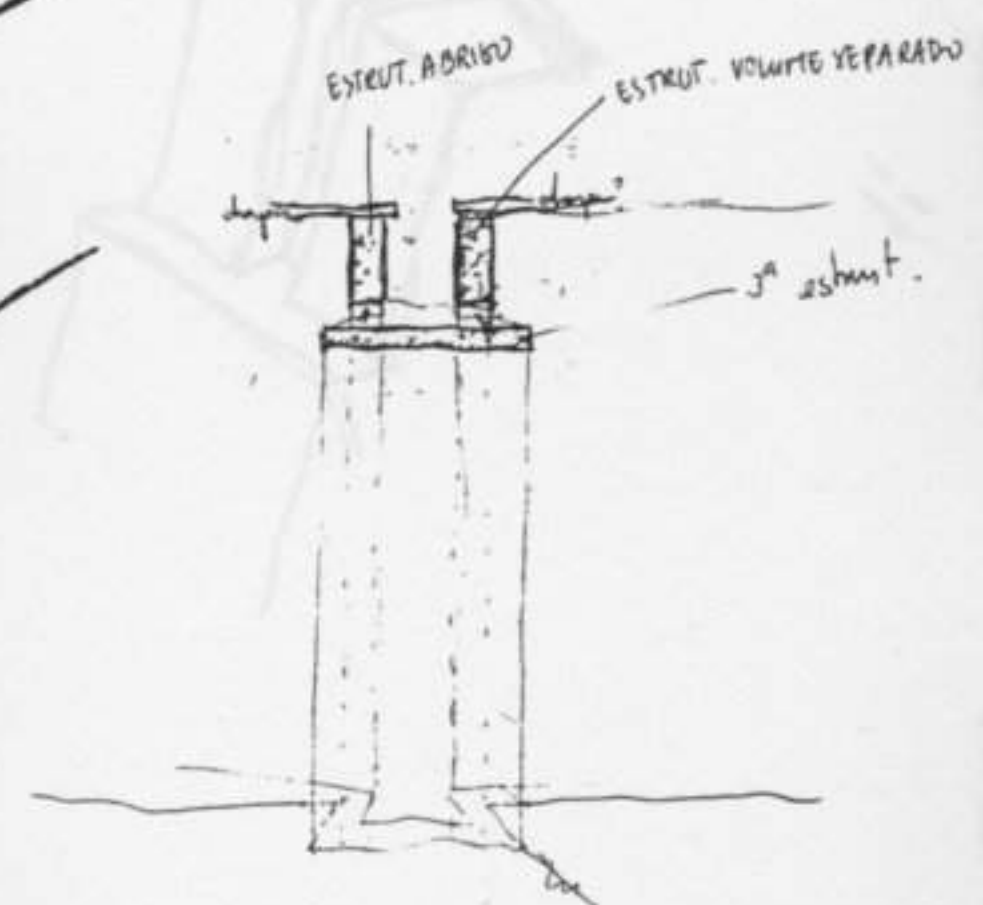
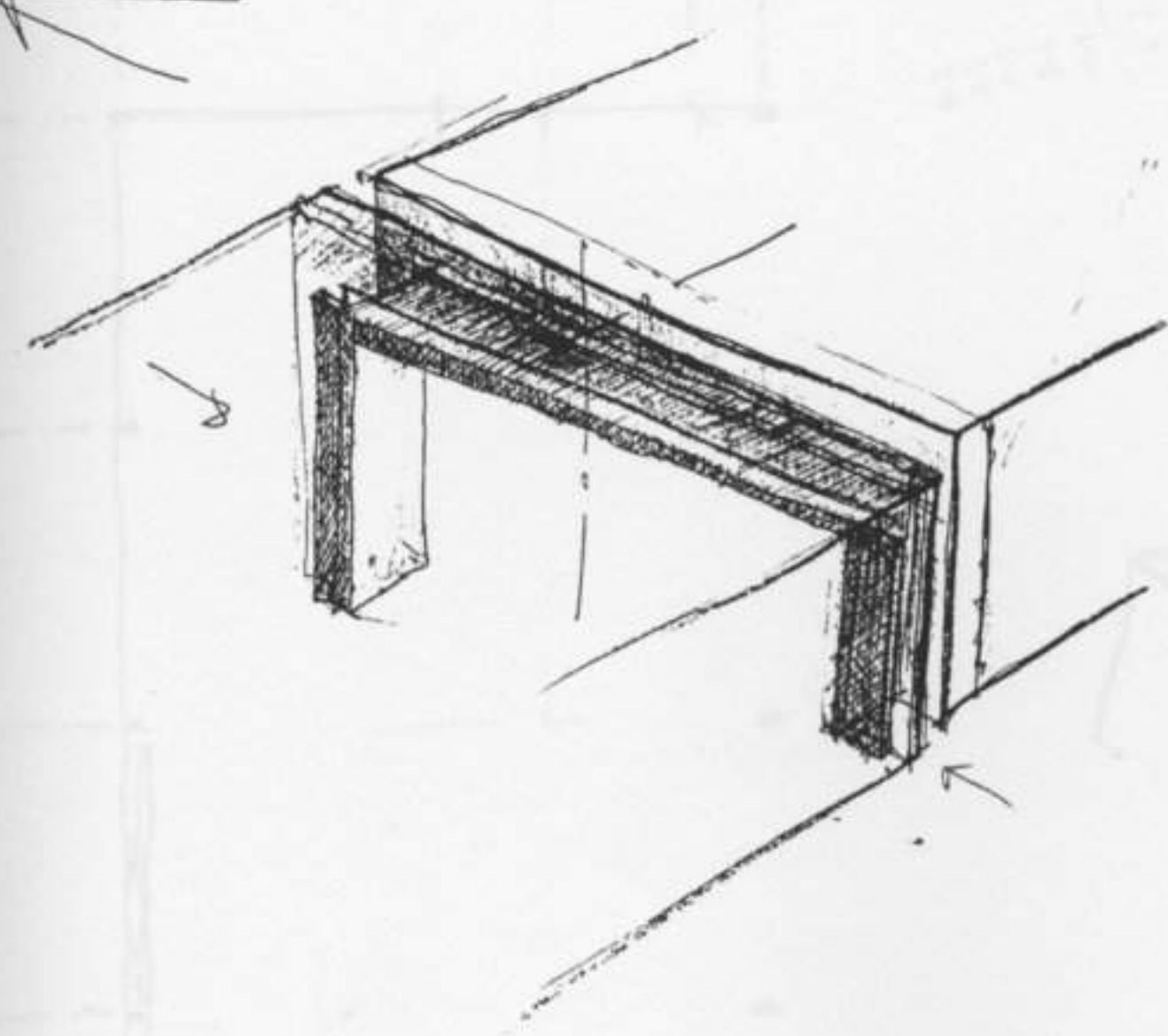
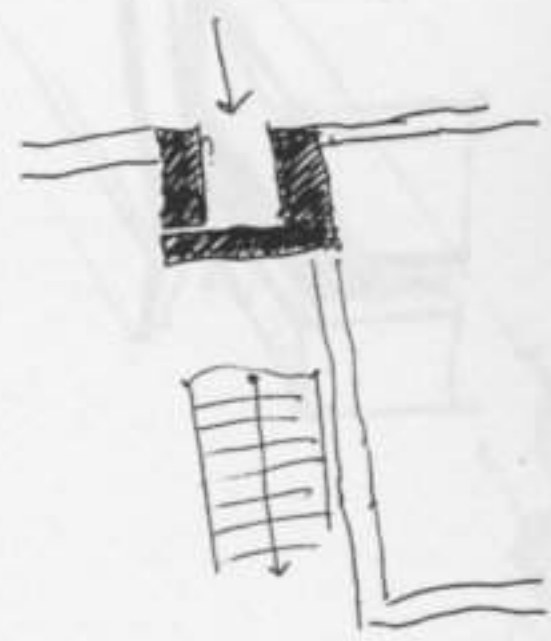
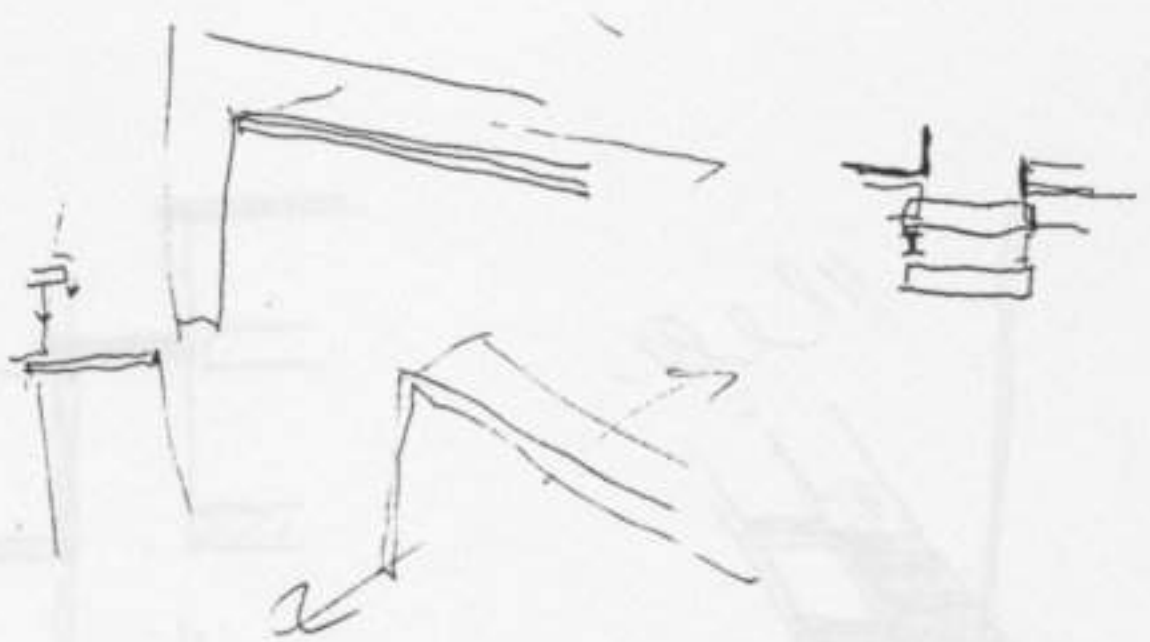
11.70 L2
17 5.85
10 0

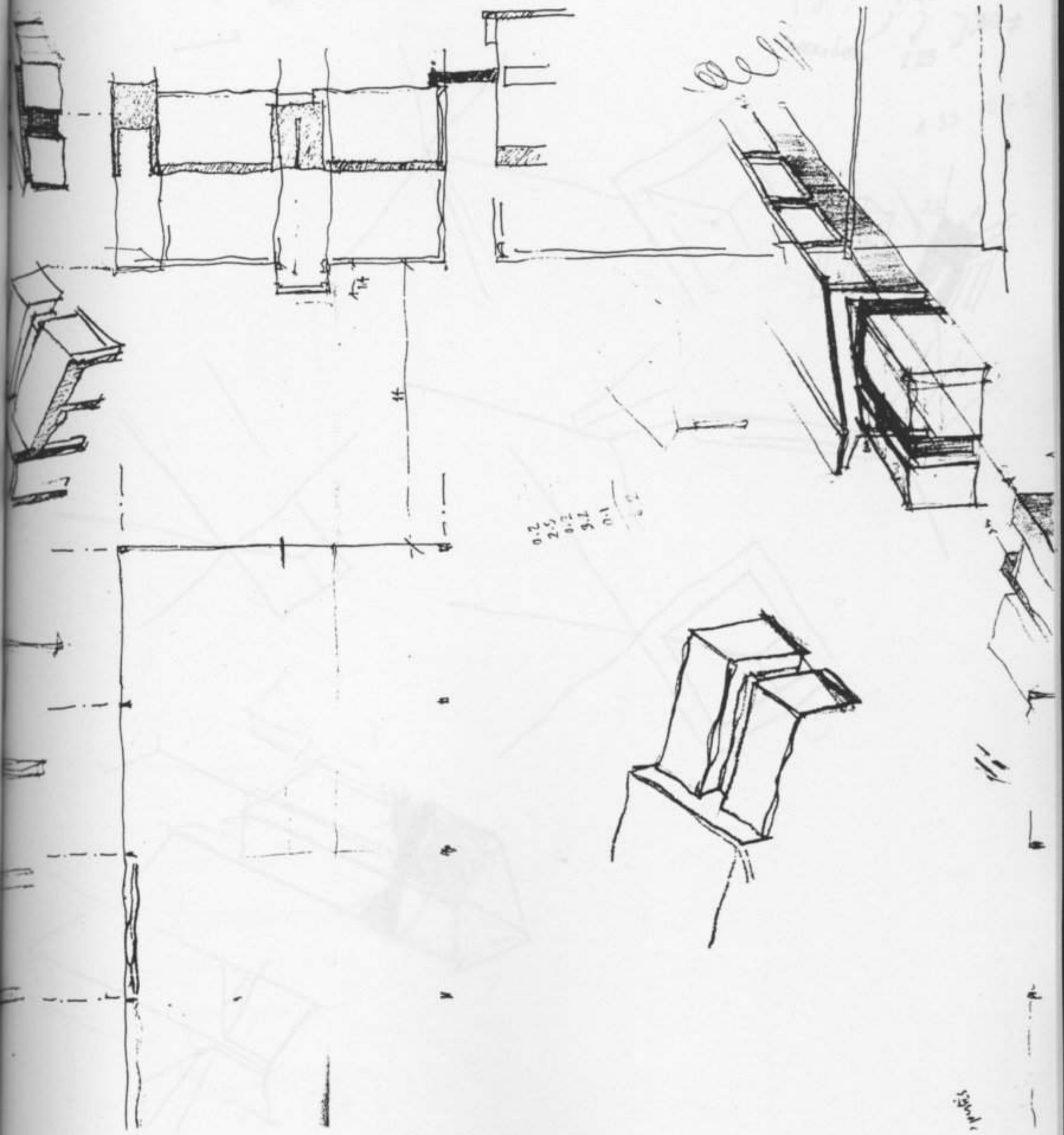


PROYECTO No. 1 - PIANO (2 ANDAR.)



11



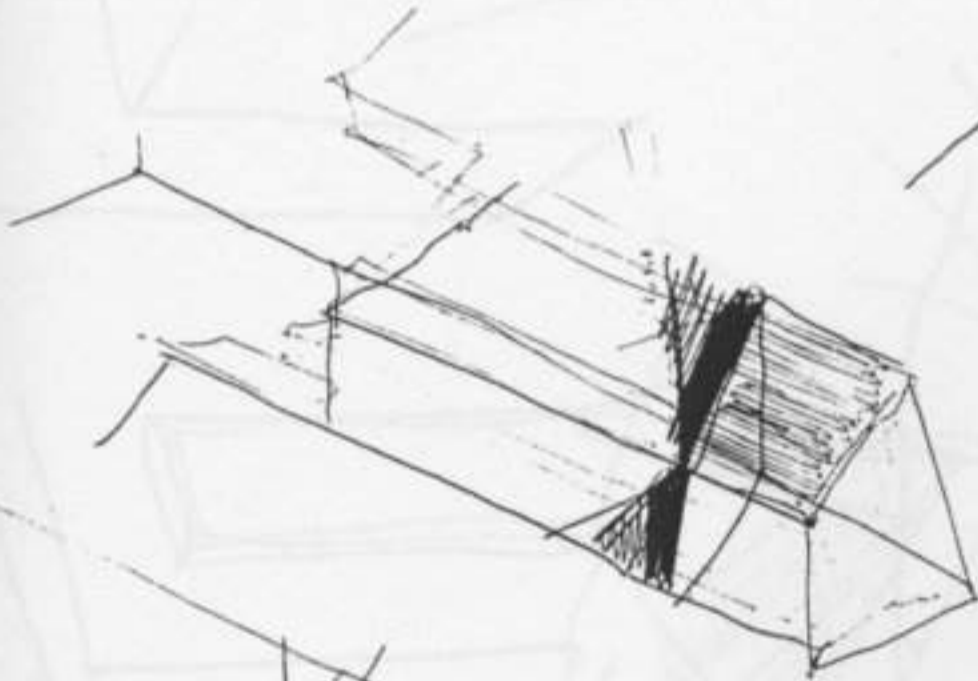
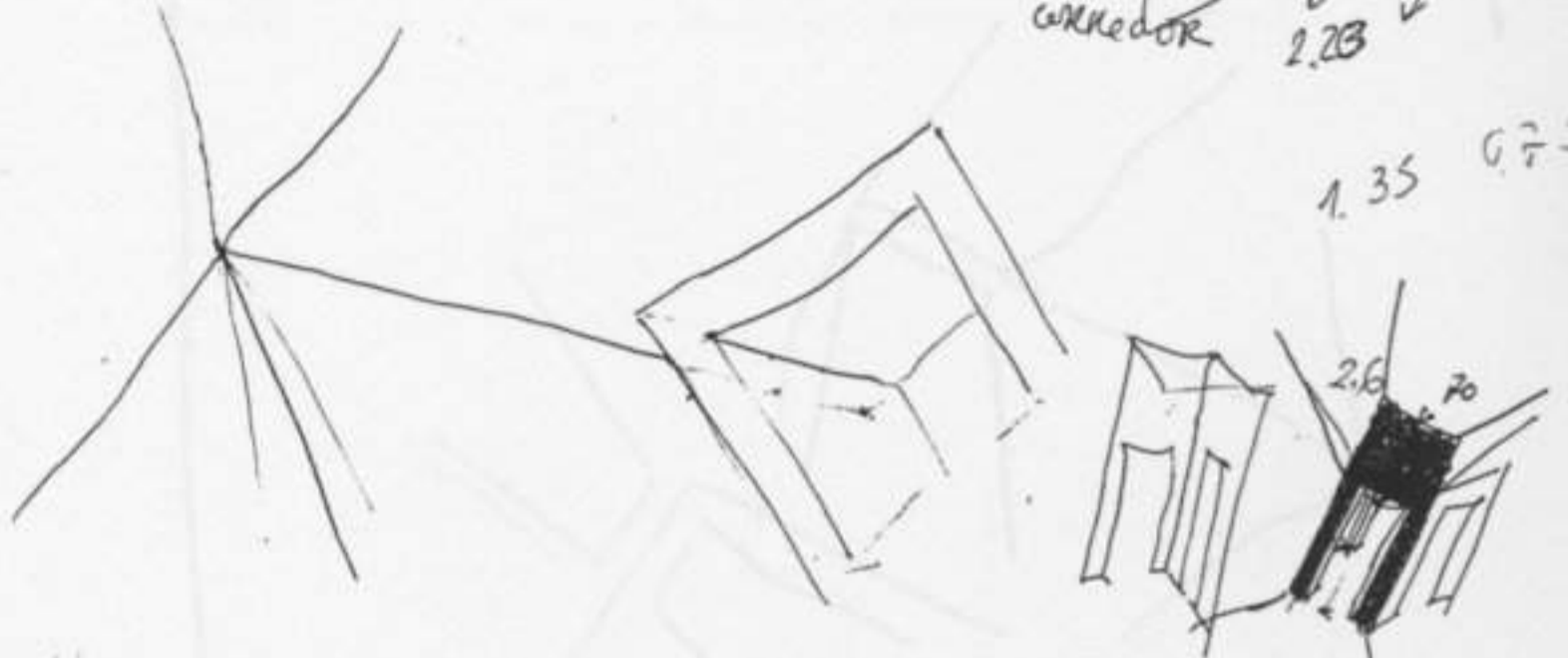


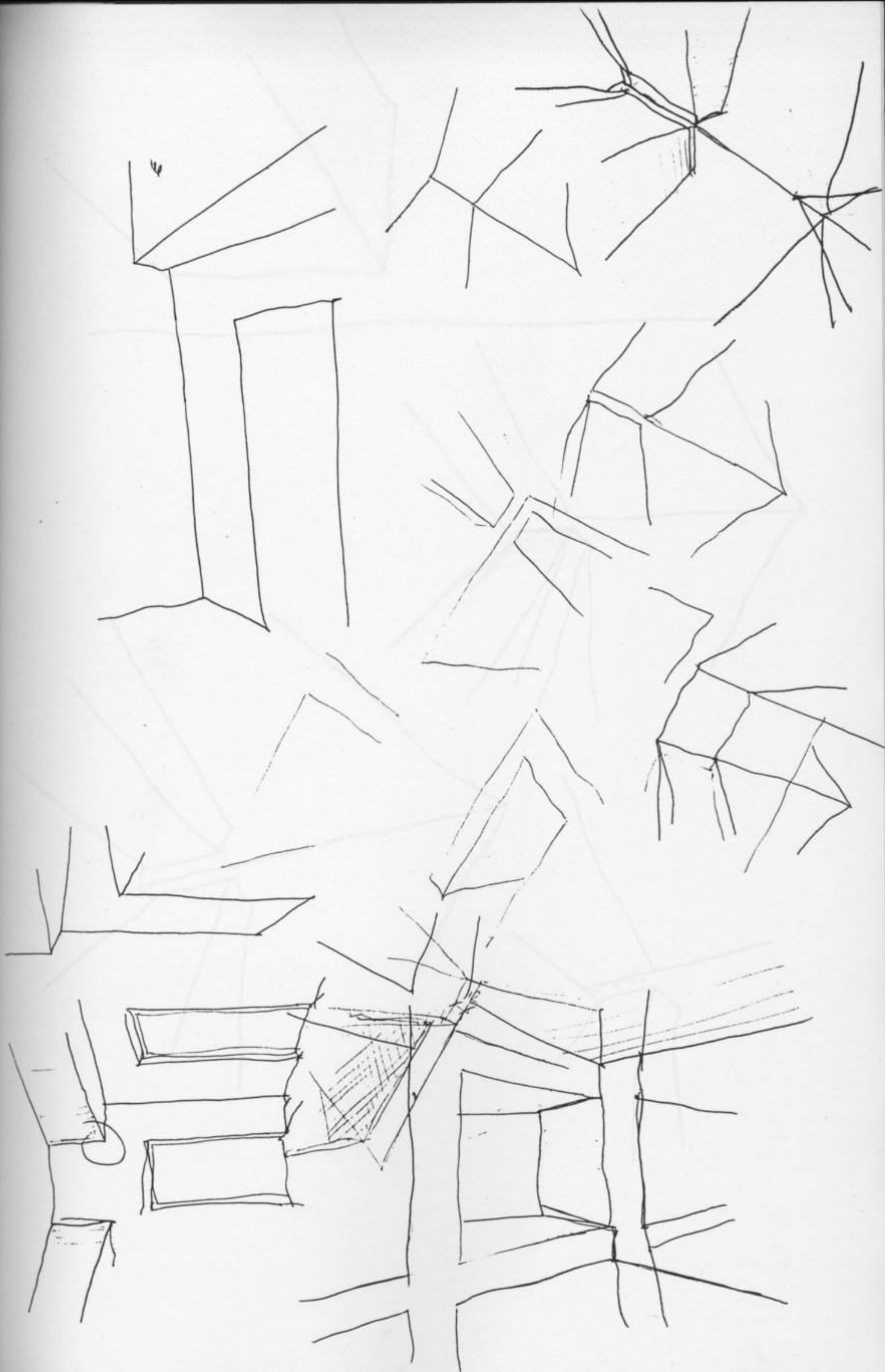
3.10
0.05
0.015

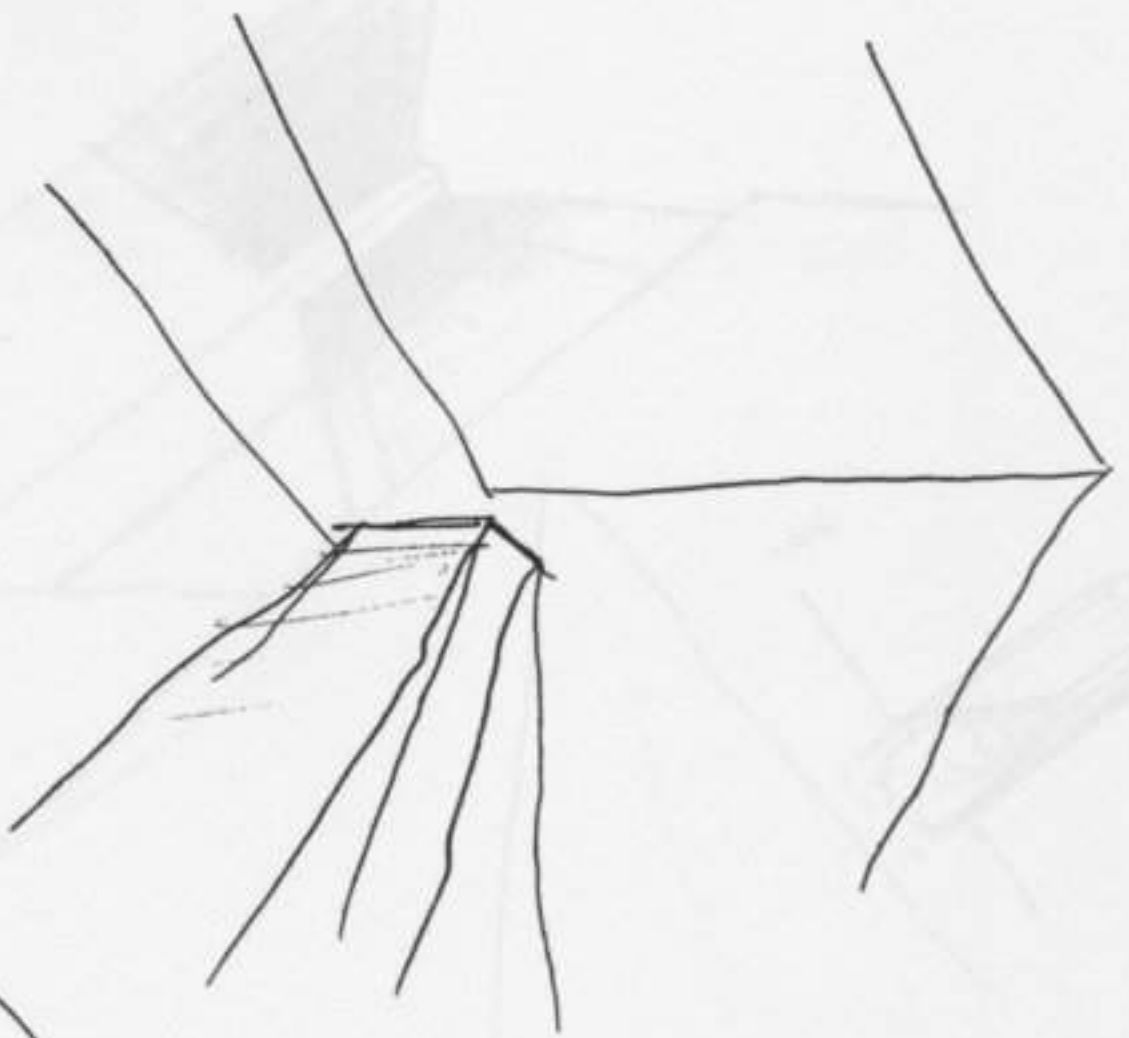
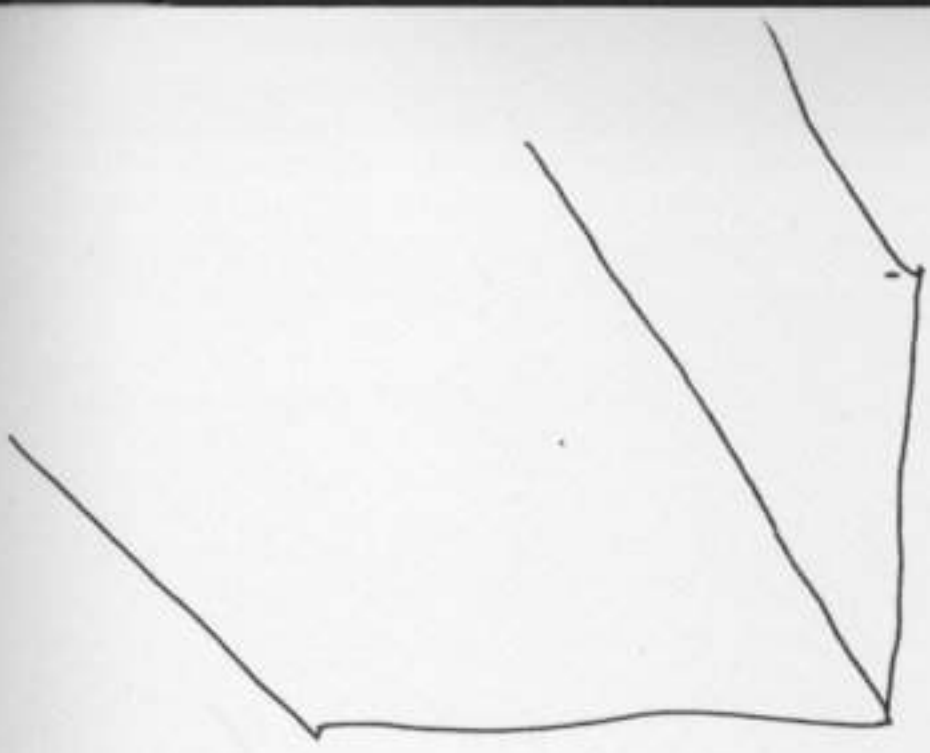
0

coste int / techo - 3.10 } 50%
vigent. - 2.60 }
corredor 2.23 } 30%

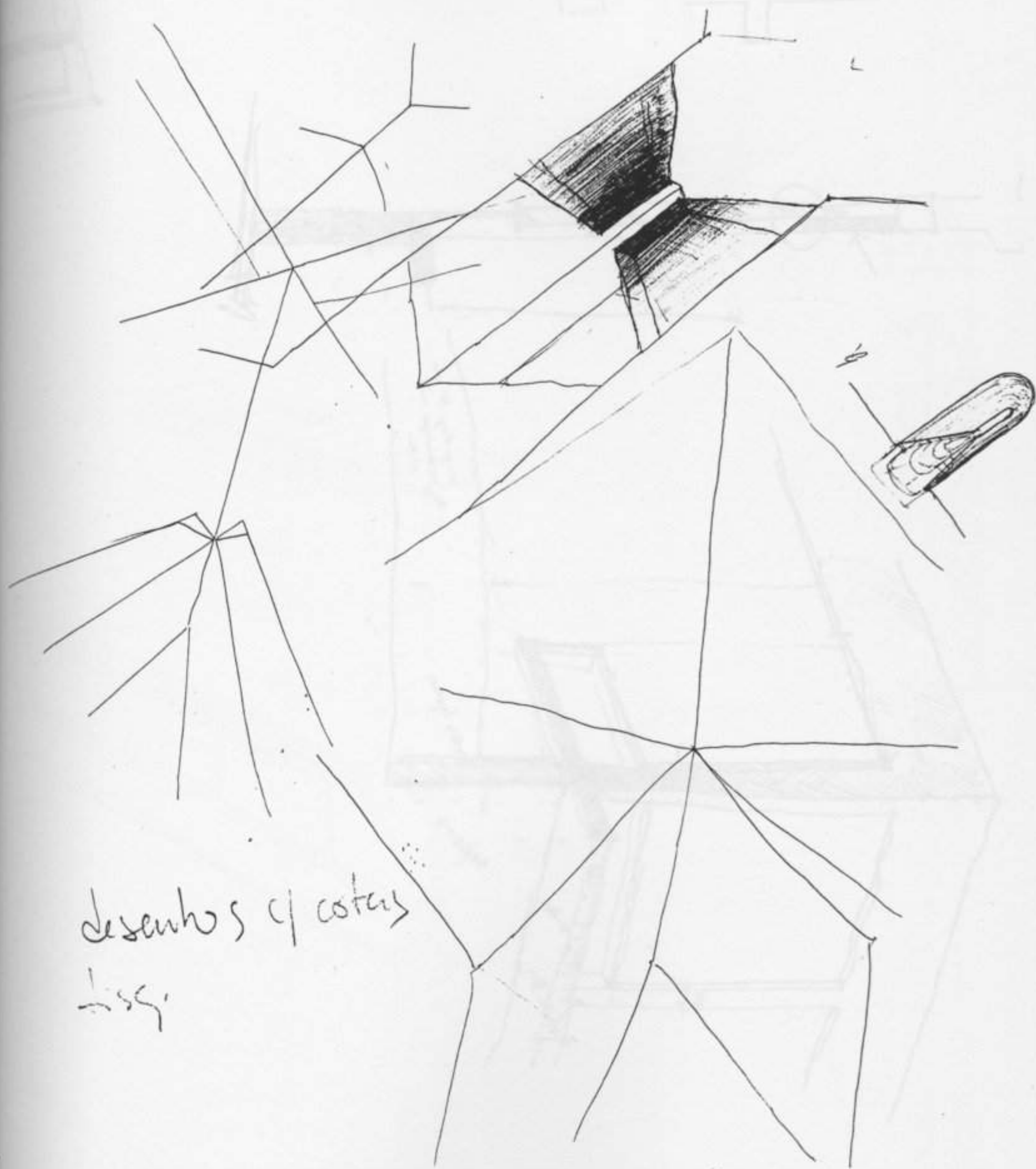
1.35 0.75







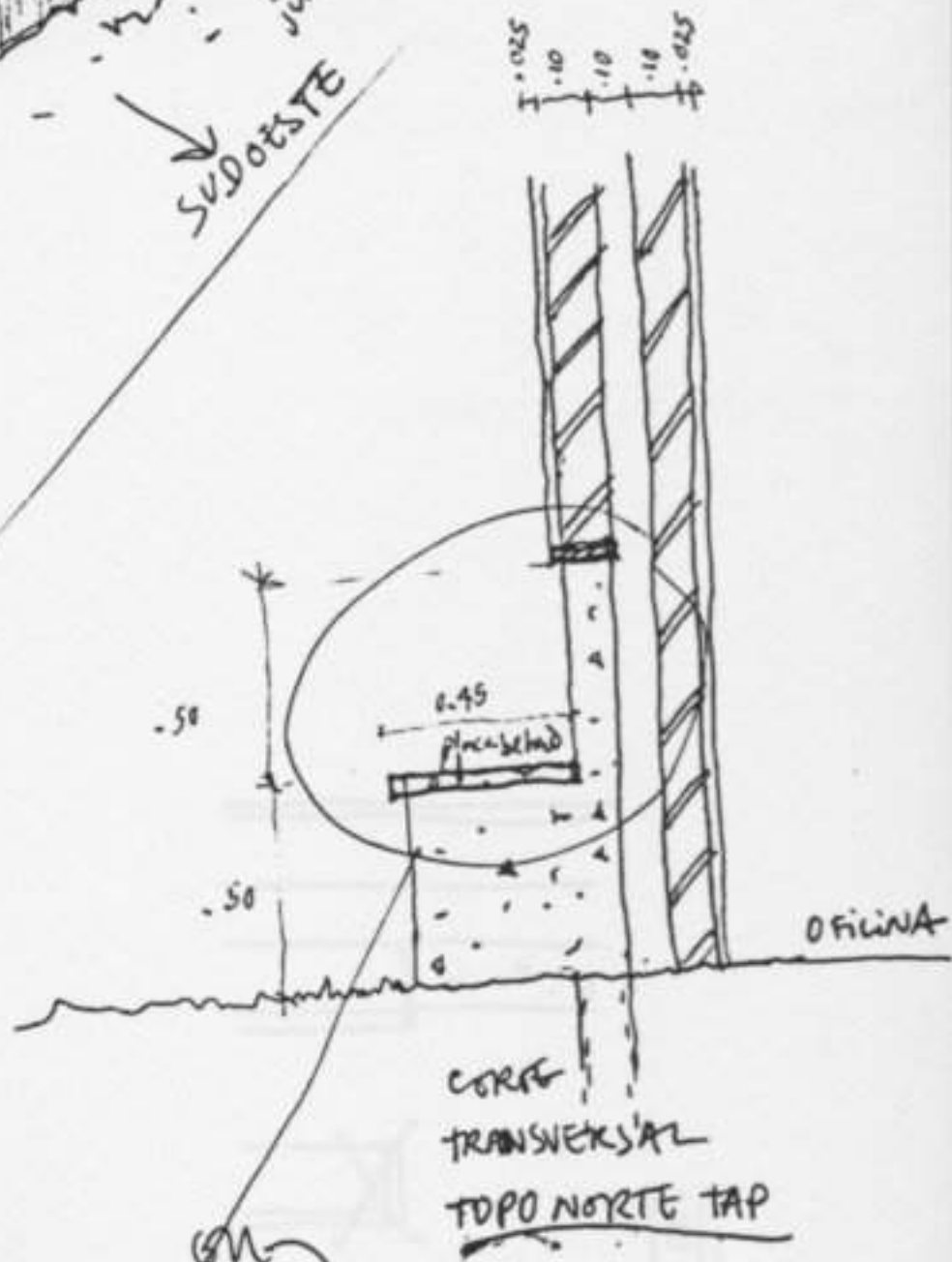
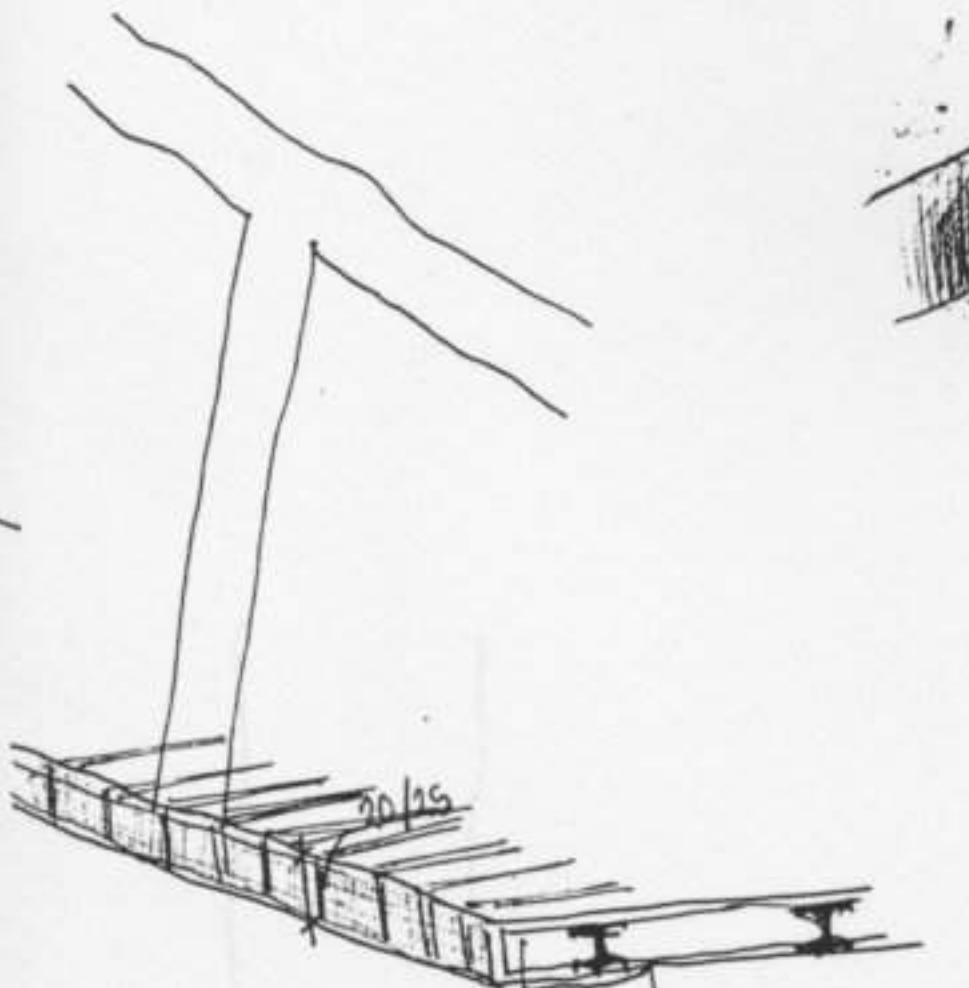
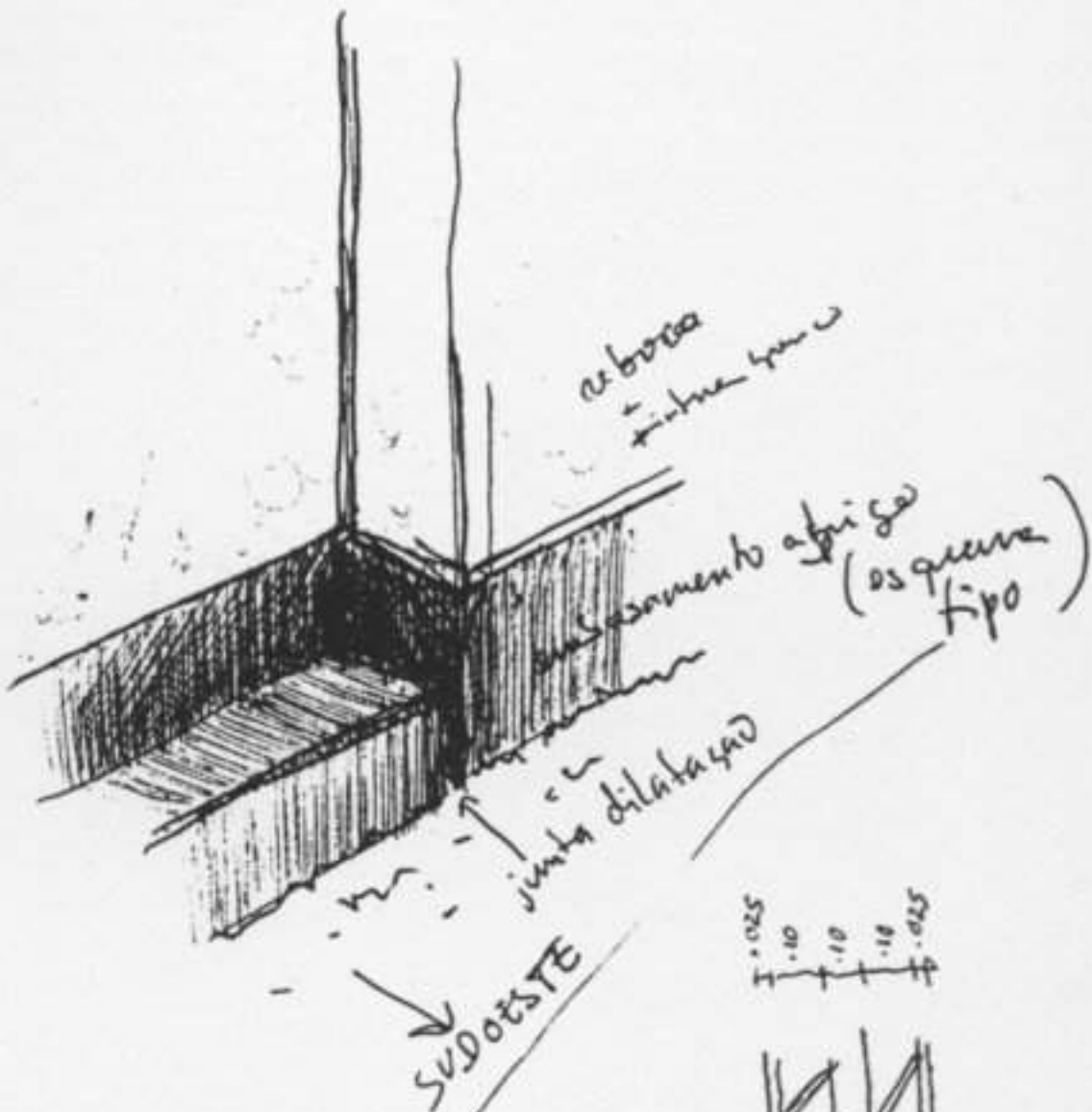
disanto c. am



desenhos q' costas
1889.

TAP - TOPO NORTE

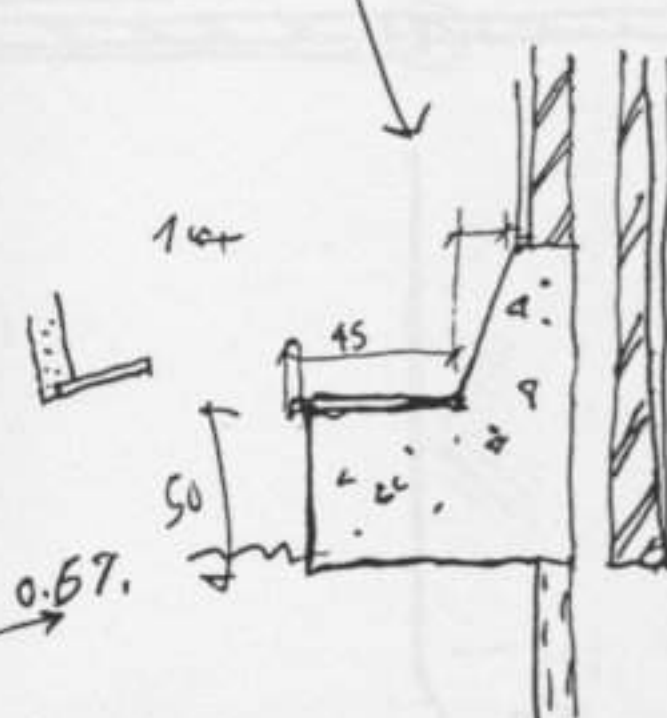
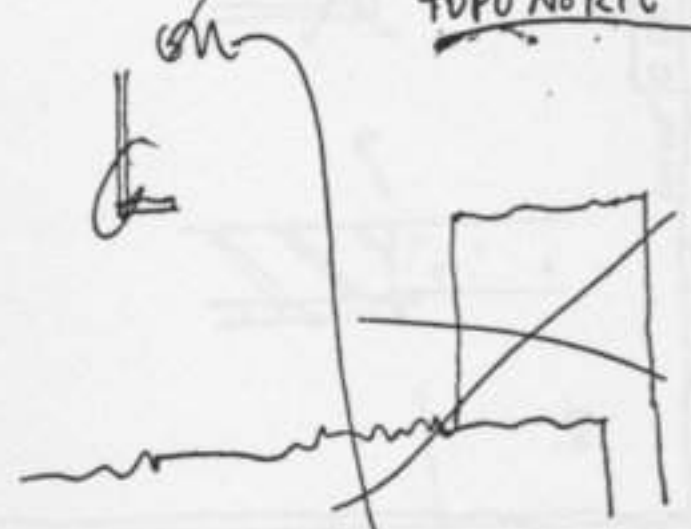
U4



passagem p/ 40/50

viga em betão

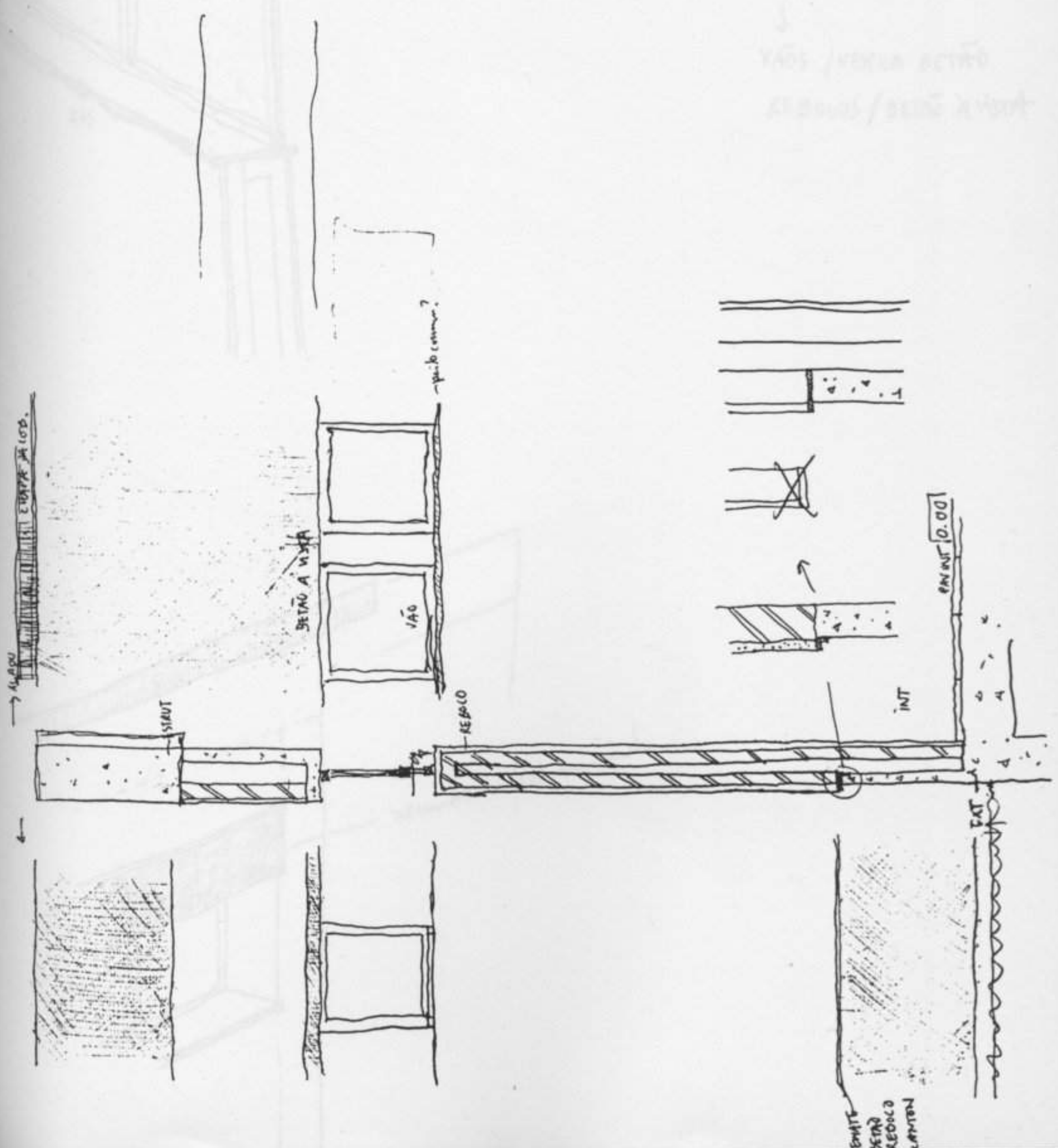
vão 1m folha 50?



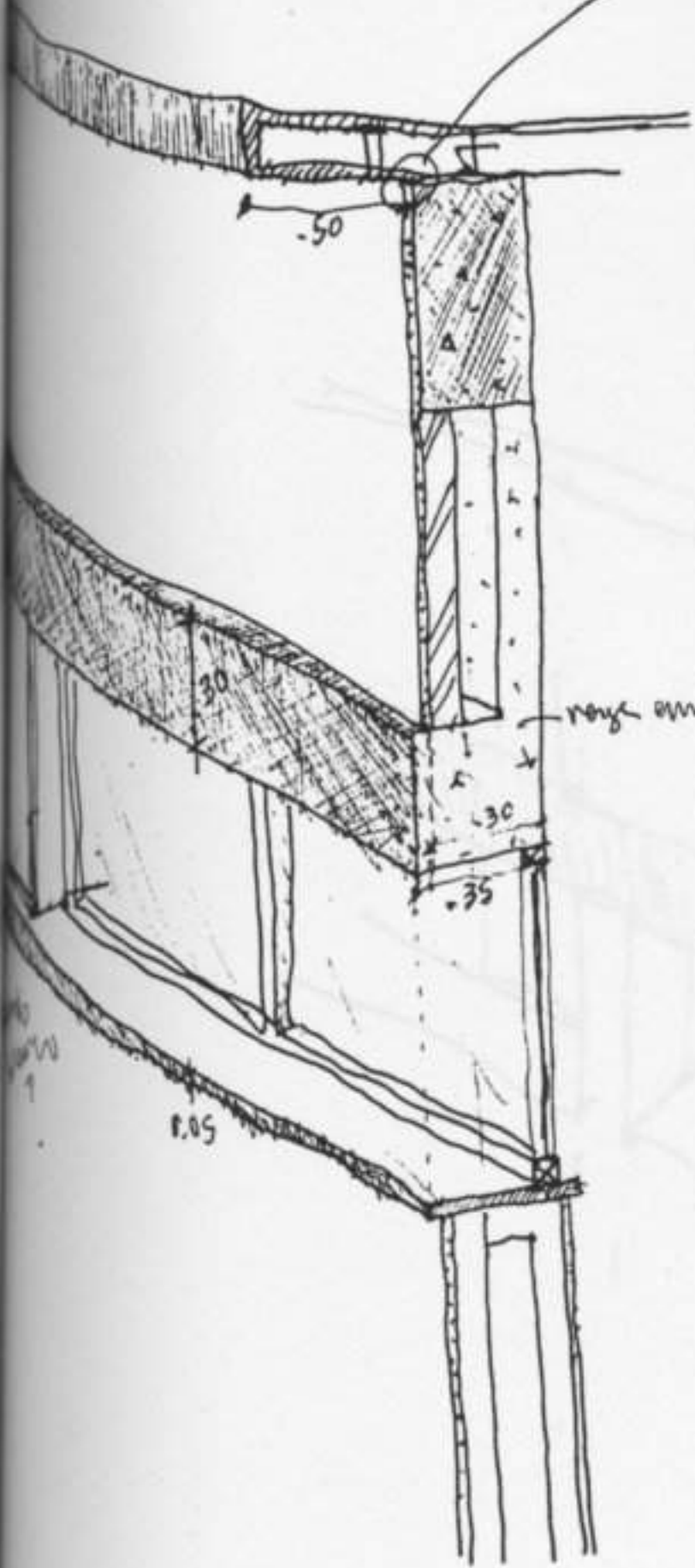
notas
sobre o tipo de abrigos
e suas

→ Zonas de
Abrigos e Ovinas

ALGUM
FESTIVIDADES (101 festas)
↓
VÃO / VELA ATRÁS
ALGUMS / BENS A VONT



resolver
remates chape + las vãos
situações



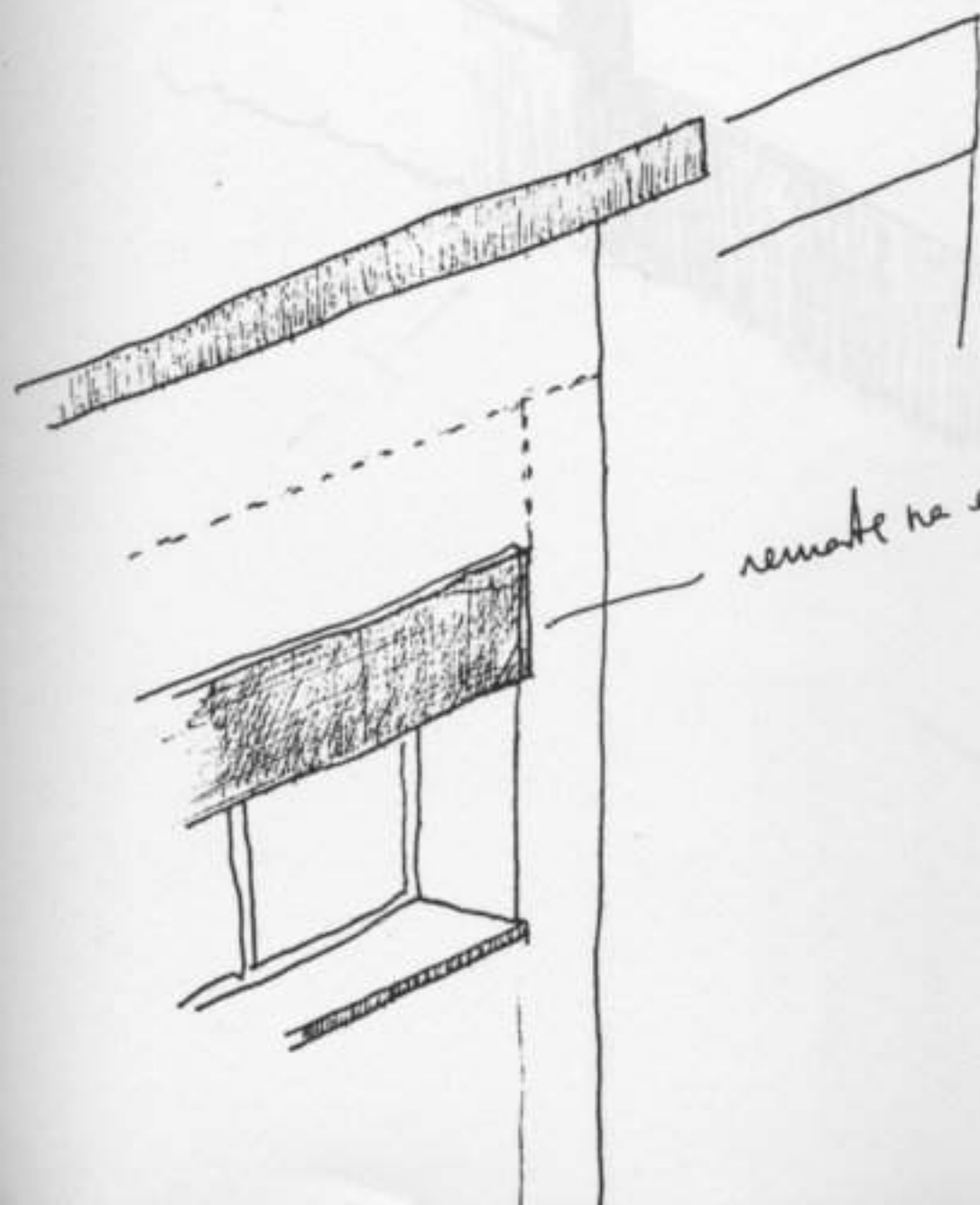
→ ZONAS DE
ABRIGOS E ORIGINAS



ALÇADOS
POSTERIORES (SEM PORTÕES)

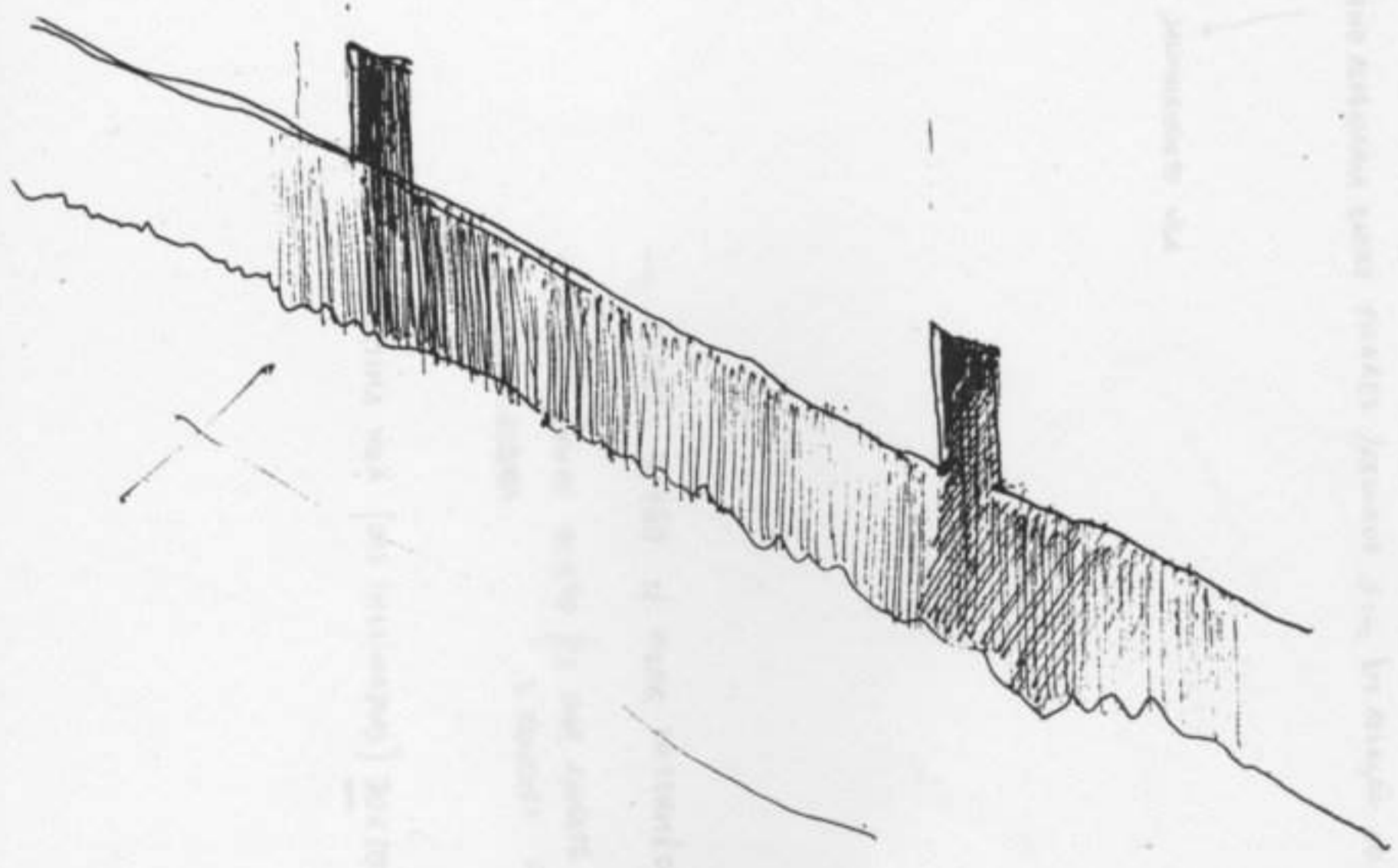
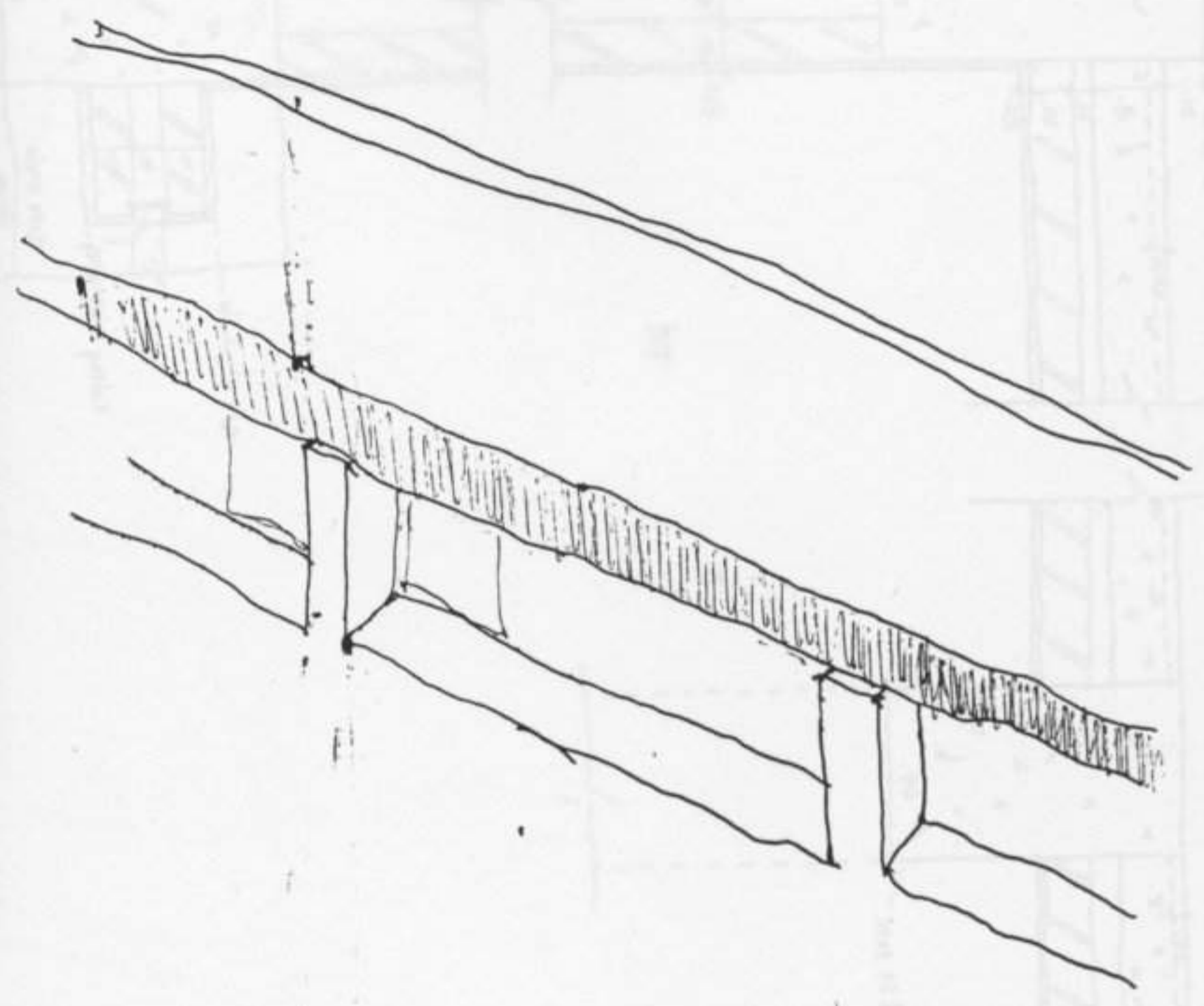


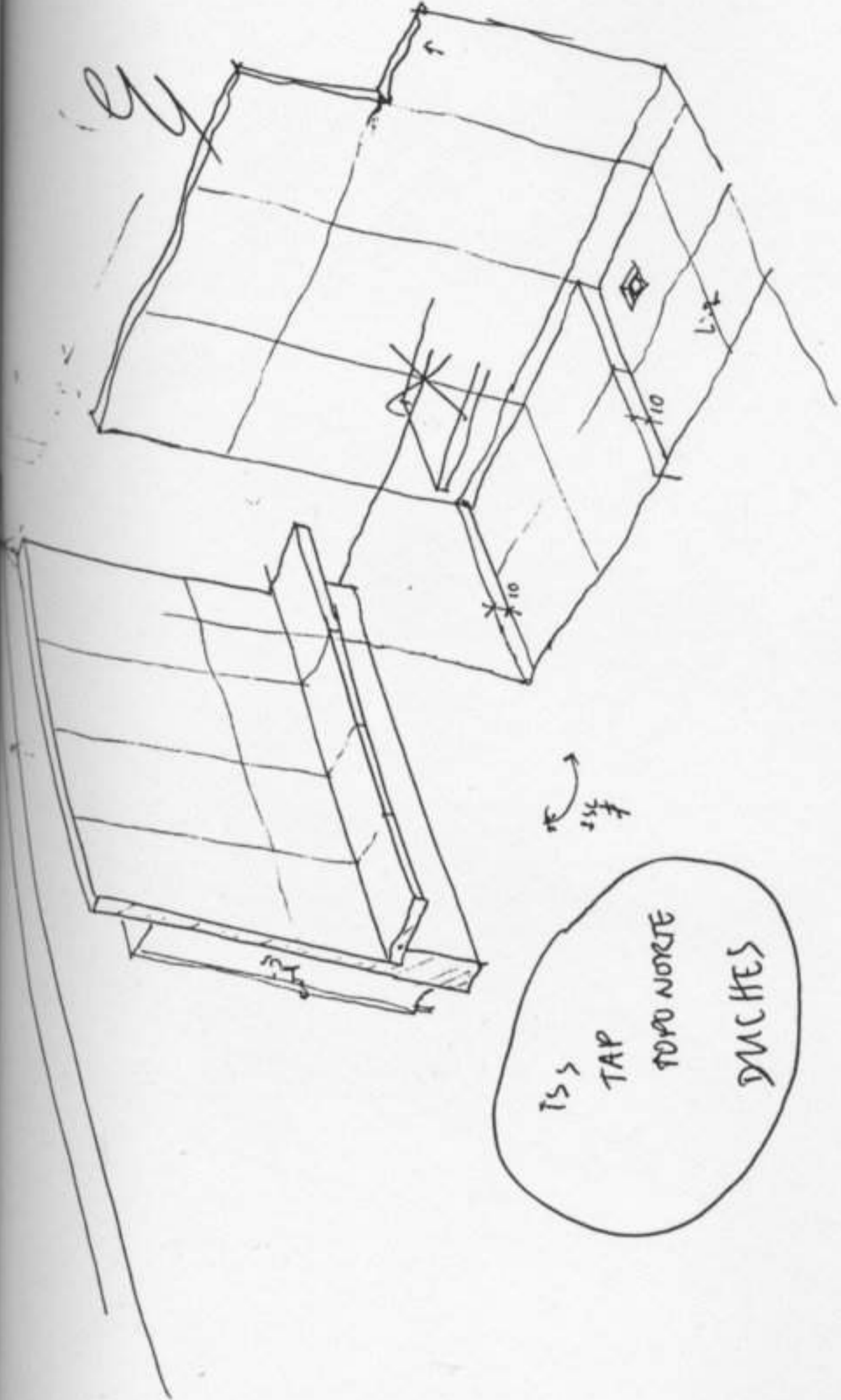
VAÏS / VERGA BETÃO
REBOLOS / BETÃO À VISTA



remate na extremidade

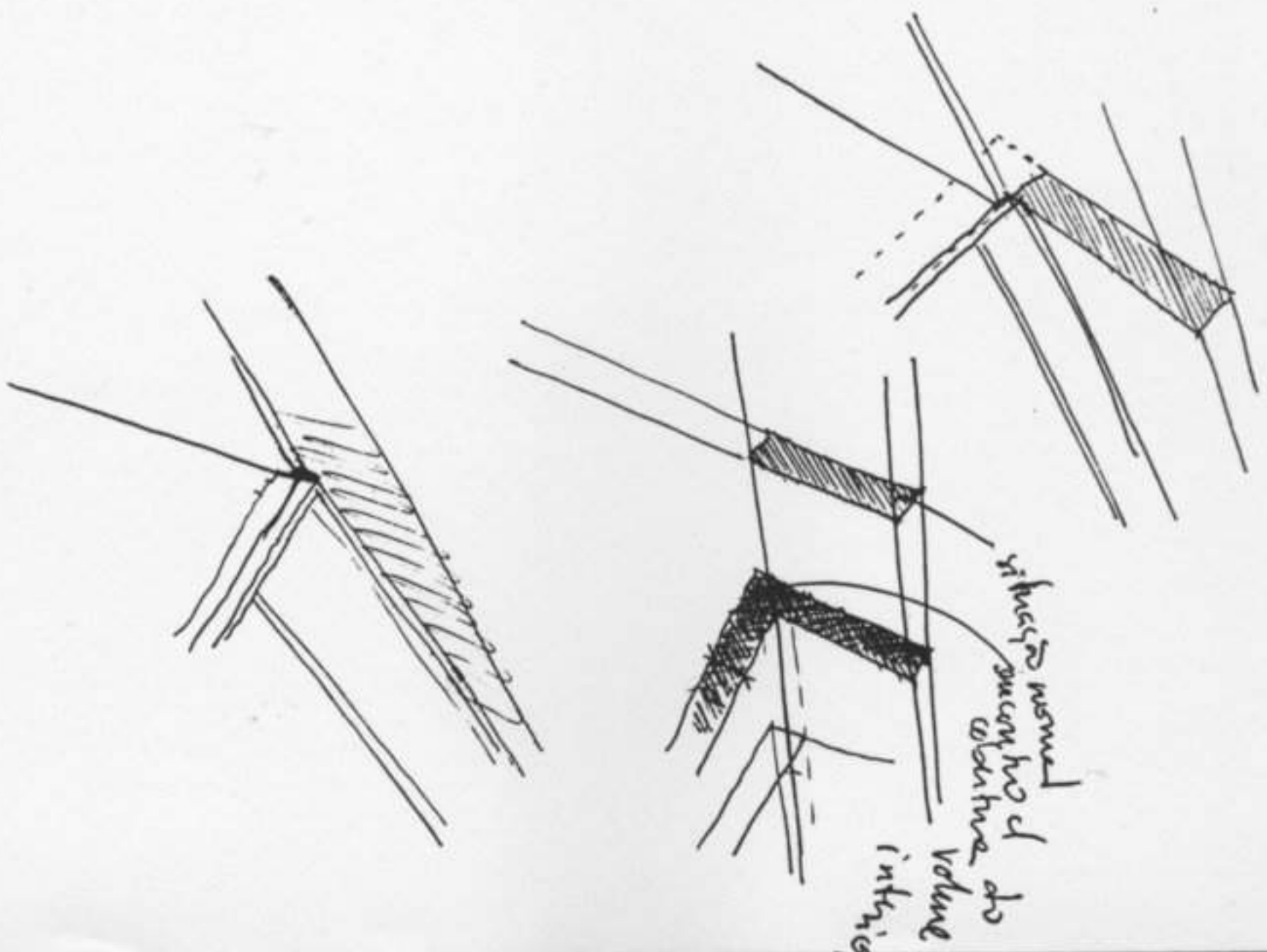
CHIEF EXECUTIVE OFFICER (1901) / 1901 / 1901 / 1901





15 >
TAP
TOPO NORTE
DACHES

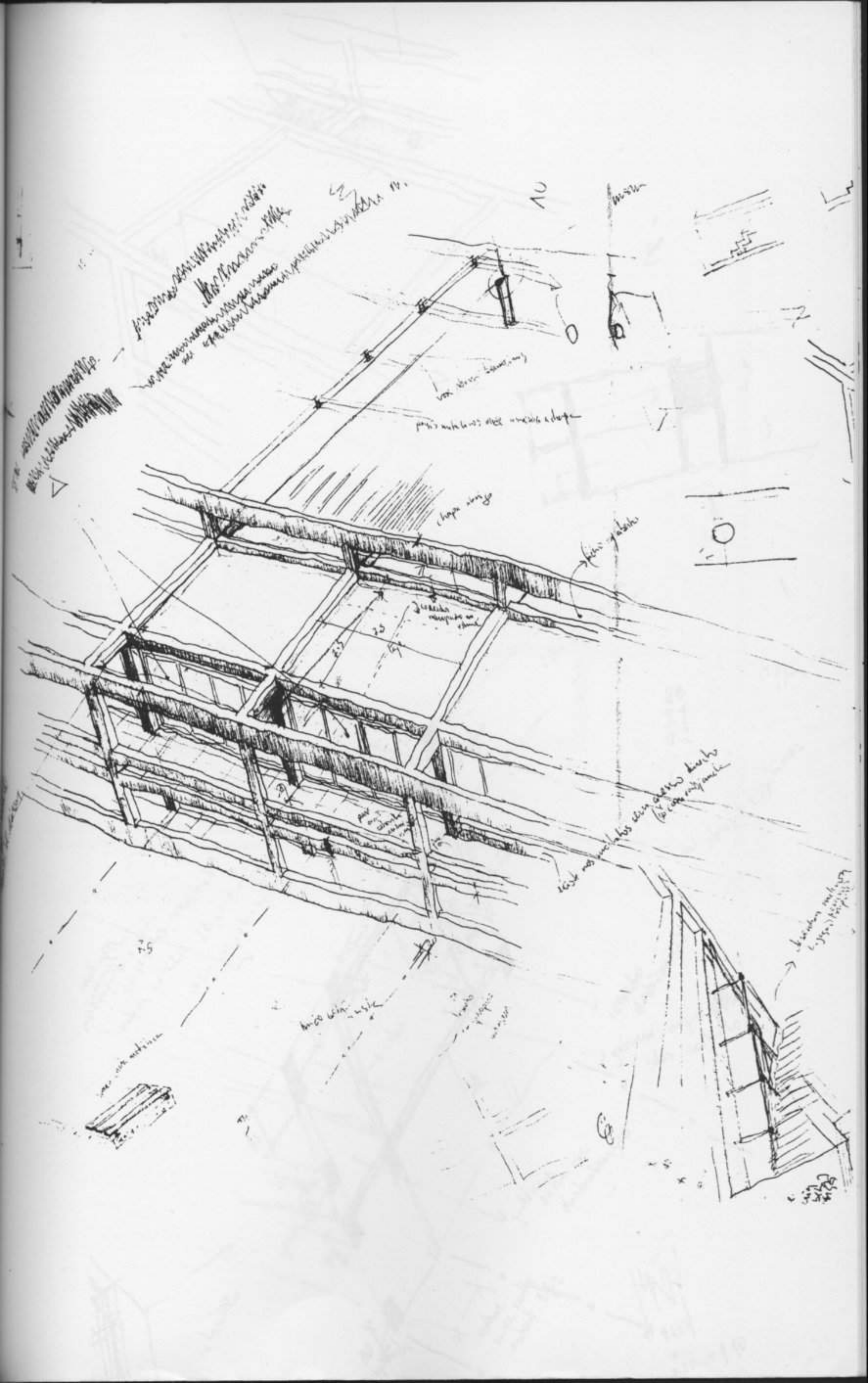
USRE) TAP NORTE
BORSEMA — LINKS
ALYKOS TAP NORTE



situação normal
do volume
intrínseco
da estrutura



Material de Placa - B



pour les murs de la chambre
de la chambre de la chambre
de la chambre de la chambre

pour les murs de la chambre
de la chambre de la chambre
de la chambre de la chambre

AU

M. 20

chape
poutre

chape

chape

chape

chape

chape

chape

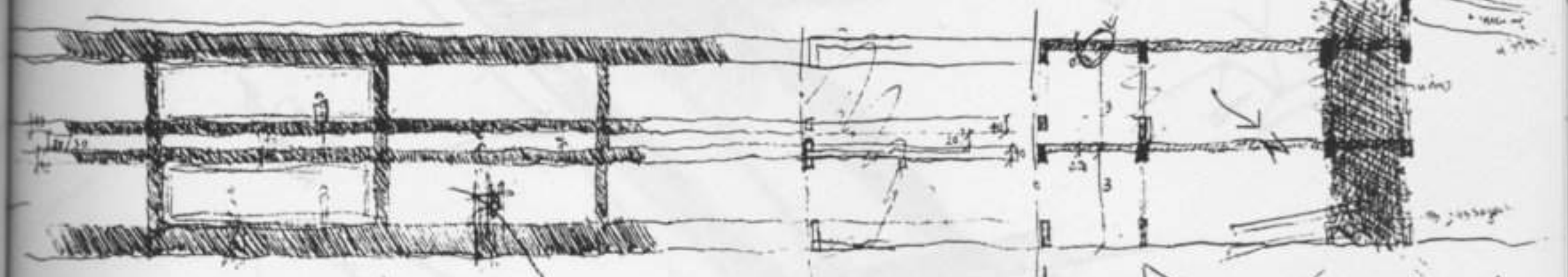
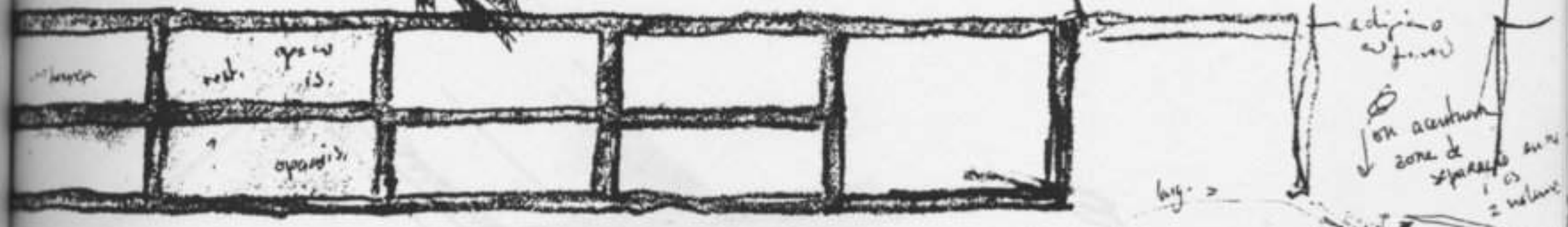
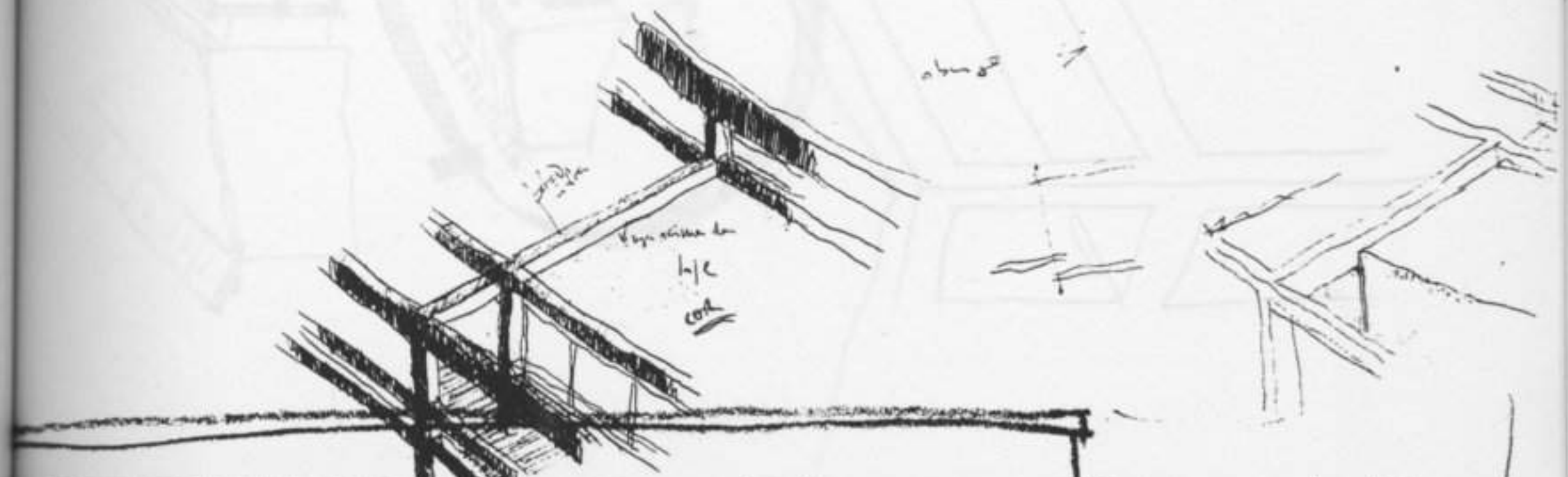
chape

chape



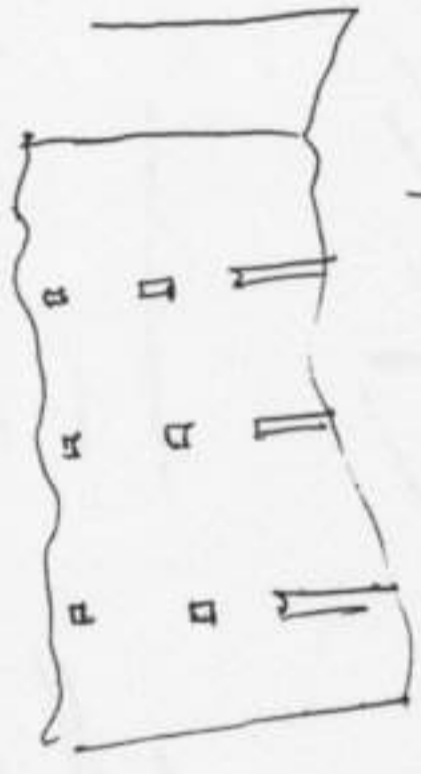
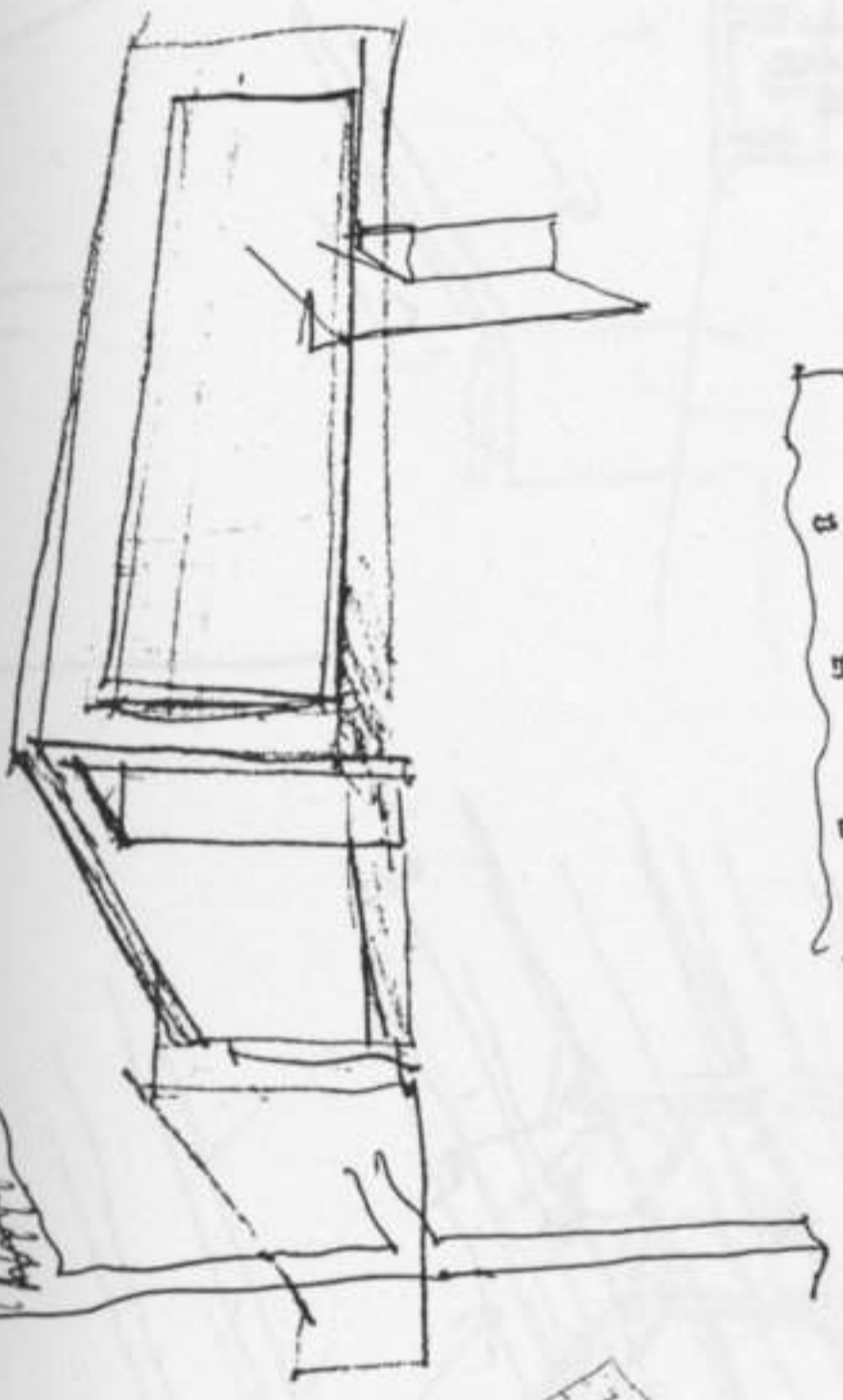
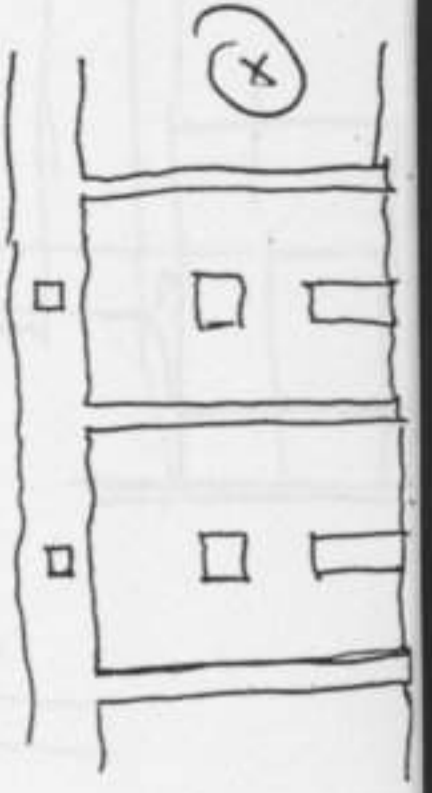
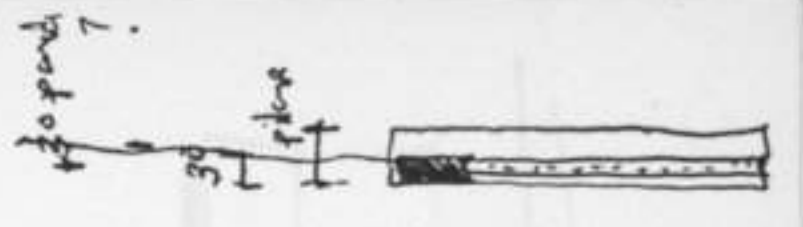
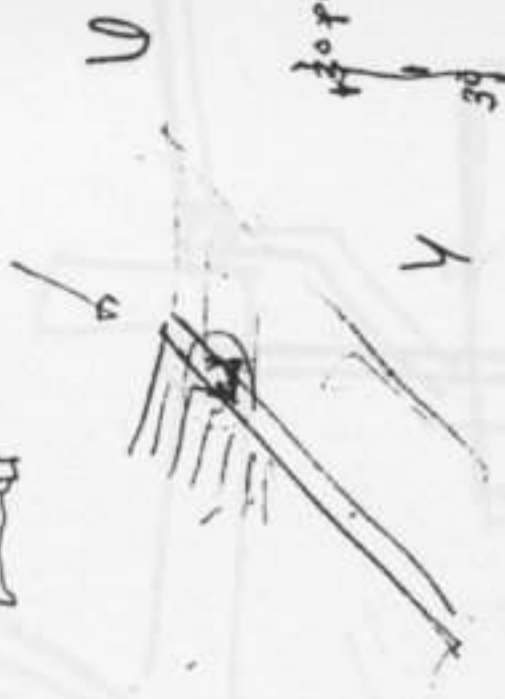
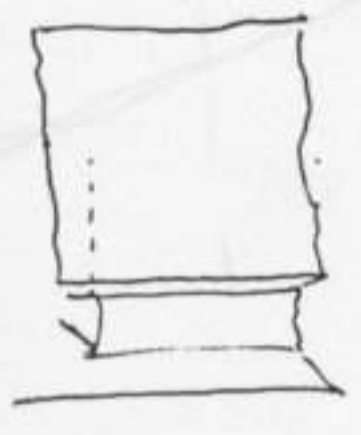
M. 20

M. 20

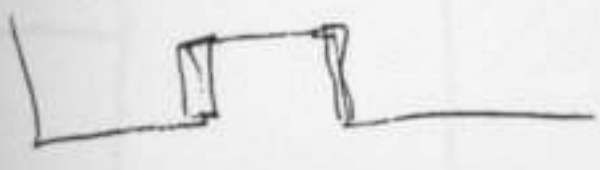
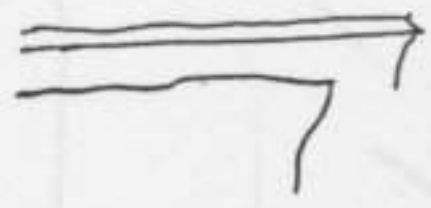
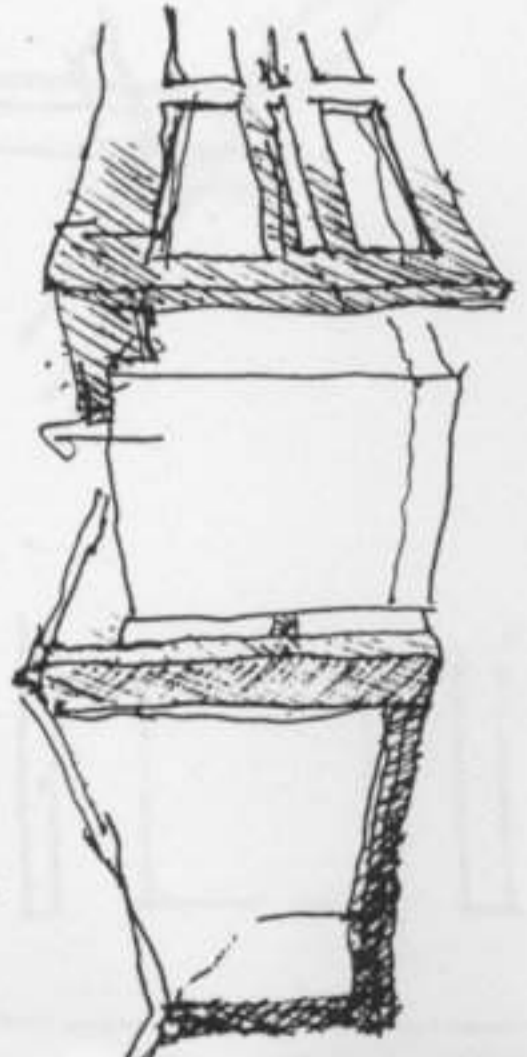
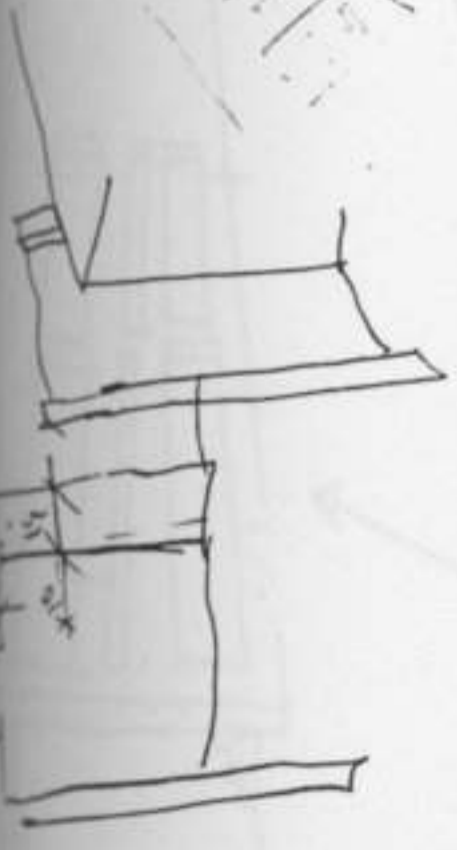
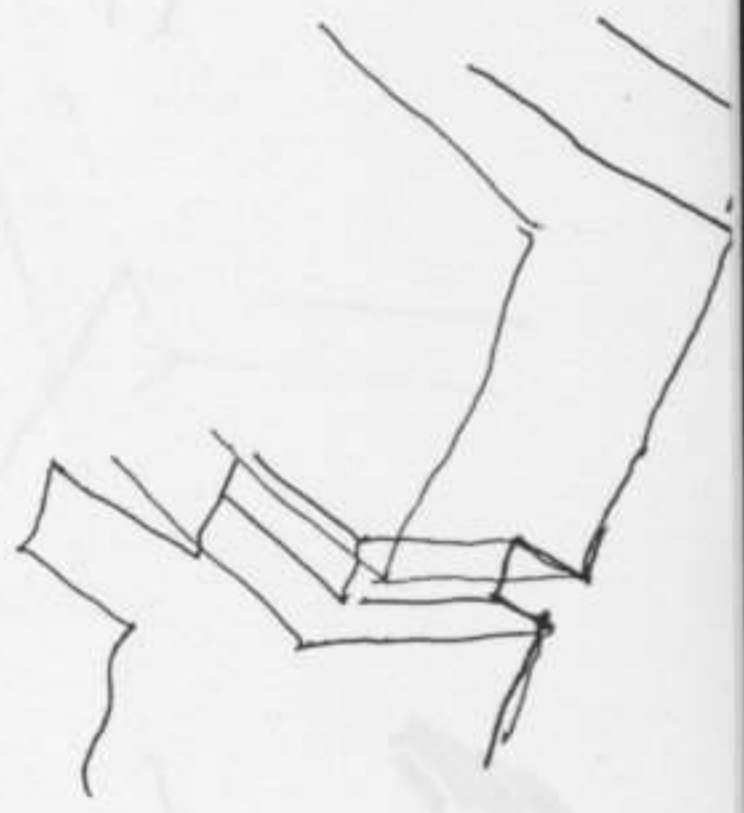


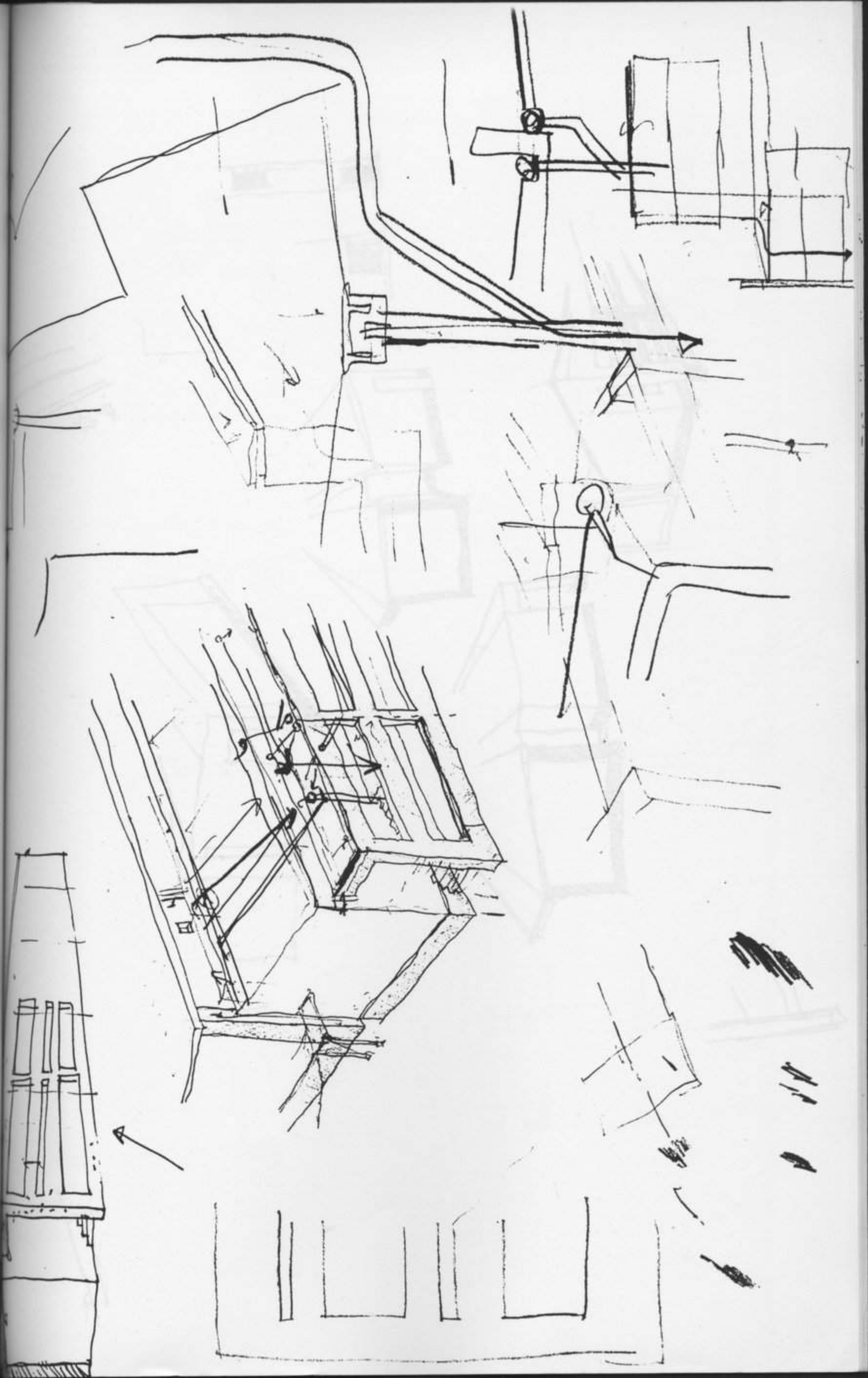
med. estreito	2m	1.9	
med. x esp. total		3.4	8.70
		3.4	- 6.40
		6.8	1.70
			1.10
			0.25
			1.30

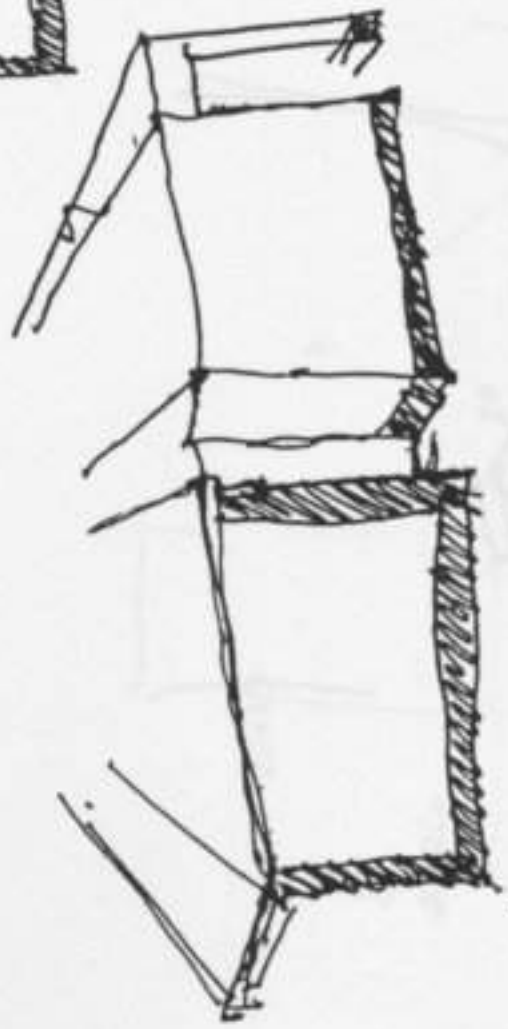
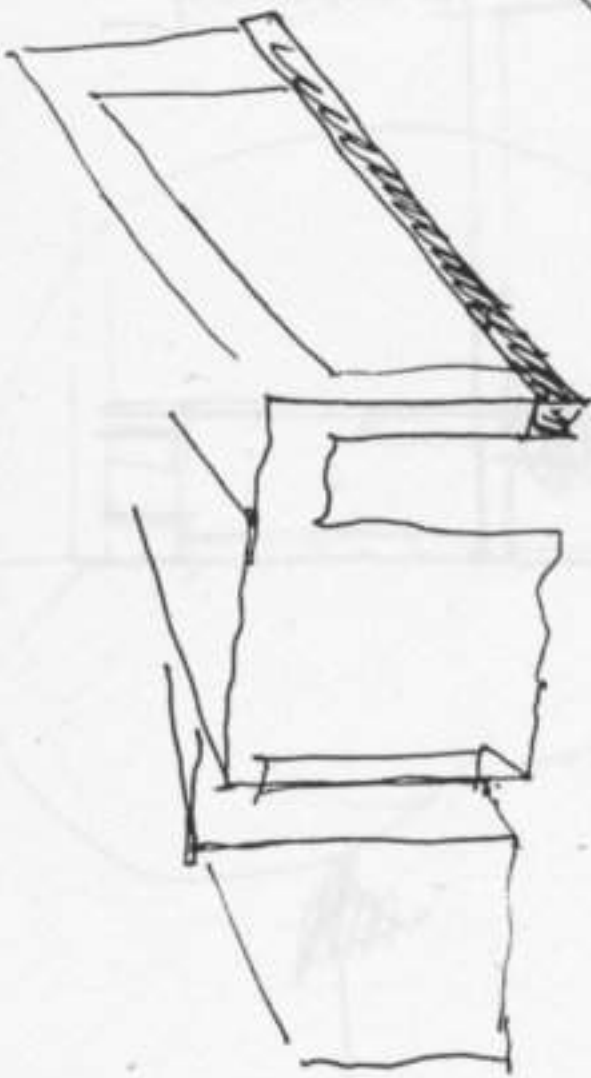
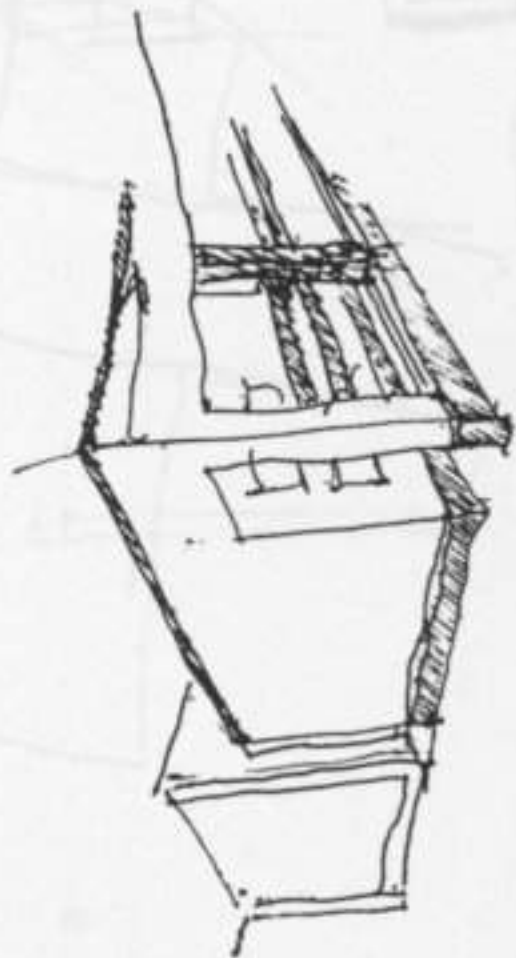
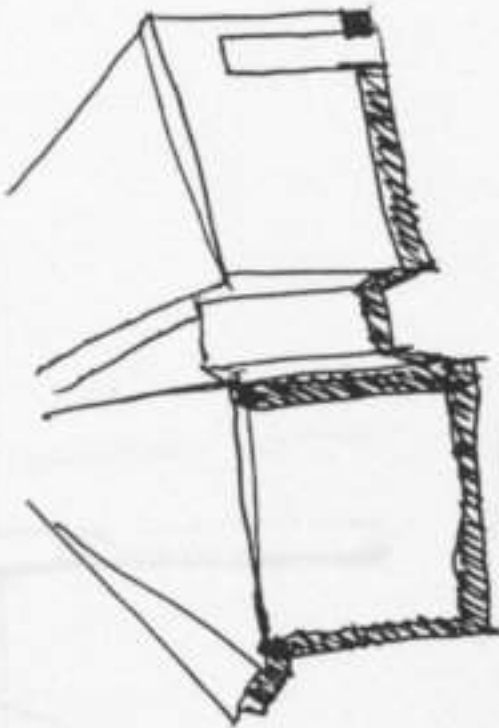
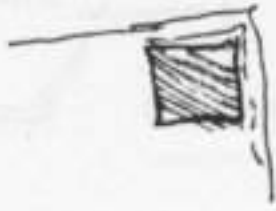
fim 0 → com
 novo limite est. → 2 módulos
 { enclad.
 sala de operações de uso

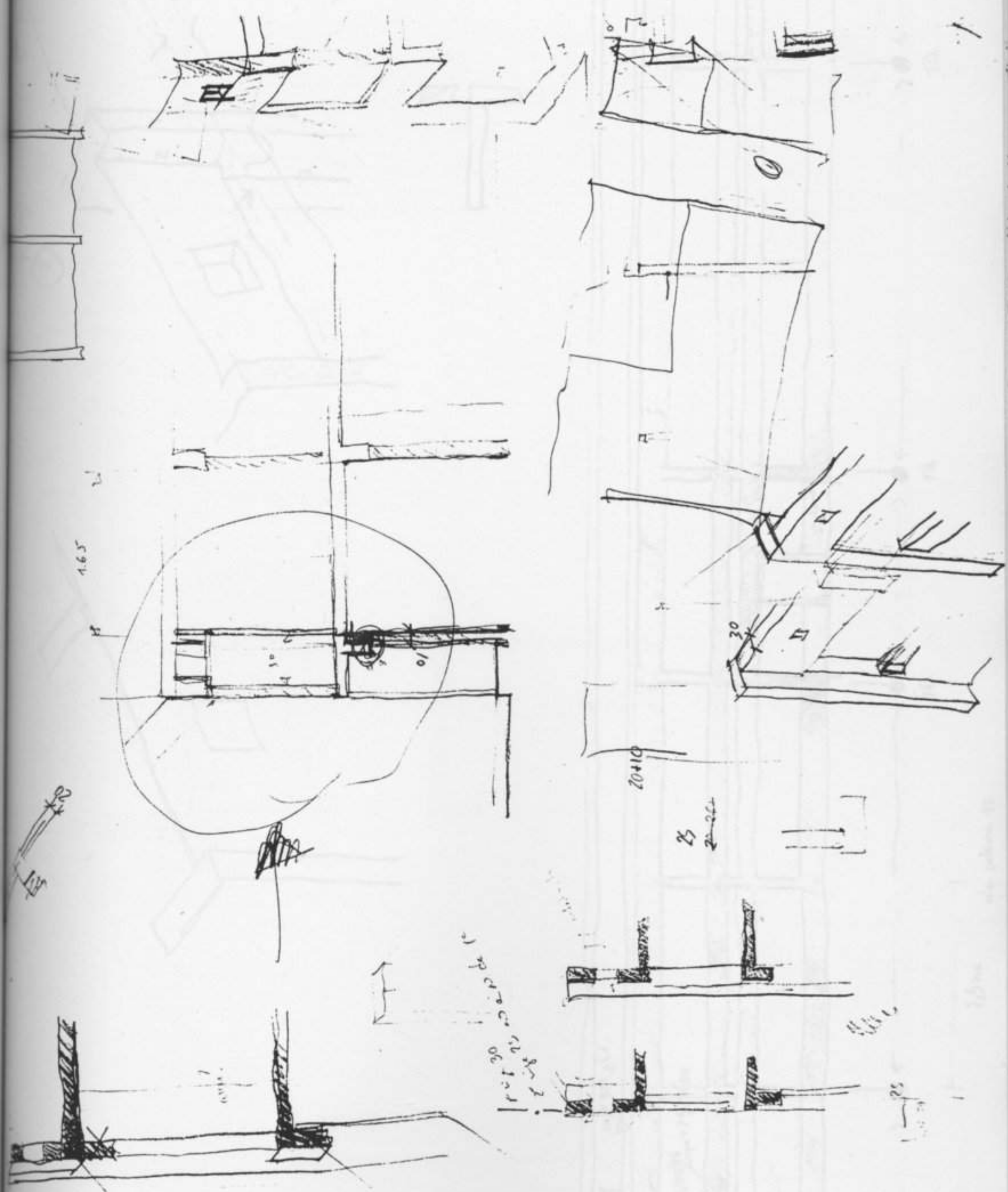


U









ref 30
20+10
25

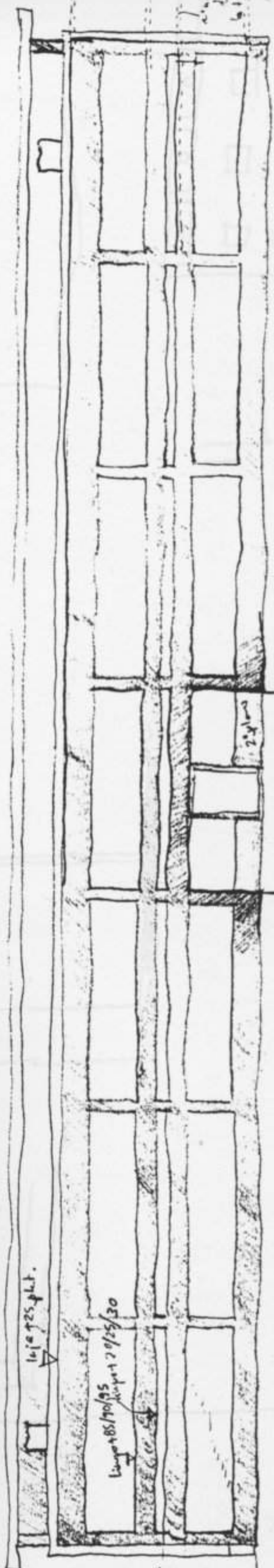
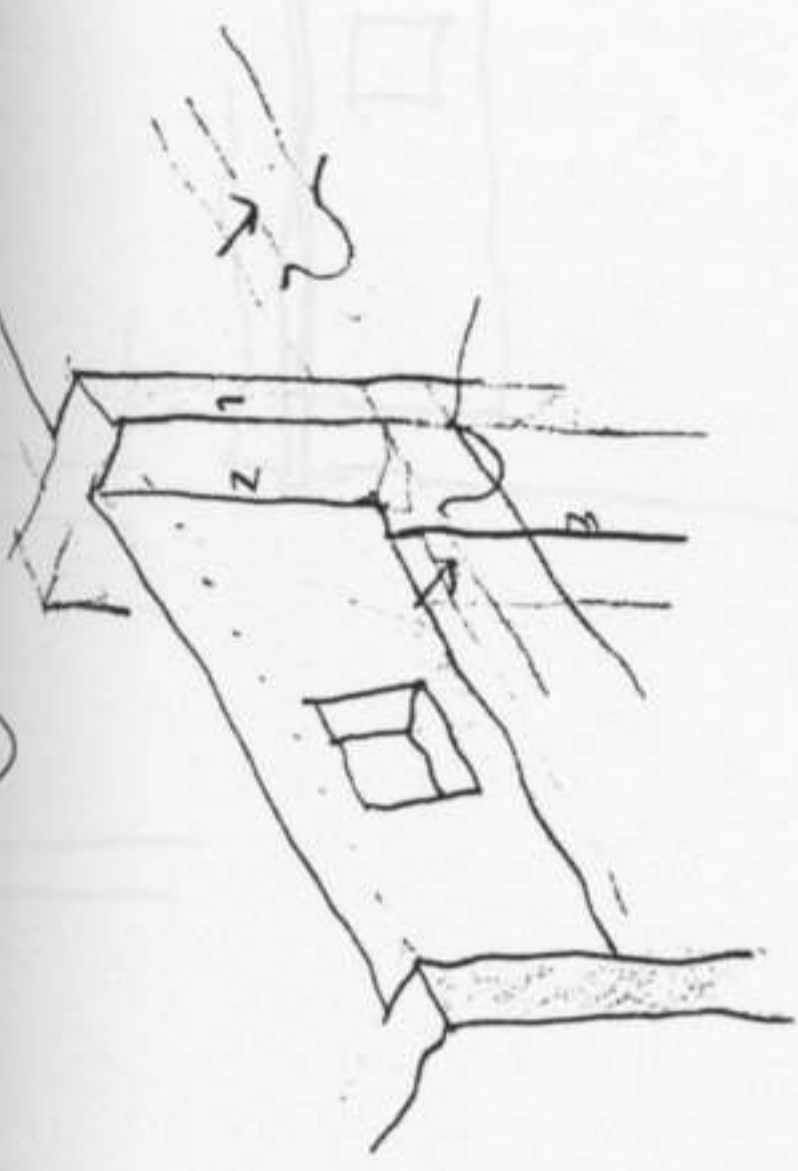
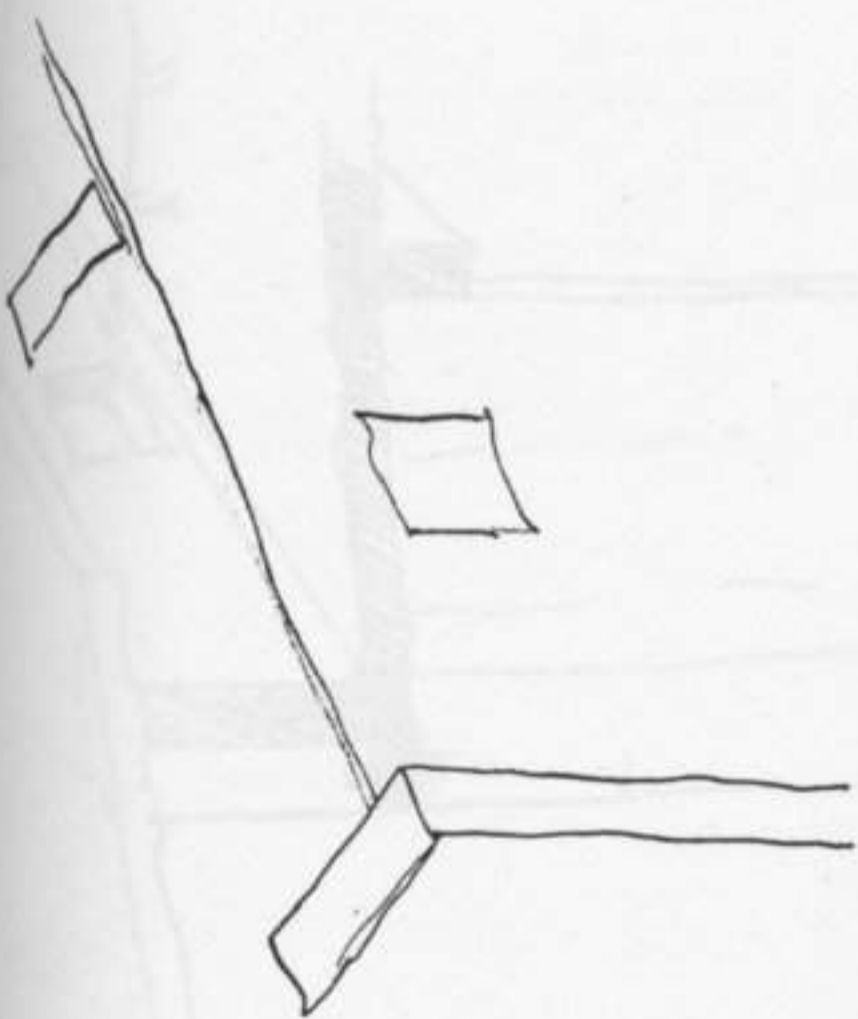
25

7. 27. 1975

acc 51. = 34m

6.80

21. →
6.80



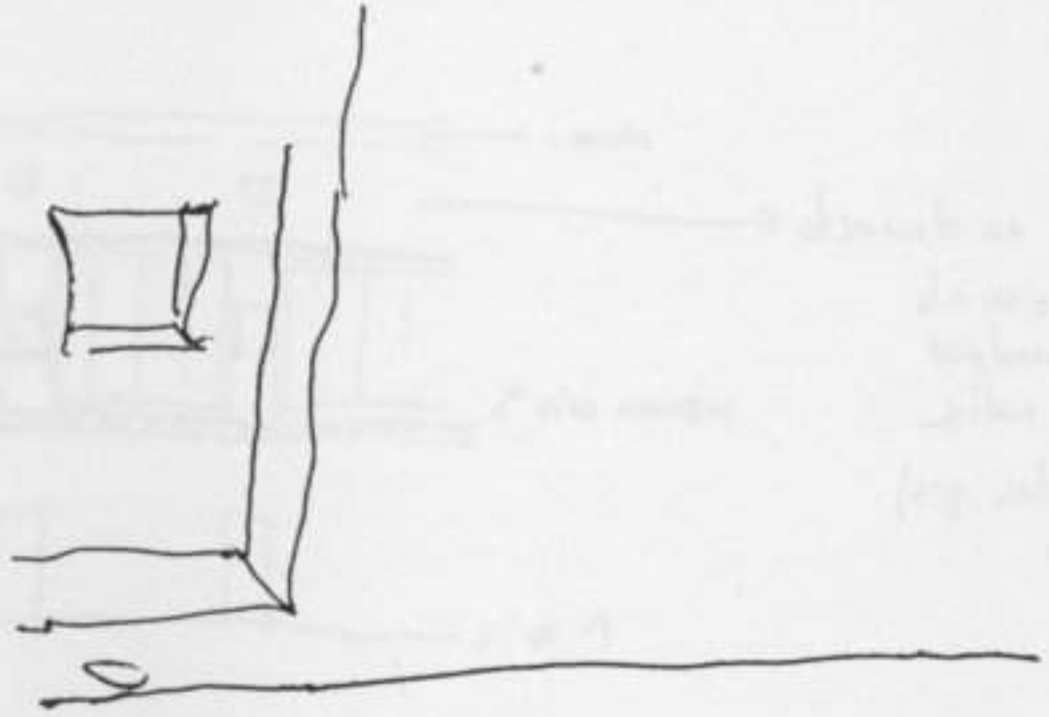
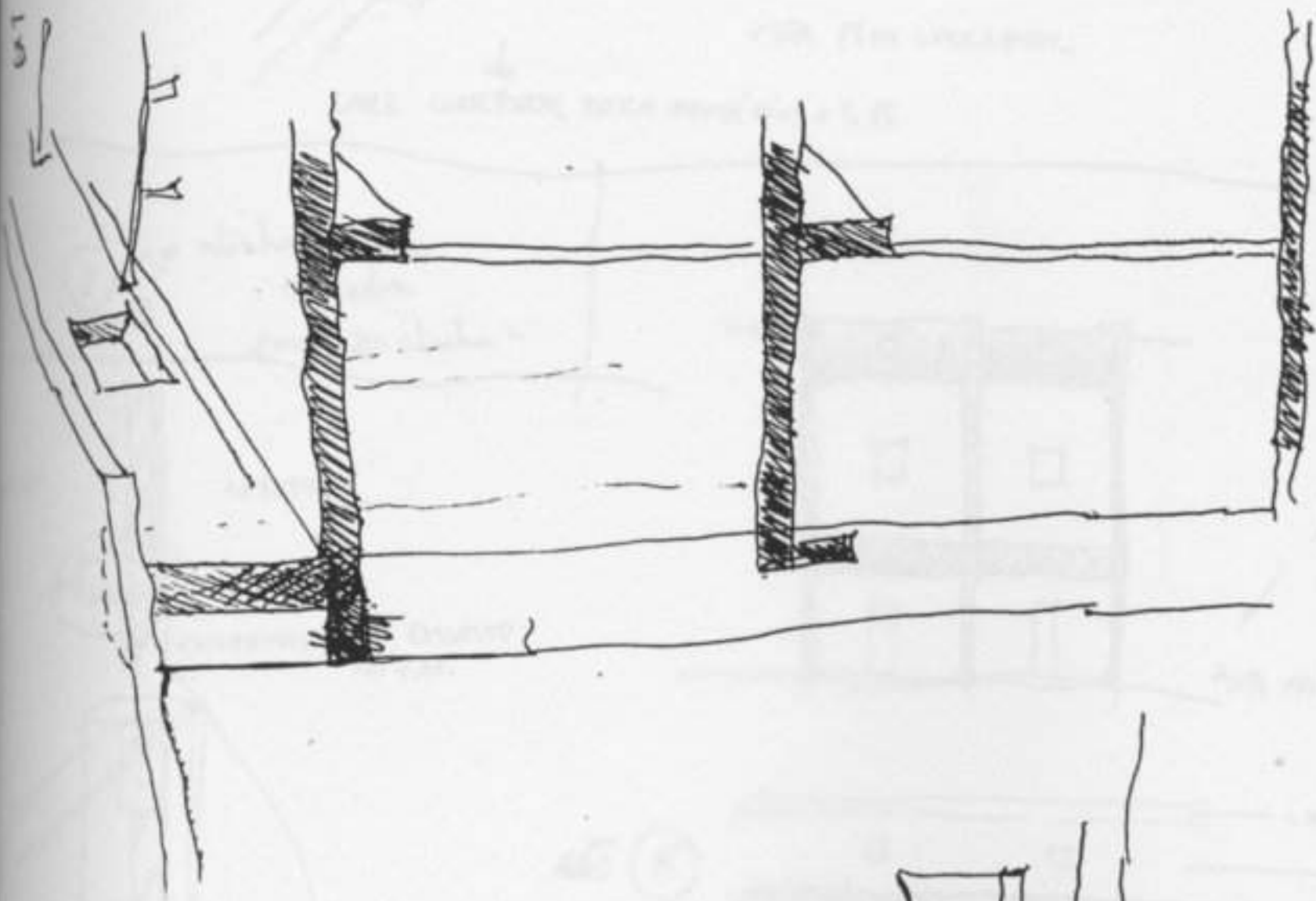
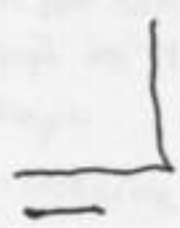
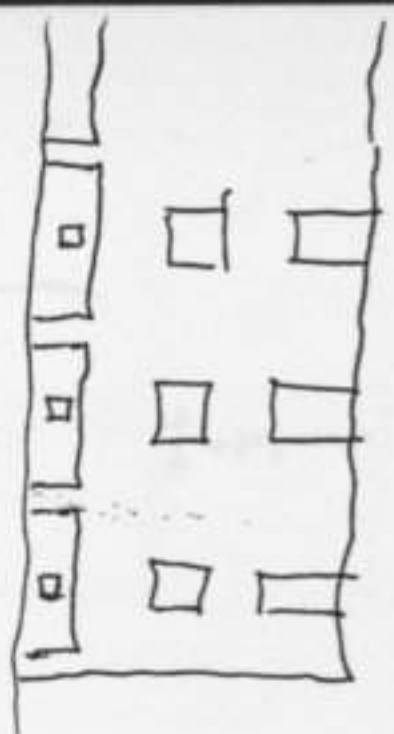
longitudinal section 20/25/30

longitudinal section 20/25
11.50
18.20
14.50

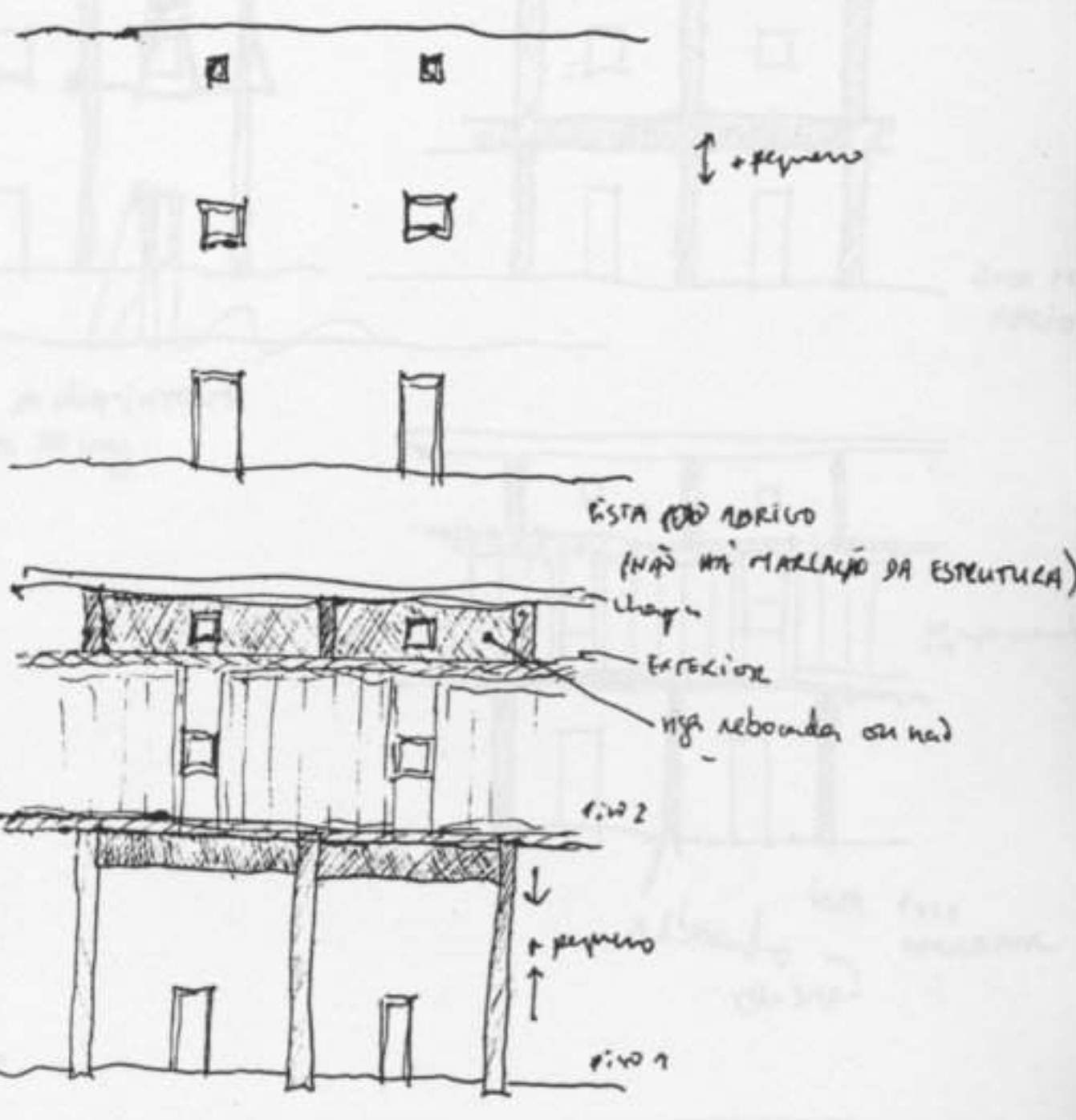
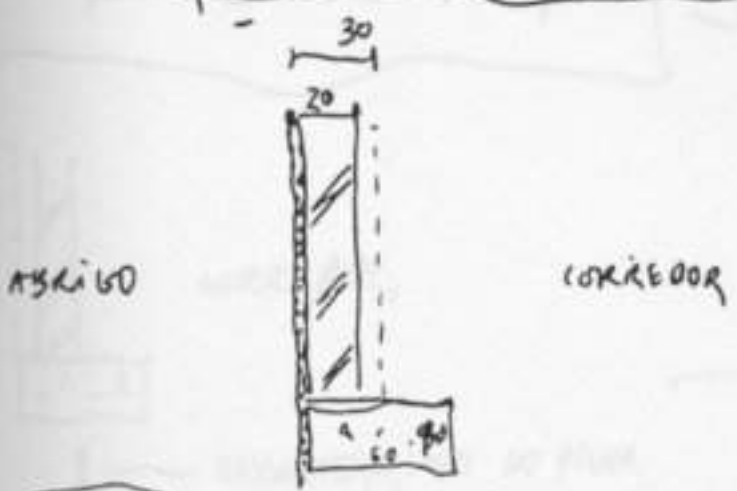
longitudinal section



7.15m
win columns 17



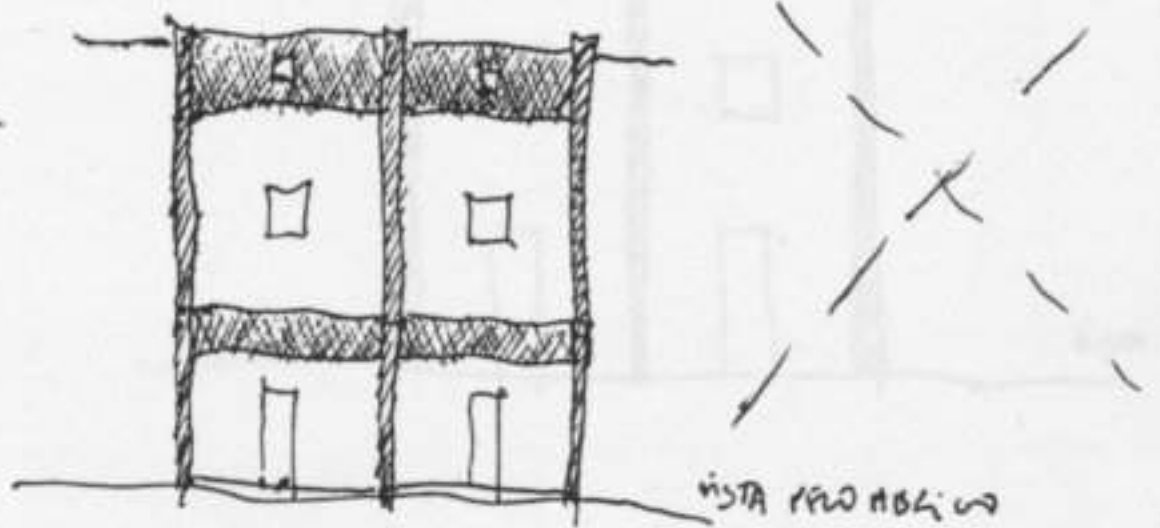
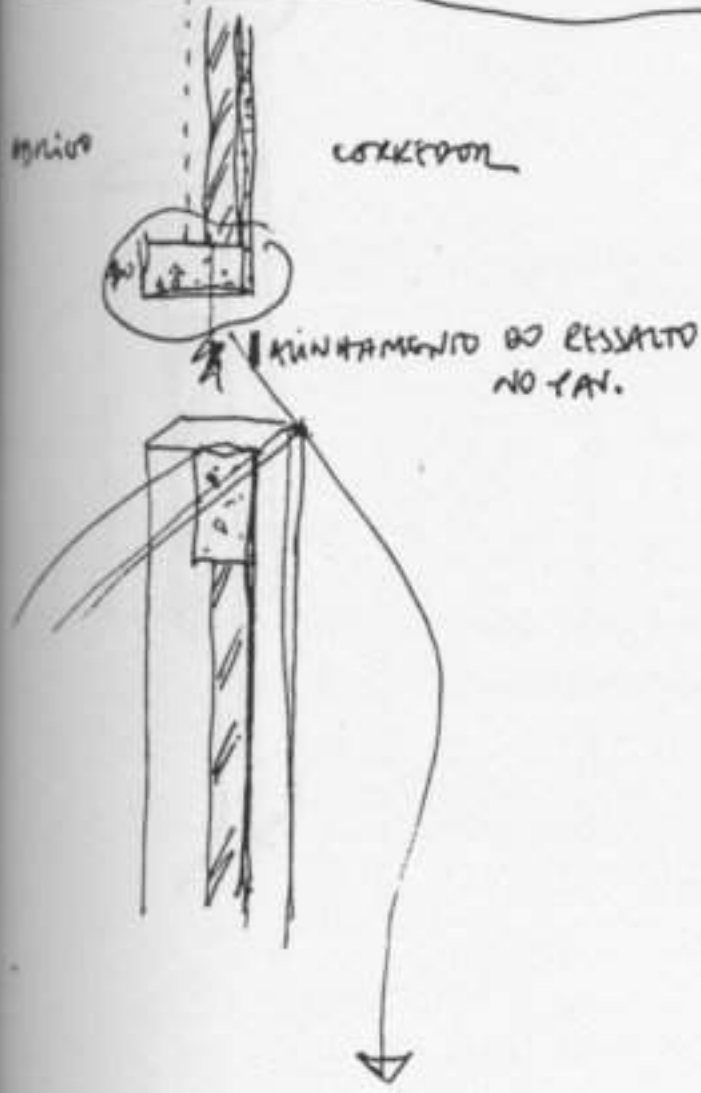
① viga alinhada pl lado abrigo
pared 20 " " "



VISTA PLO CORREDOIR

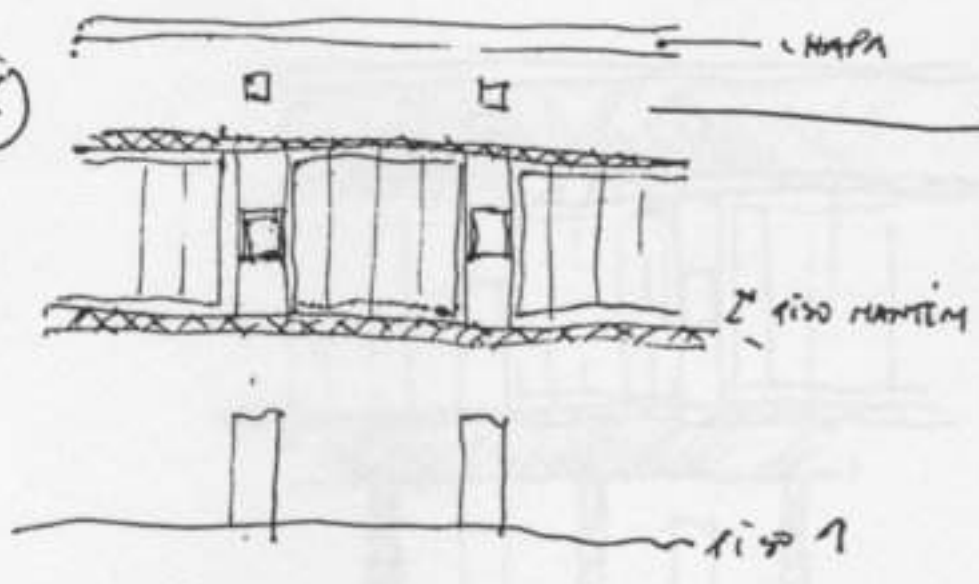
LARG. CORREDOIR ZONA ARMÁRIOS = 1,35

② viga alinhada pl lado
corredor
pared 20 alinhada "



VISTA PLO ABRIGO

ABRIGO (X)



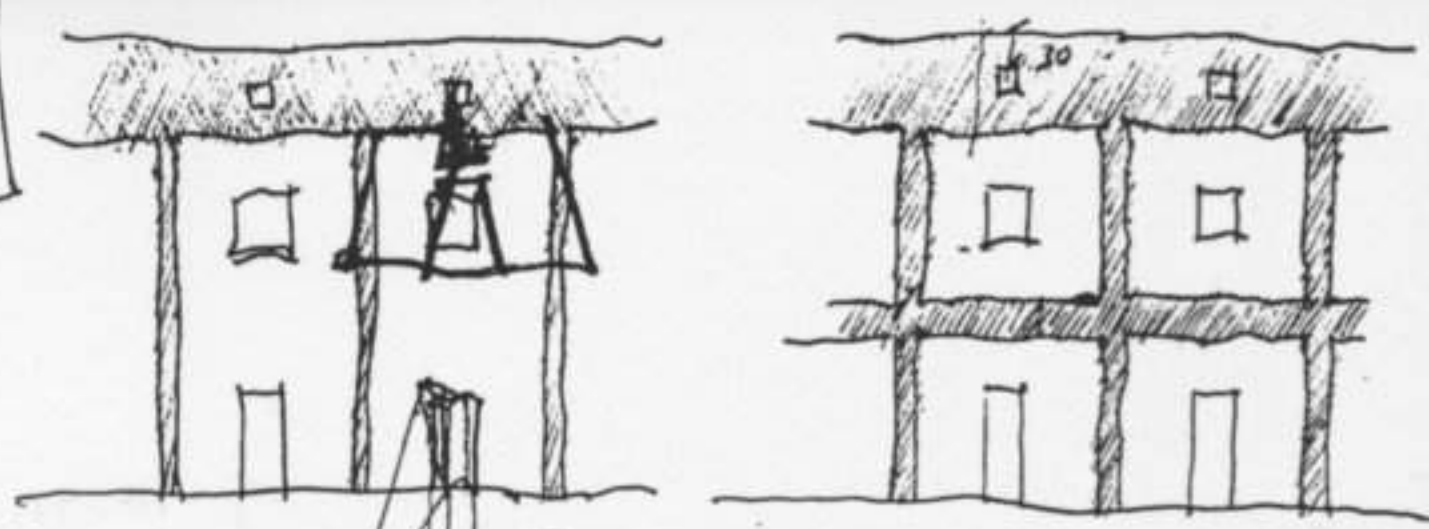
desacerto ao fundo
da reboco
contra
filas extrem
(esp. reboco sai)
fora

incomp. com oitavo
filas
(pelo reboco)



m

3) rija alinhada pl lado ^{abrigo} parede 20 alinhada meio pilar

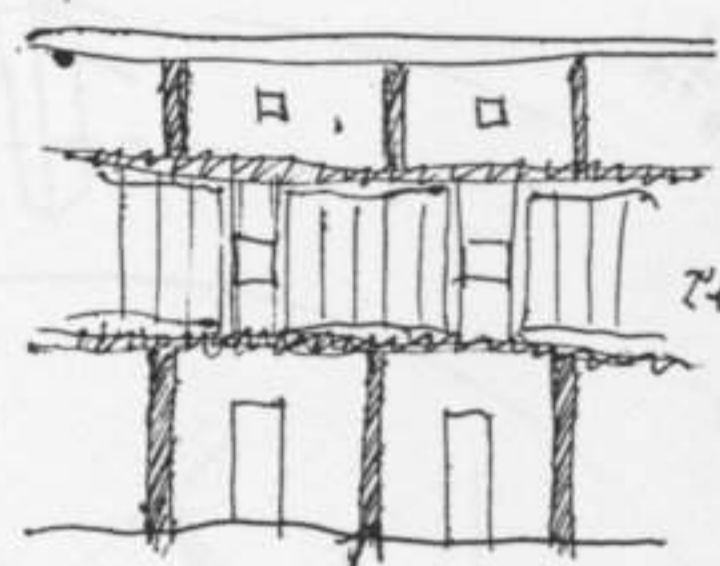


VISTA PELO ABRIGO

CORREDOR

RESSALTO A MEIO DO PILAR

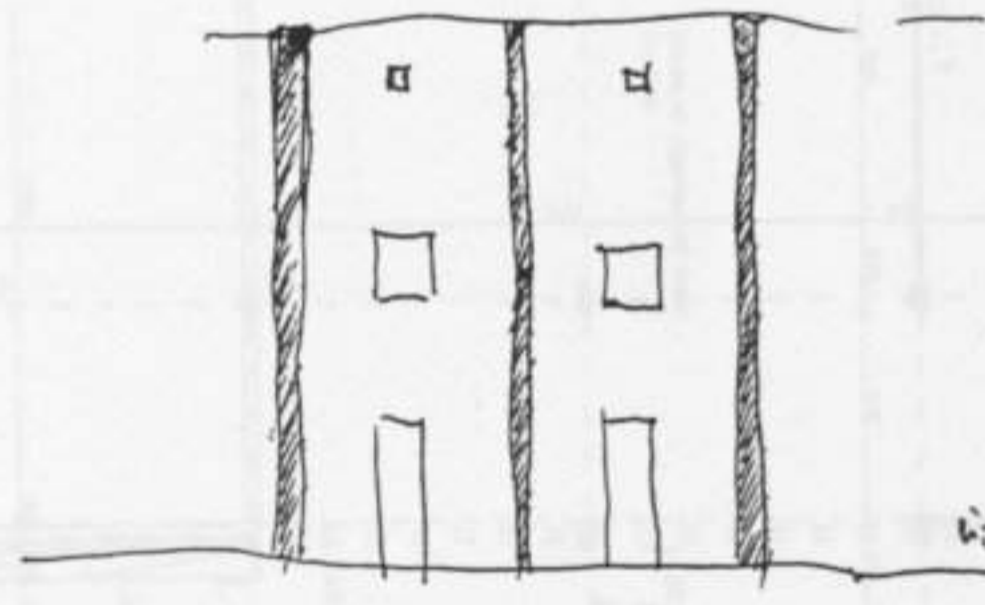
NO CASO DA VISTA INTERIOR. PODER SER 20 CM



VISTA INTERIOR

VISTA PRA CORREDOR

rija alinhada pilado corredor parede alinhada meio pilar



VISTA PRA ABRIGO

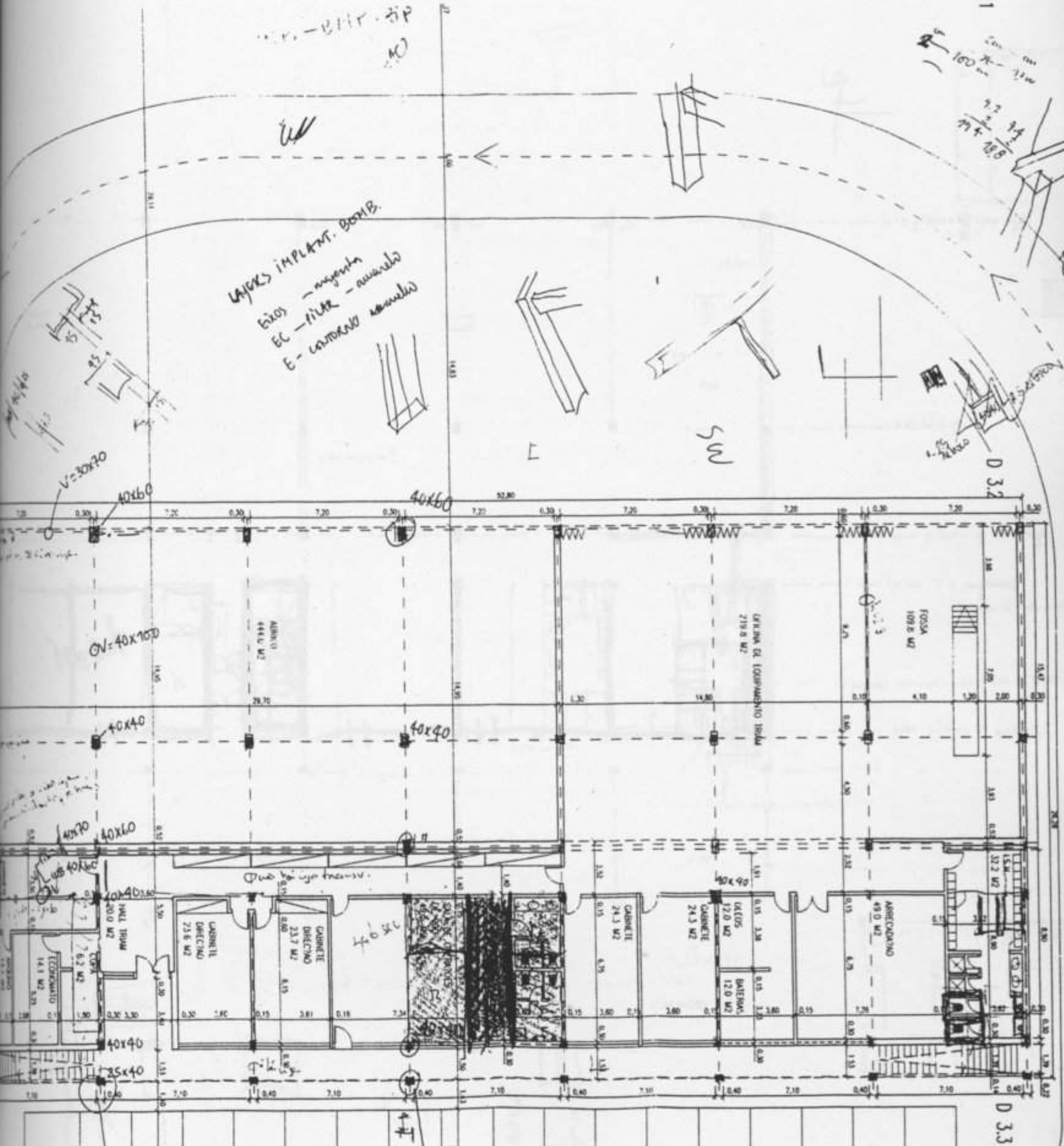
RESSALTO A MEIO PILAR



...-Blir. tip
40



WORKS IMPLANT. BOMB.
Eixos - magenta
EC - filar - amarelo
E - cantoneiro vermelho



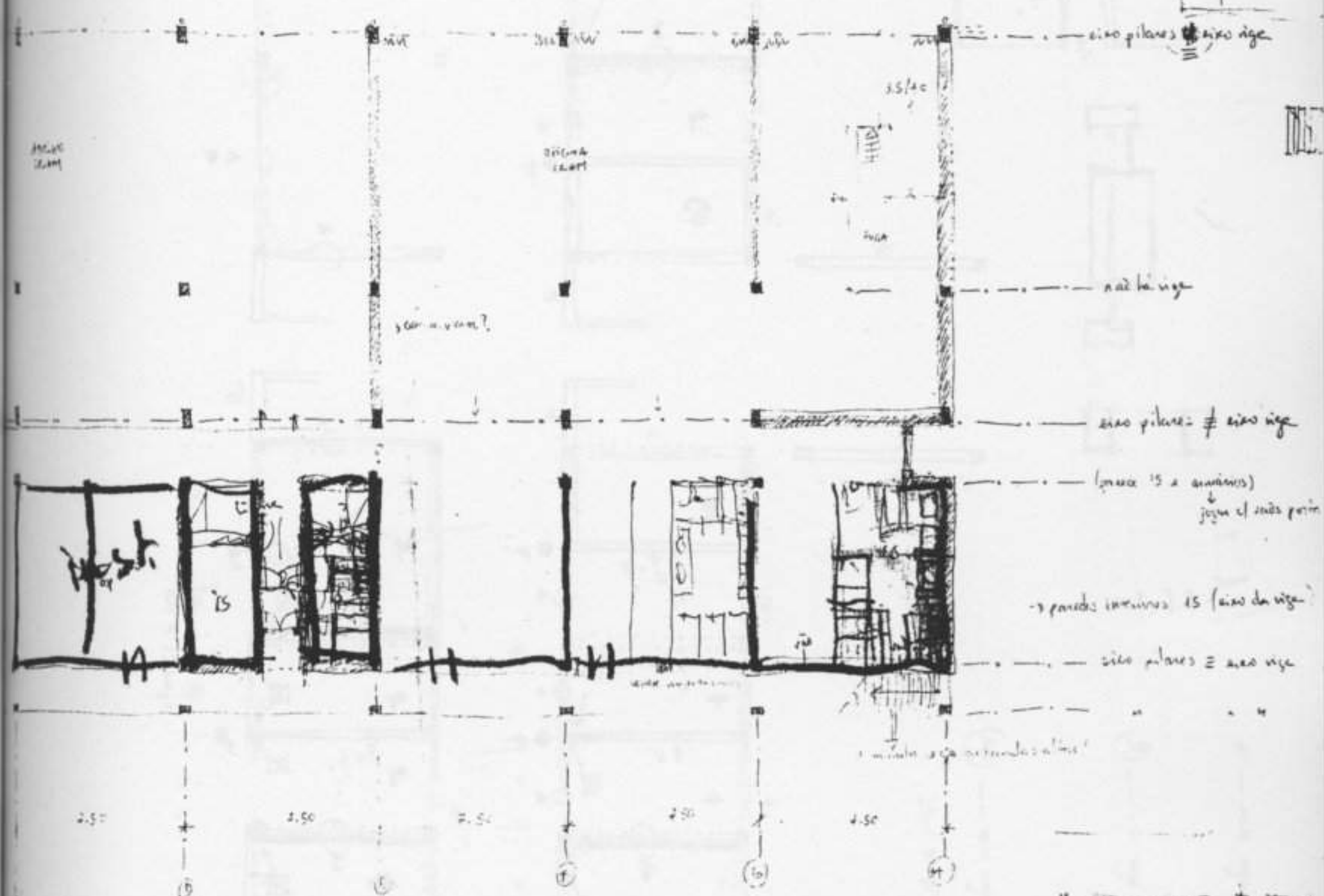
PISO 0 - 40x70
1 - 40x60

30x40
25

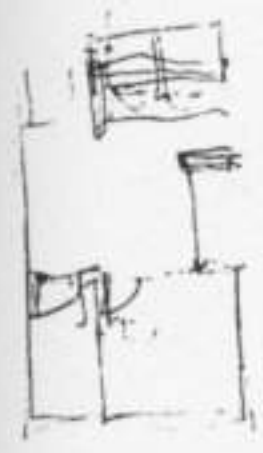
NG

D 3.3

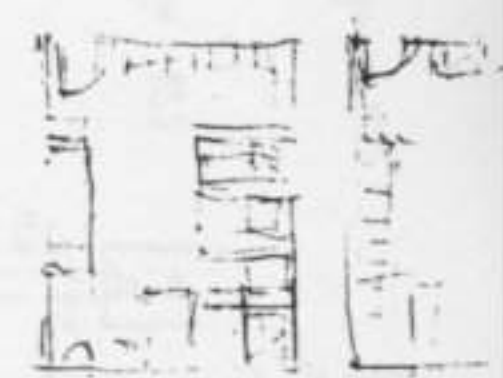
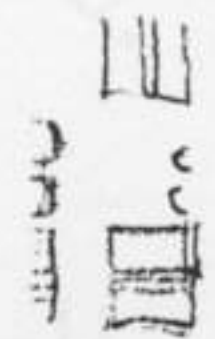
69



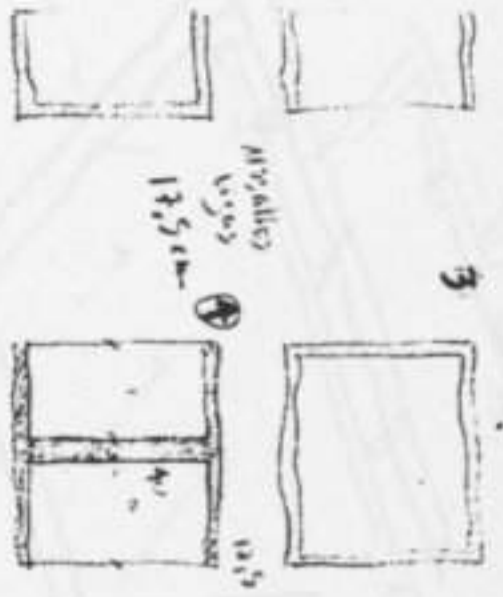
2.50 2.50 2.50 2.50 2.50



Handwritten scribbles and notes in the bottom middle area.



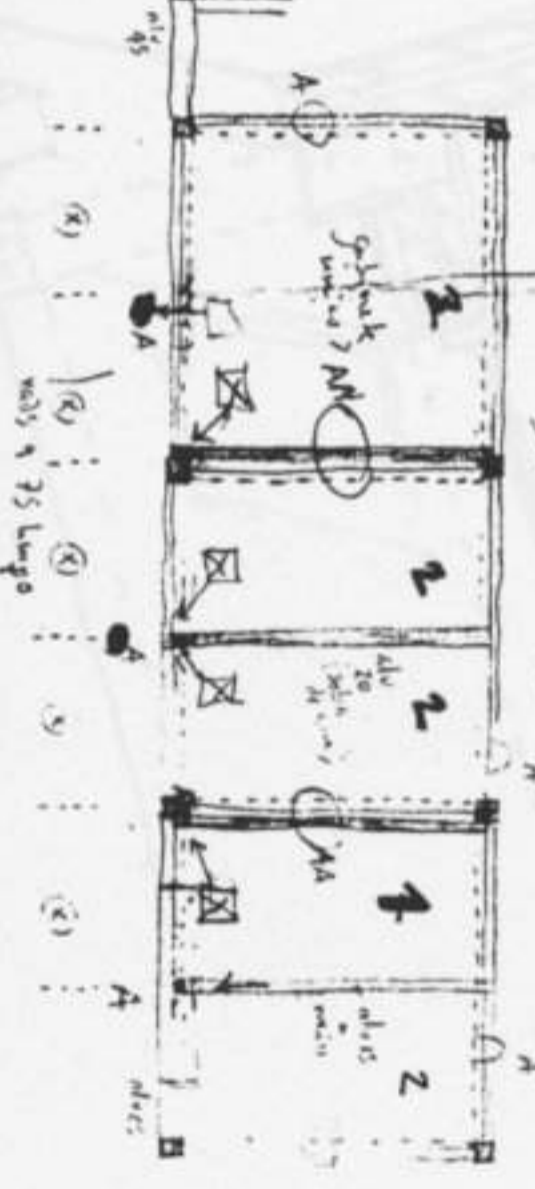
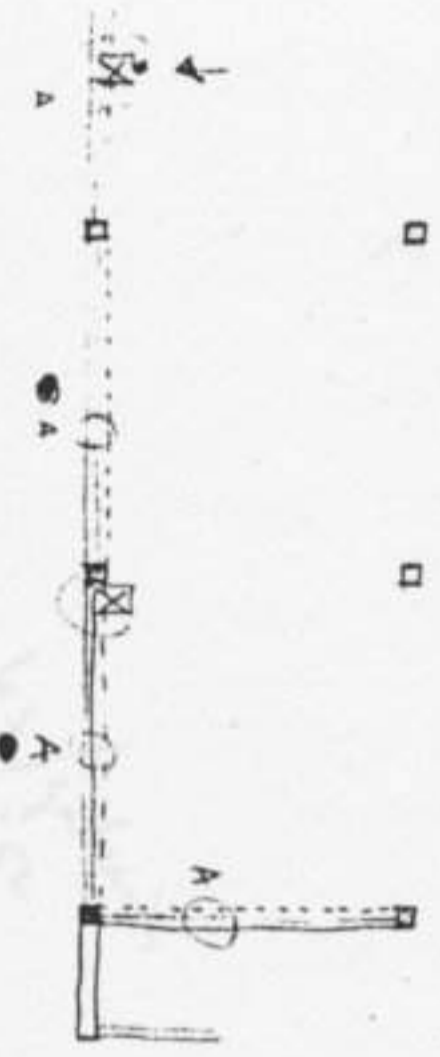
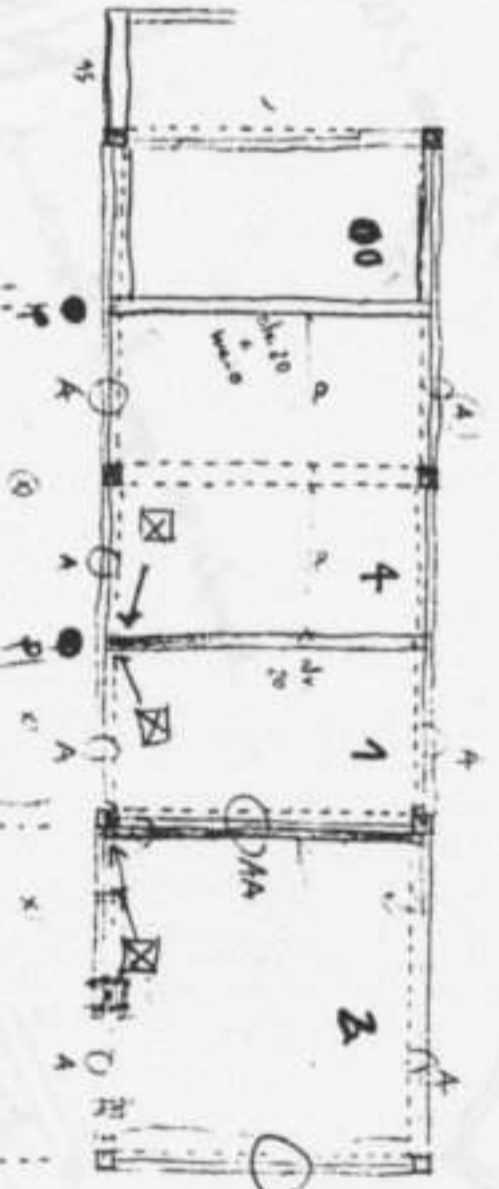
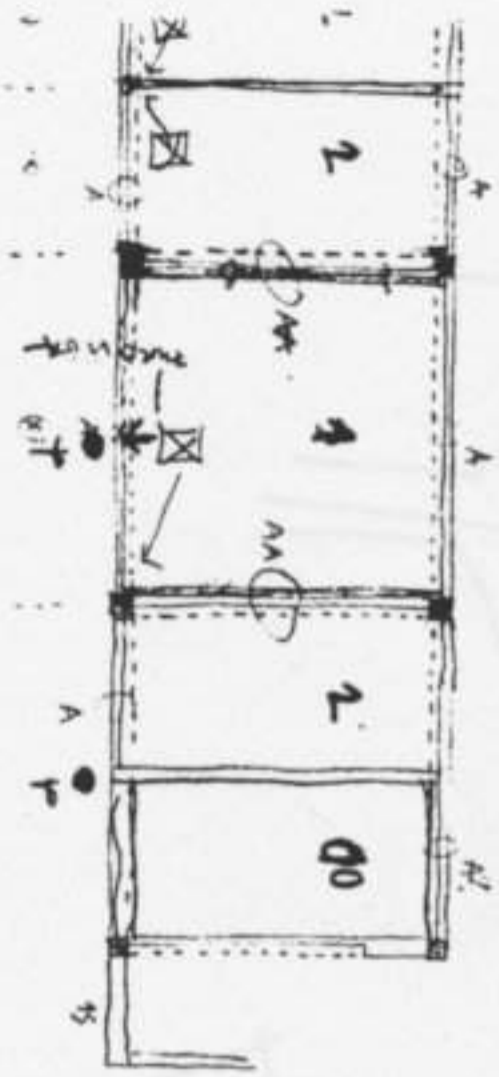
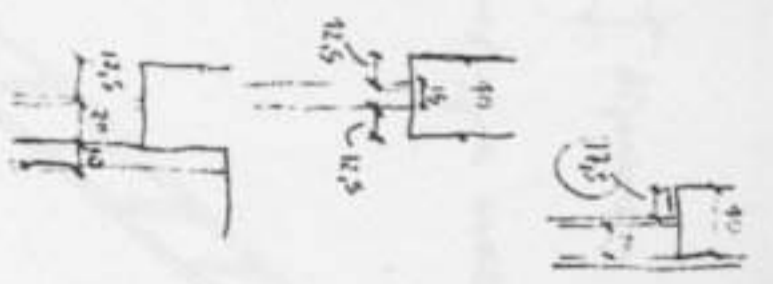
Handwritten notes and scribbles at the bottom of the page.



(A1) — wohn nige = 1915

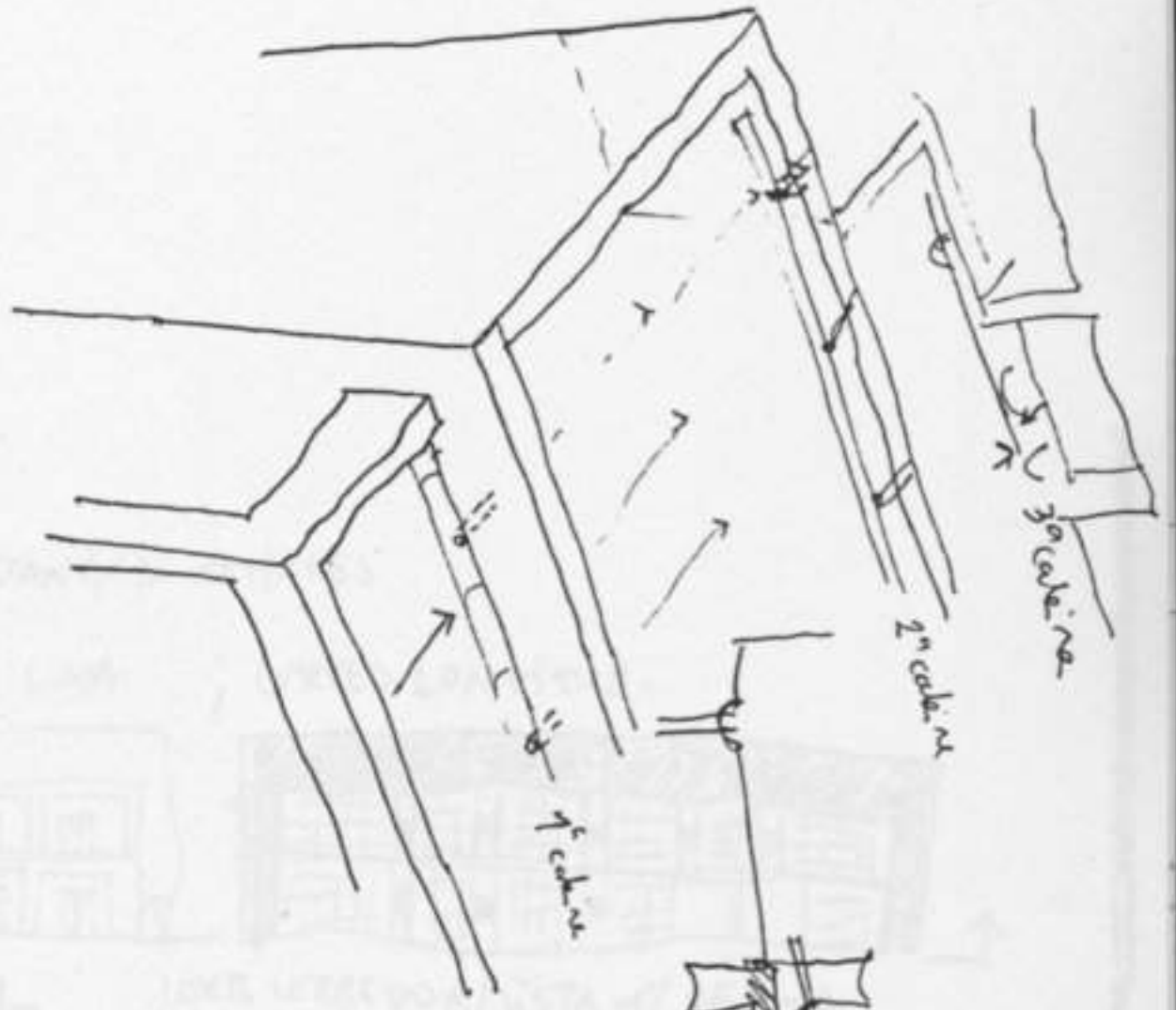
(B) — wohn nige = 1215

(AA) — wohn nige 1215 + 90 21 nls.



100

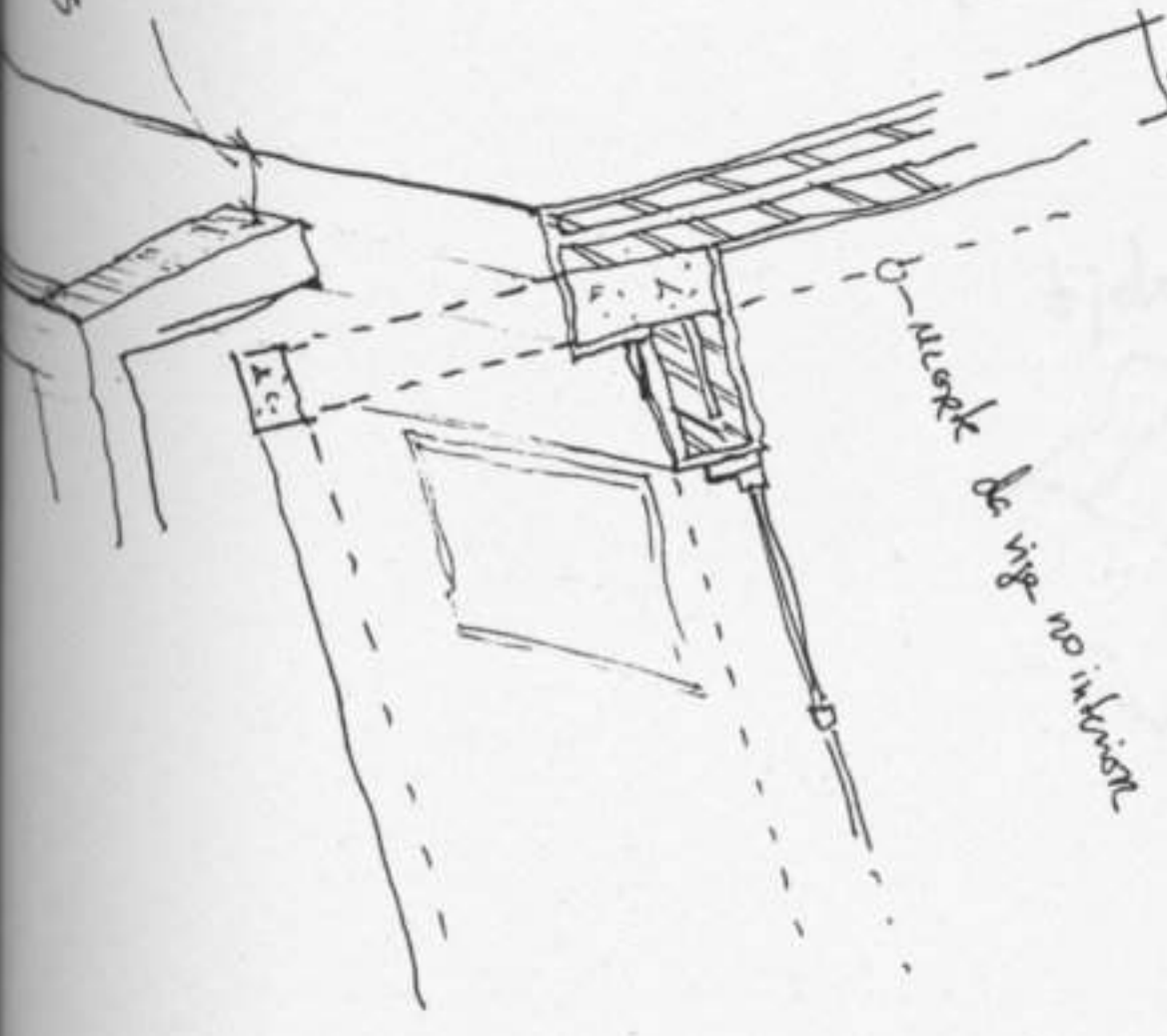
12, 13, 14, 15



19

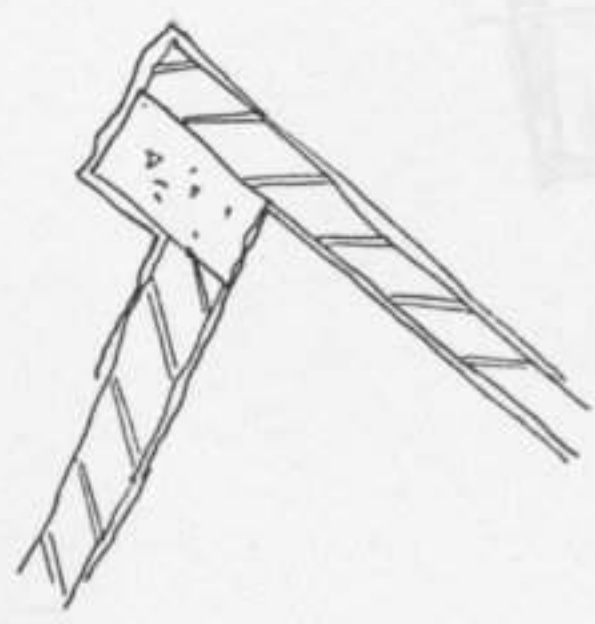
transi cad gabrietas / gabrietas
 exterior

27.5
 21.5



27.5 or 32.5 or 37.5

10
 5

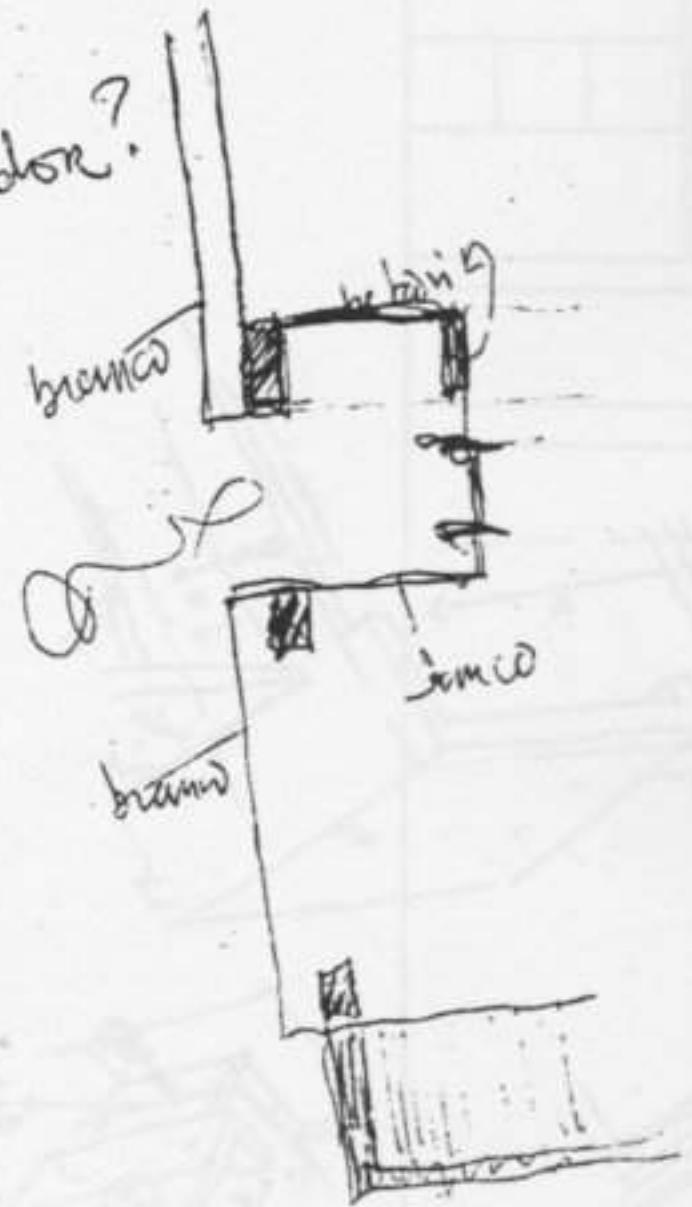


diferença materiais
 equipe mestre bije

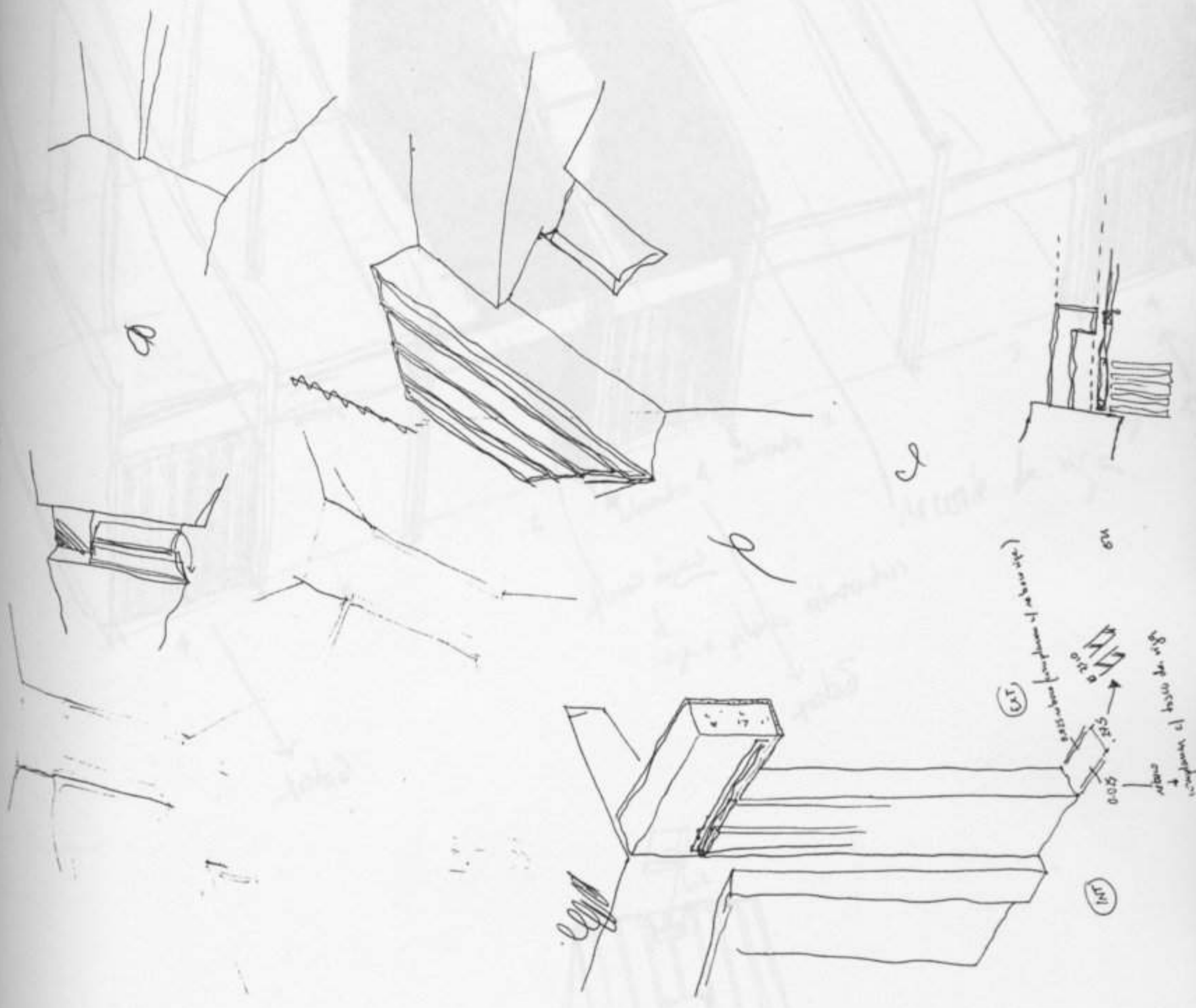
→ ATEUER → TRIAM
 DEFINIR MATERIAIS / MUDANÇAS REMATES
 DEFINIR CORTES - VAOS LIMA ; CORTES LONGITUD.



dizolo vidro no corredor?



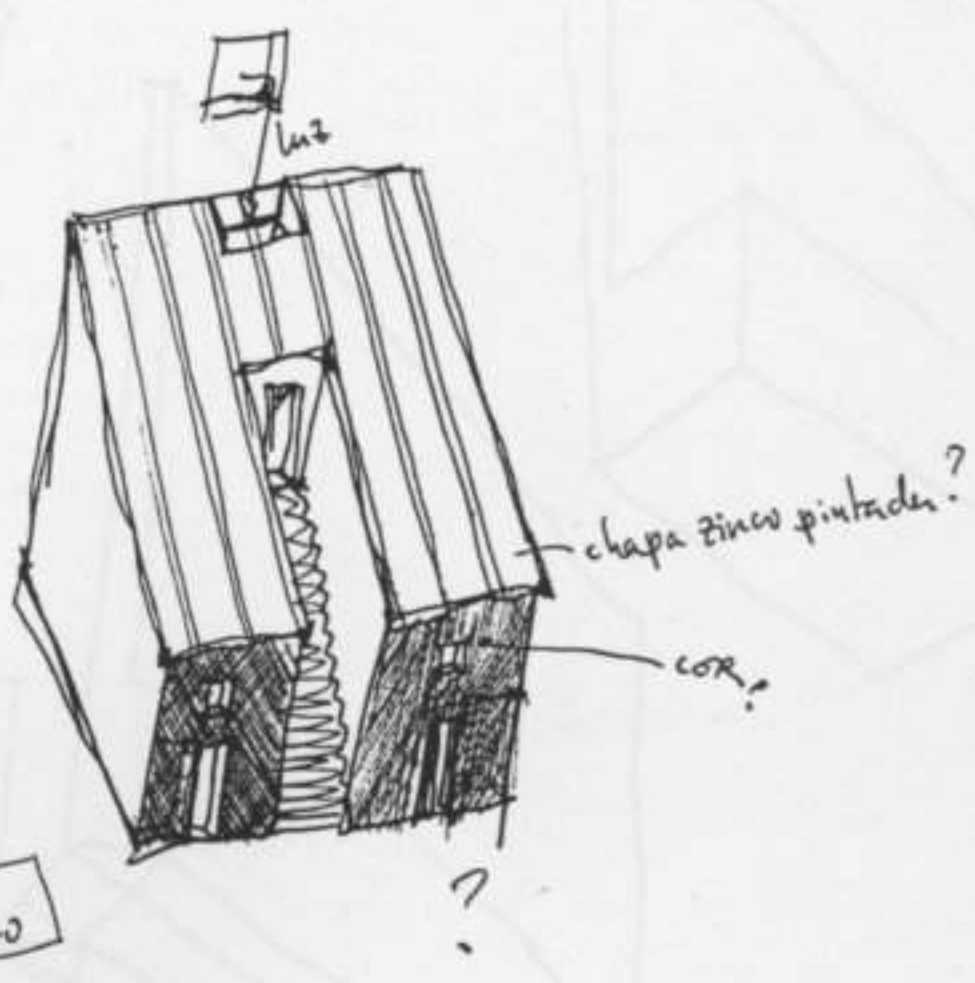
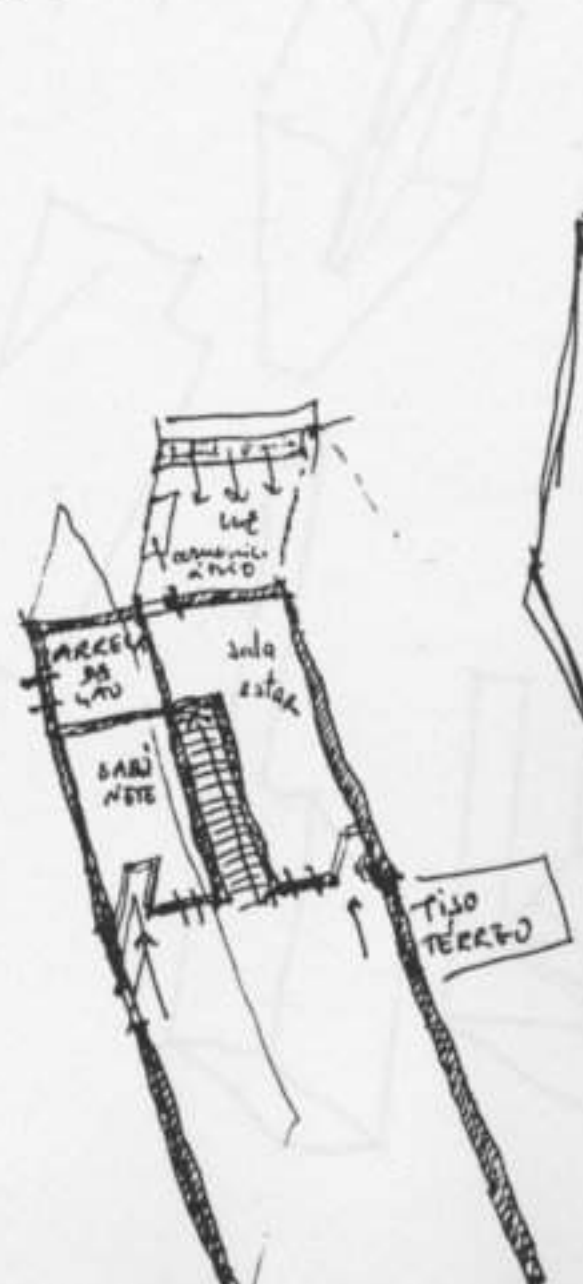
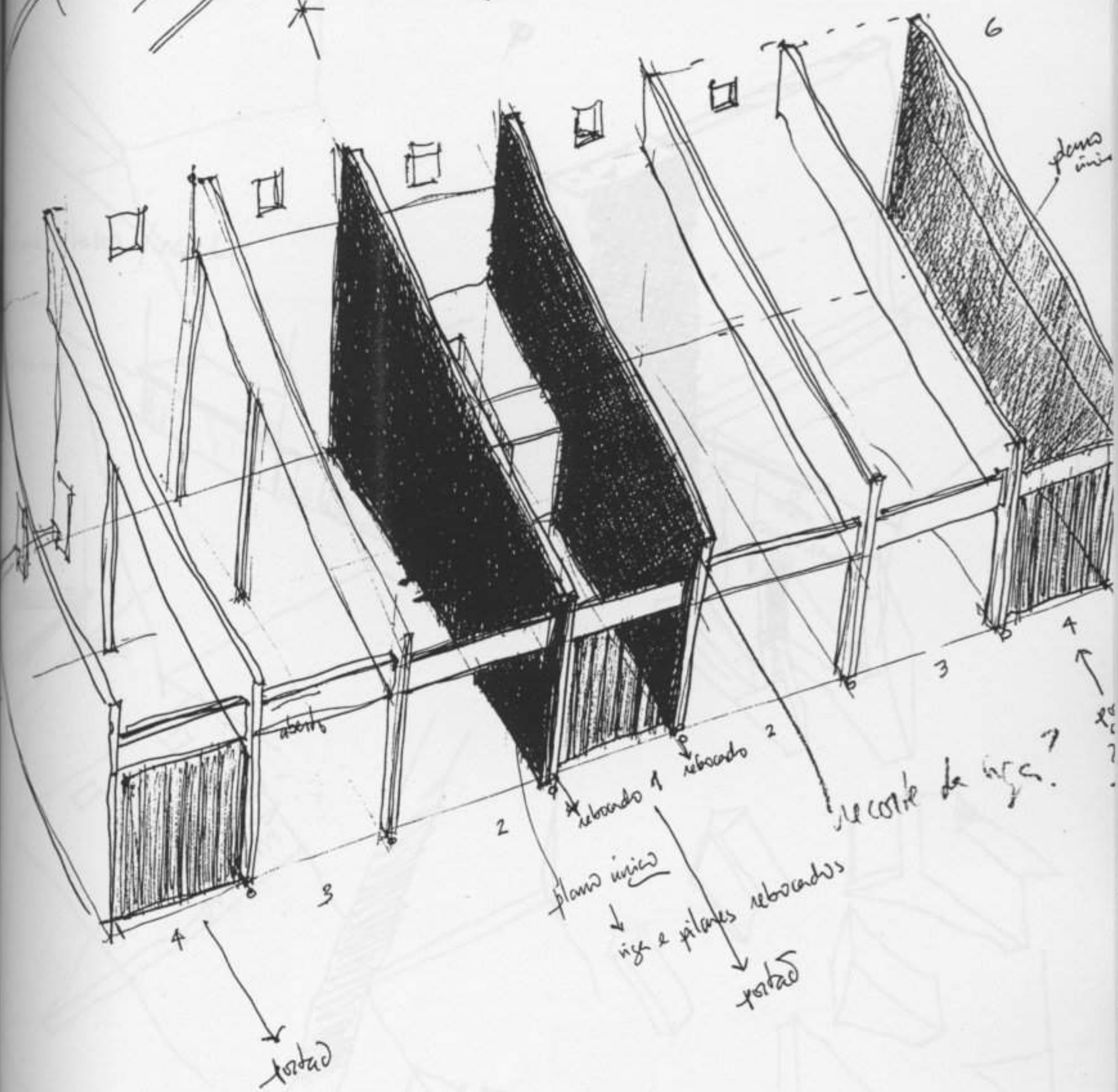
0.246
 0.835
 1.635



completa el baso de vig.
 0.025
 0.025
 0.025
 (C25)

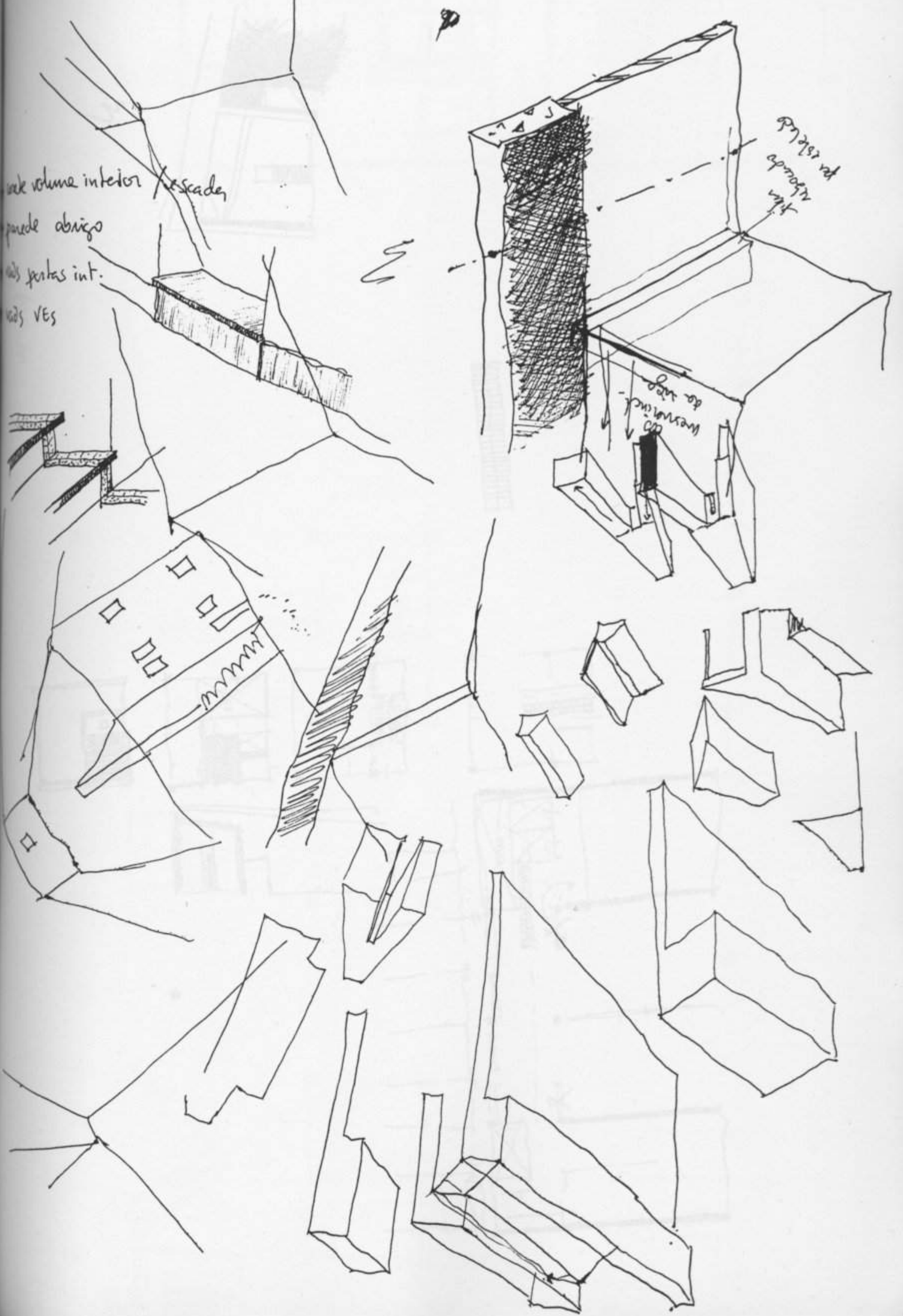
M.B.

TRIAM - REVISÃO PROJ. BASE 20/4/98

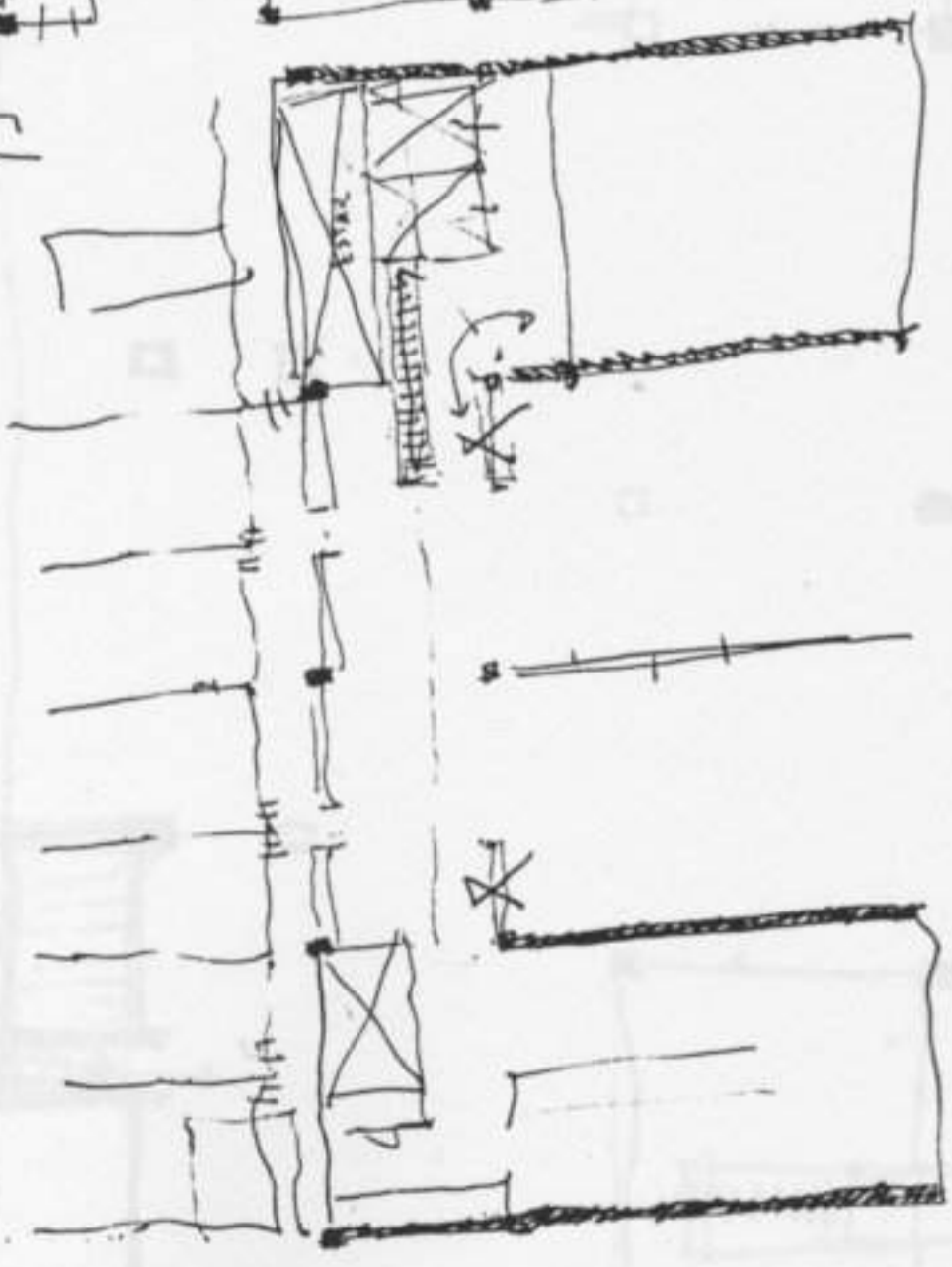
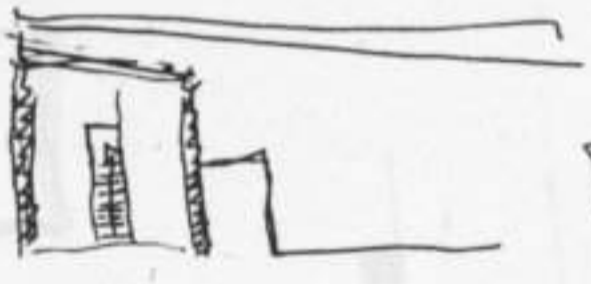
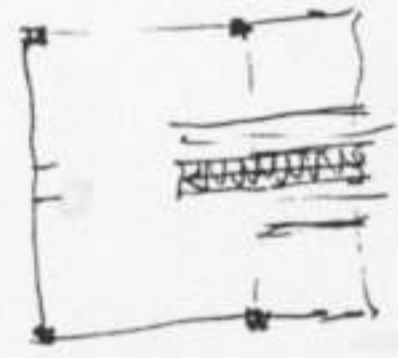
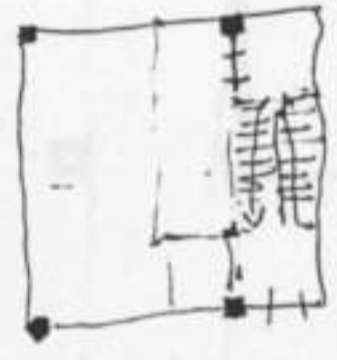
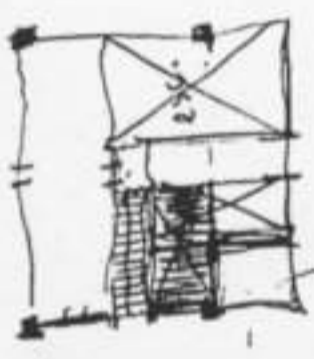
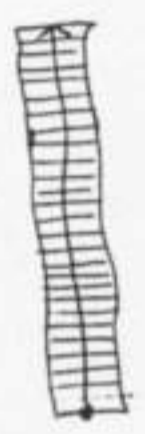
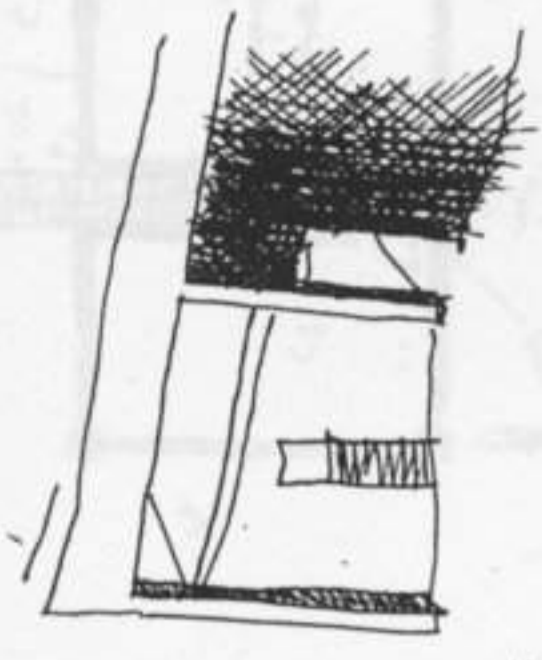


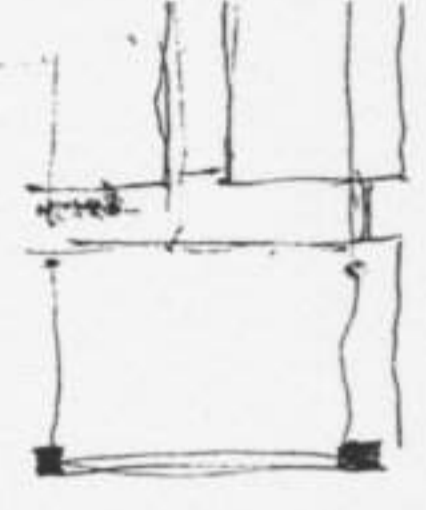
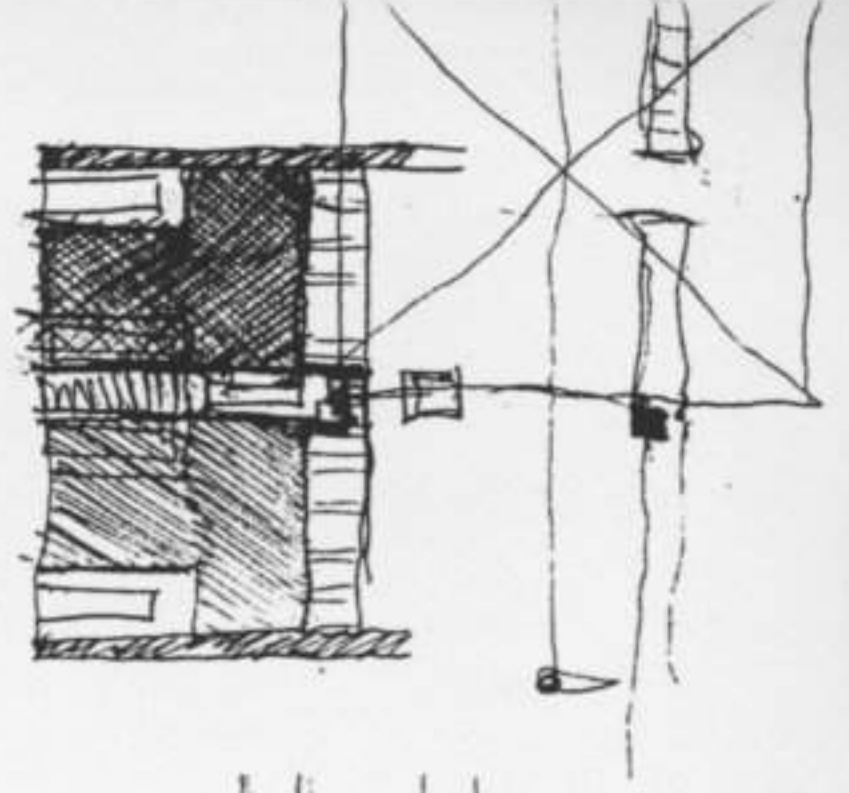
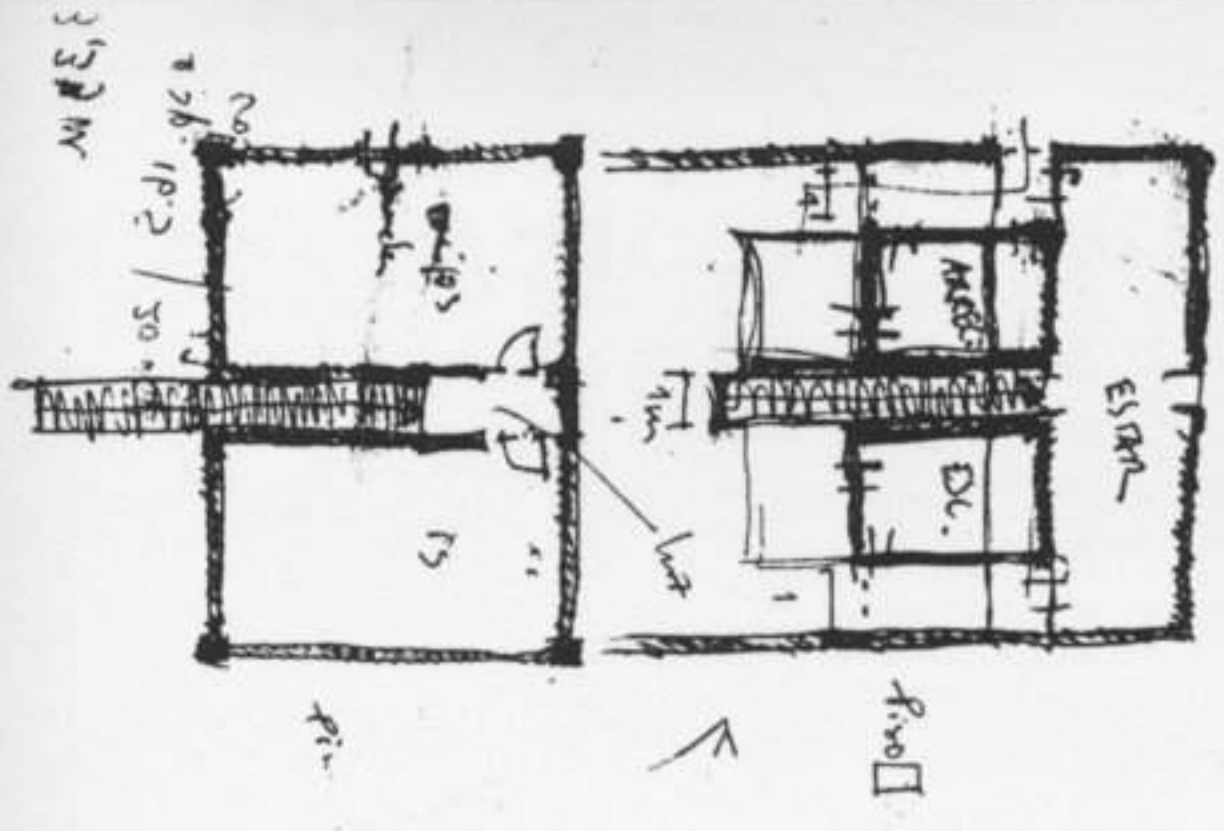
3.3873

grande volume interior
paredes abrigos
portas int.
casas VEs

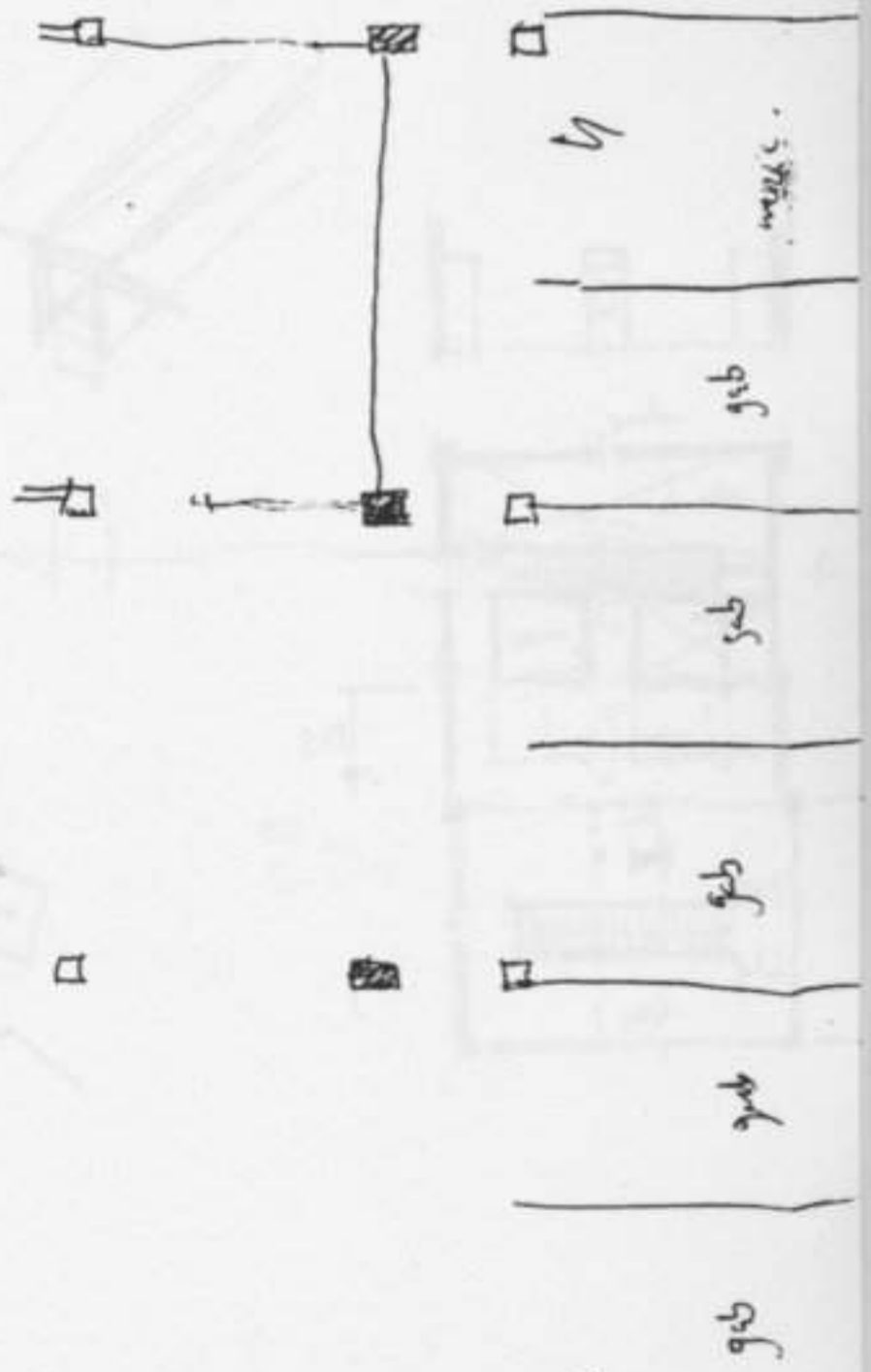
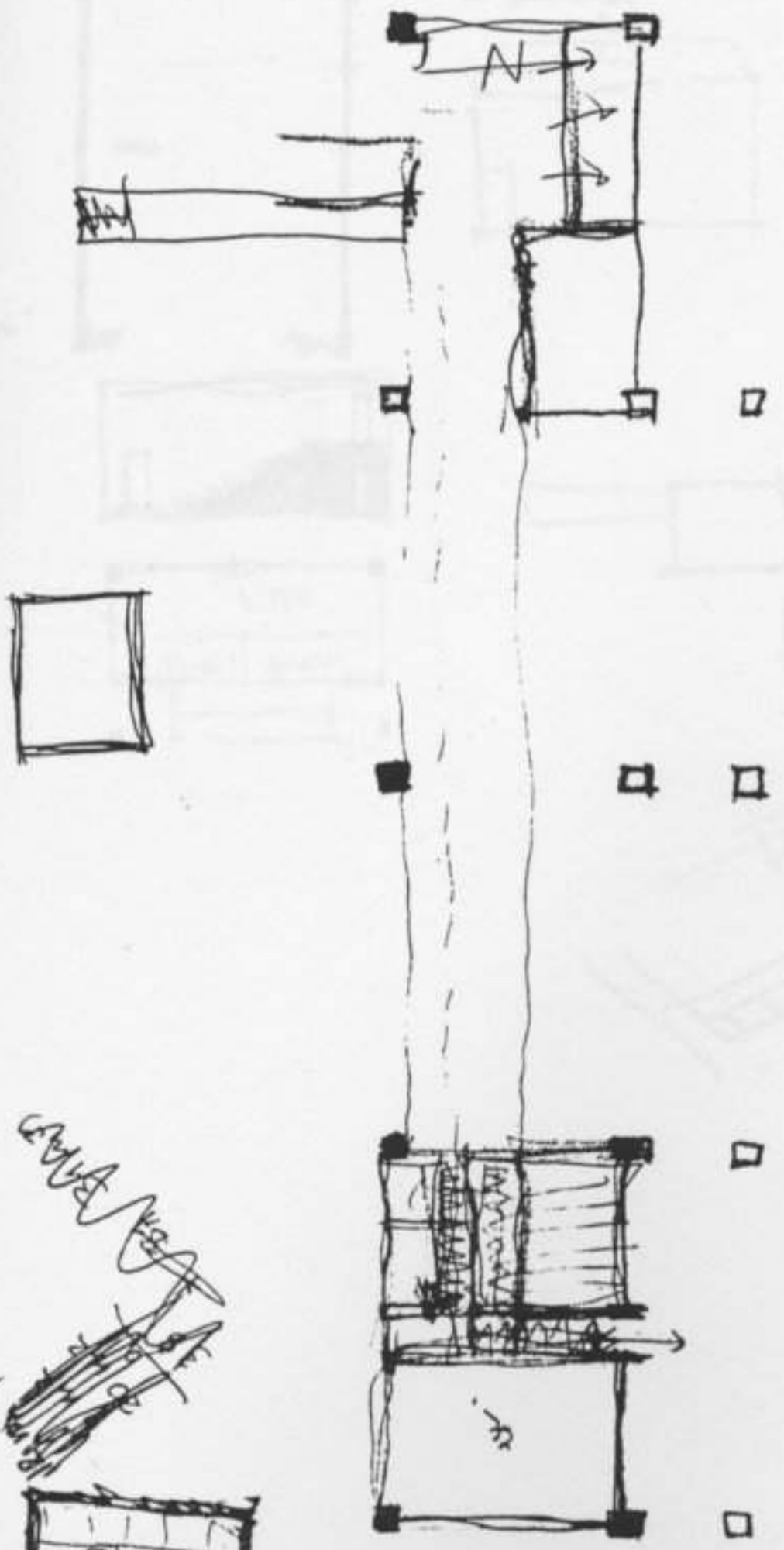


63



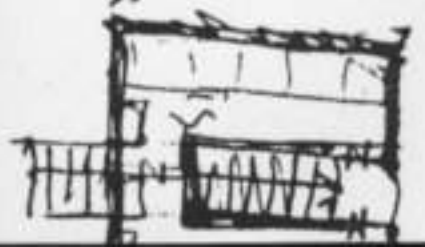


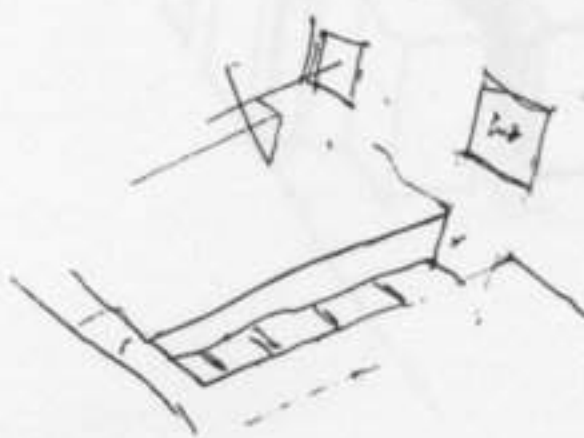
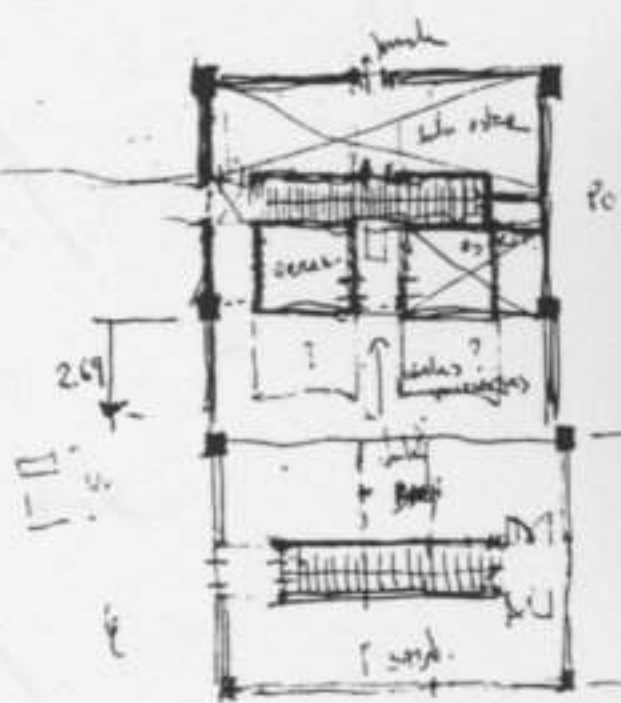
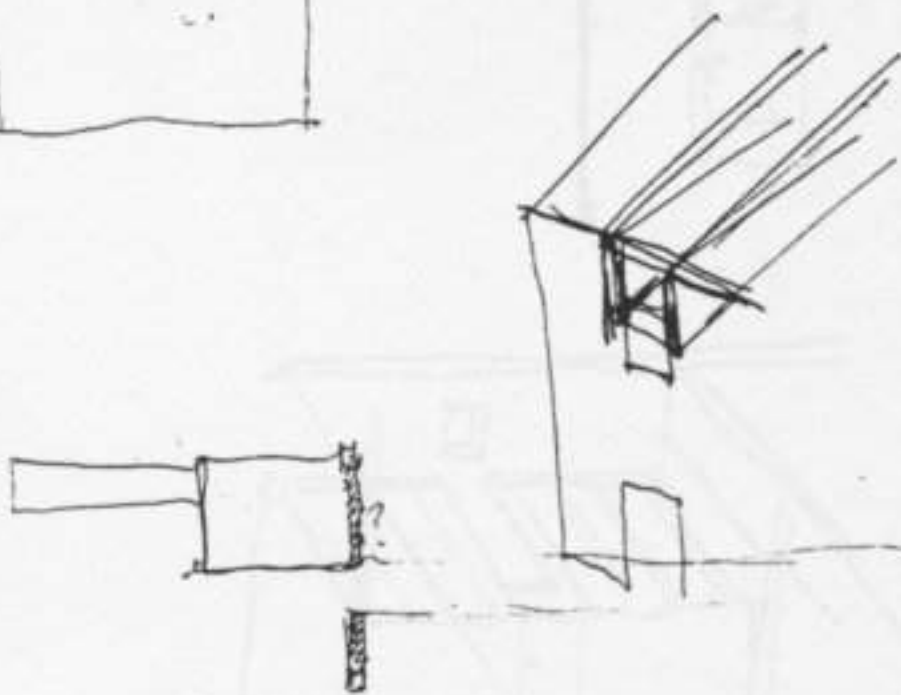
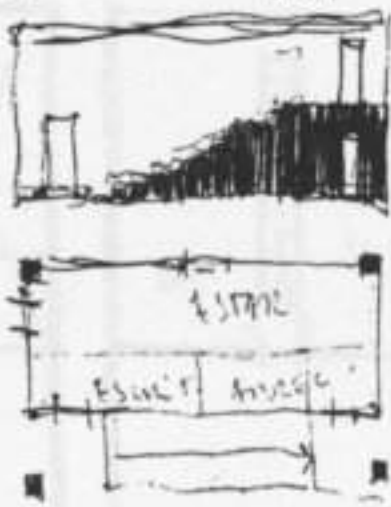
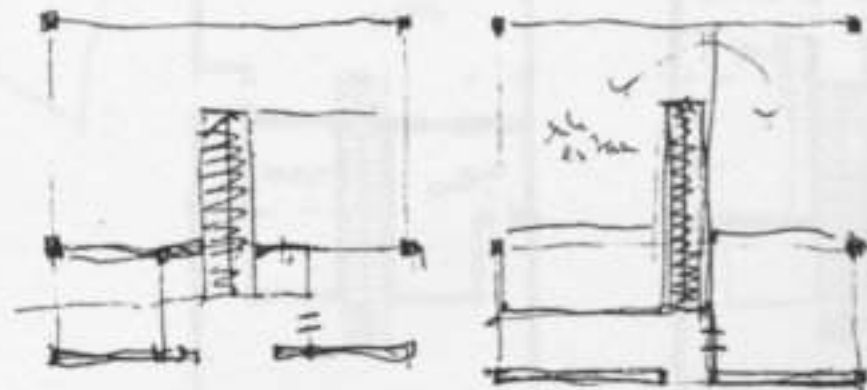
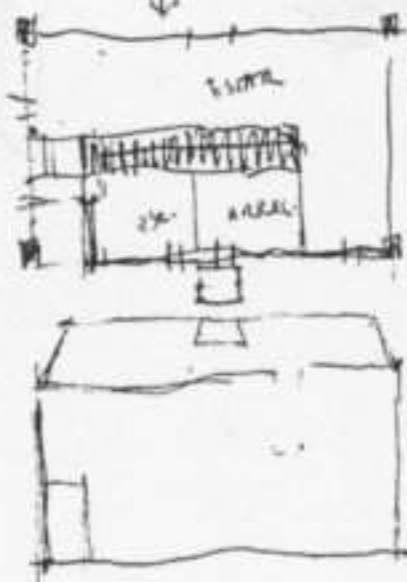
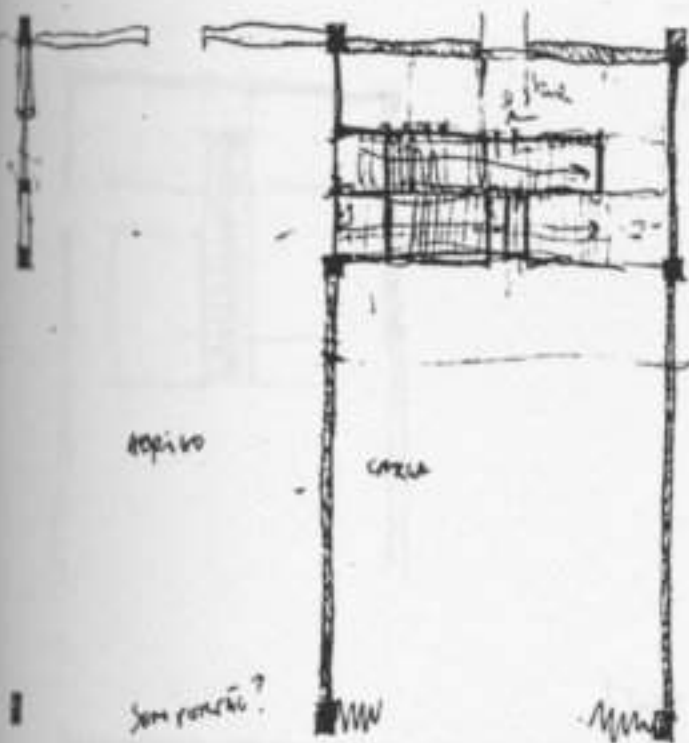
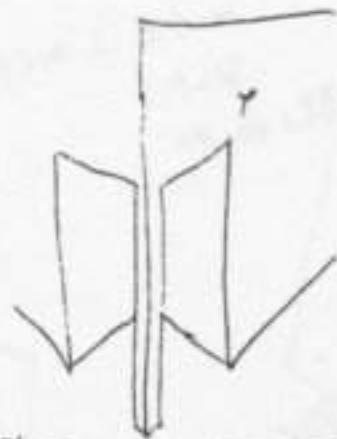
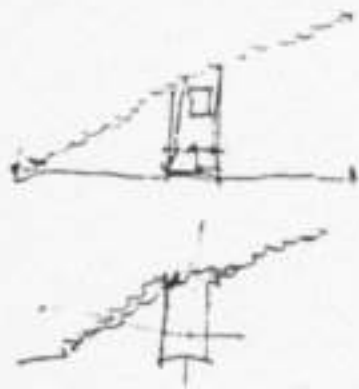
38m²



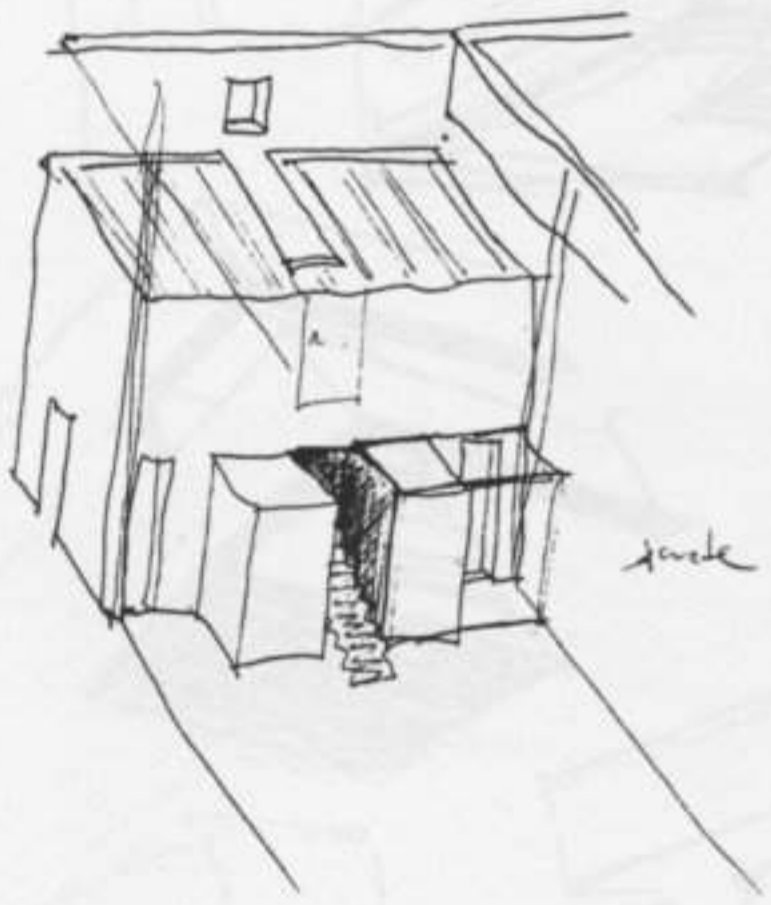
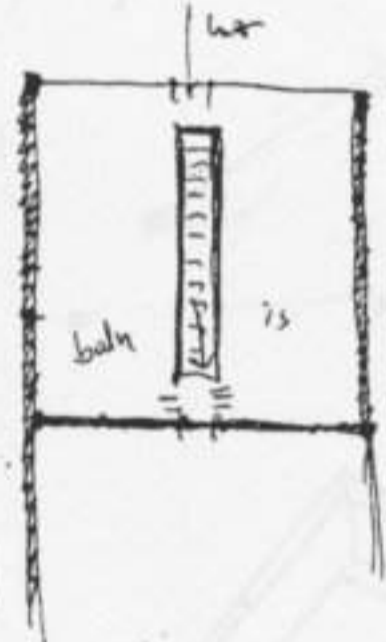
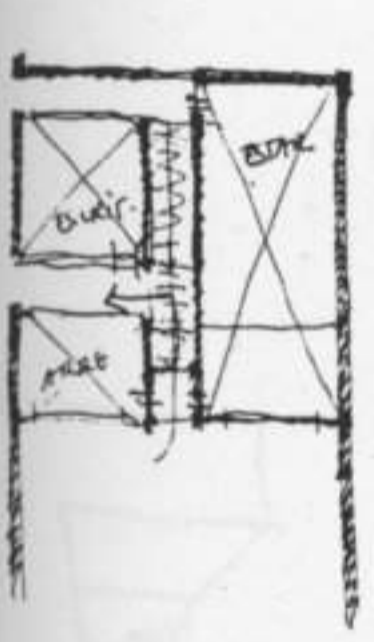
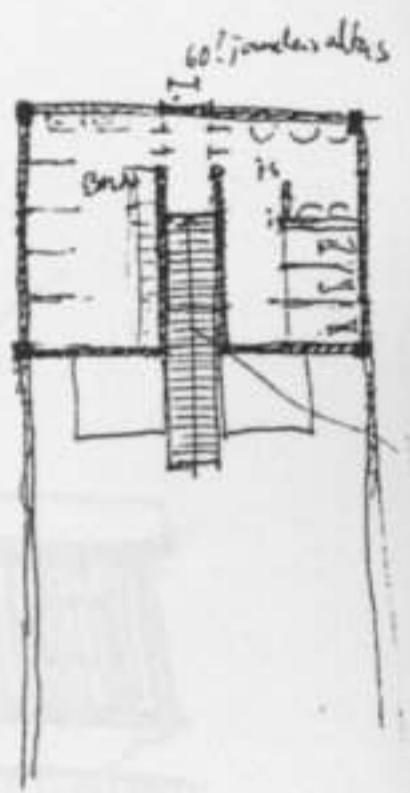
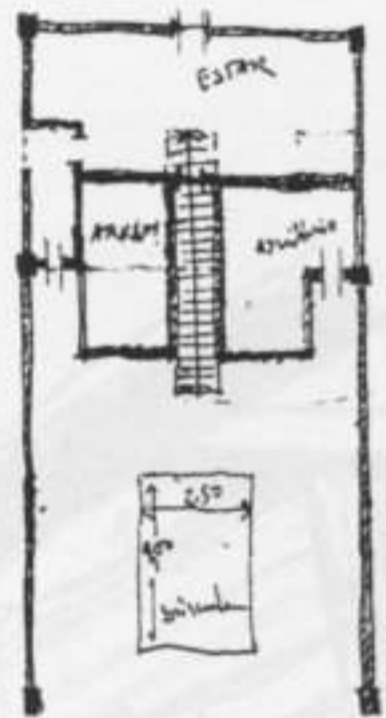
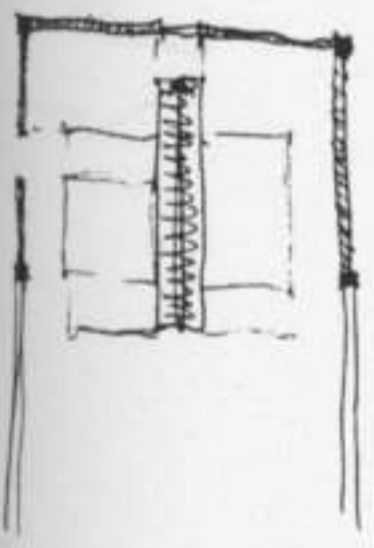
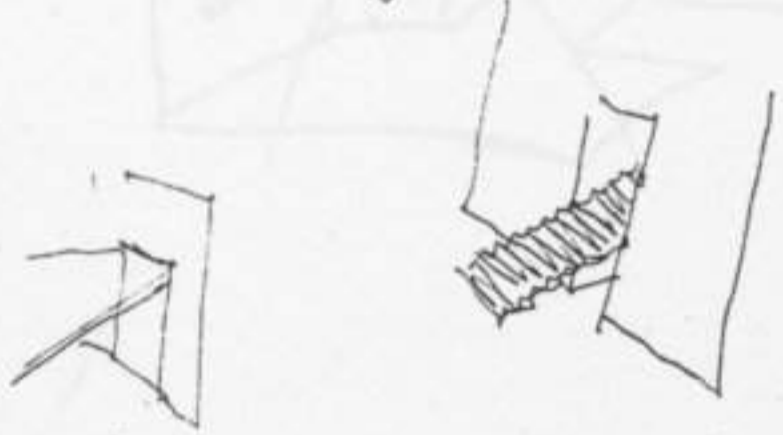
32.5m²
-20-

12m²
6m²
20m²



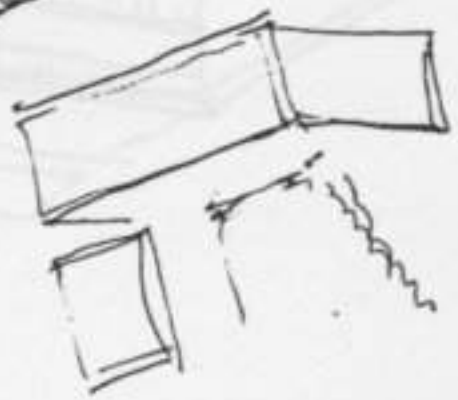
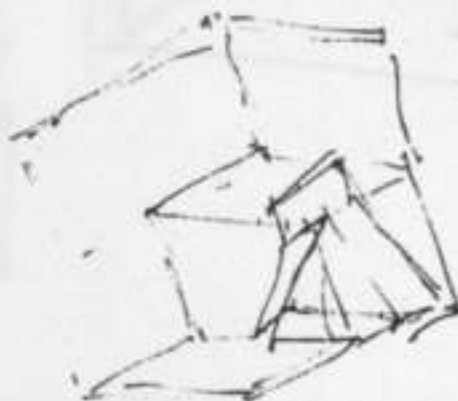
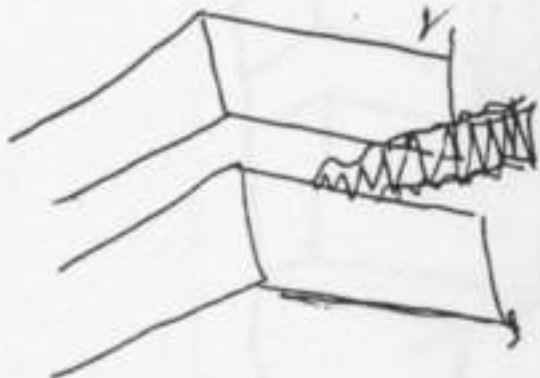
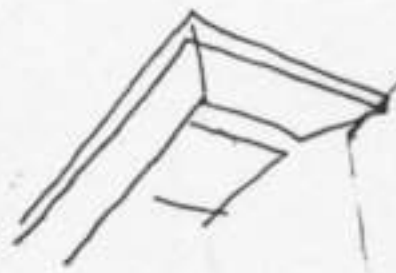
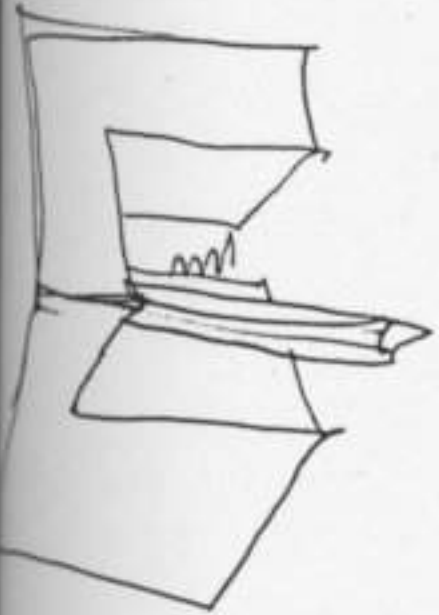
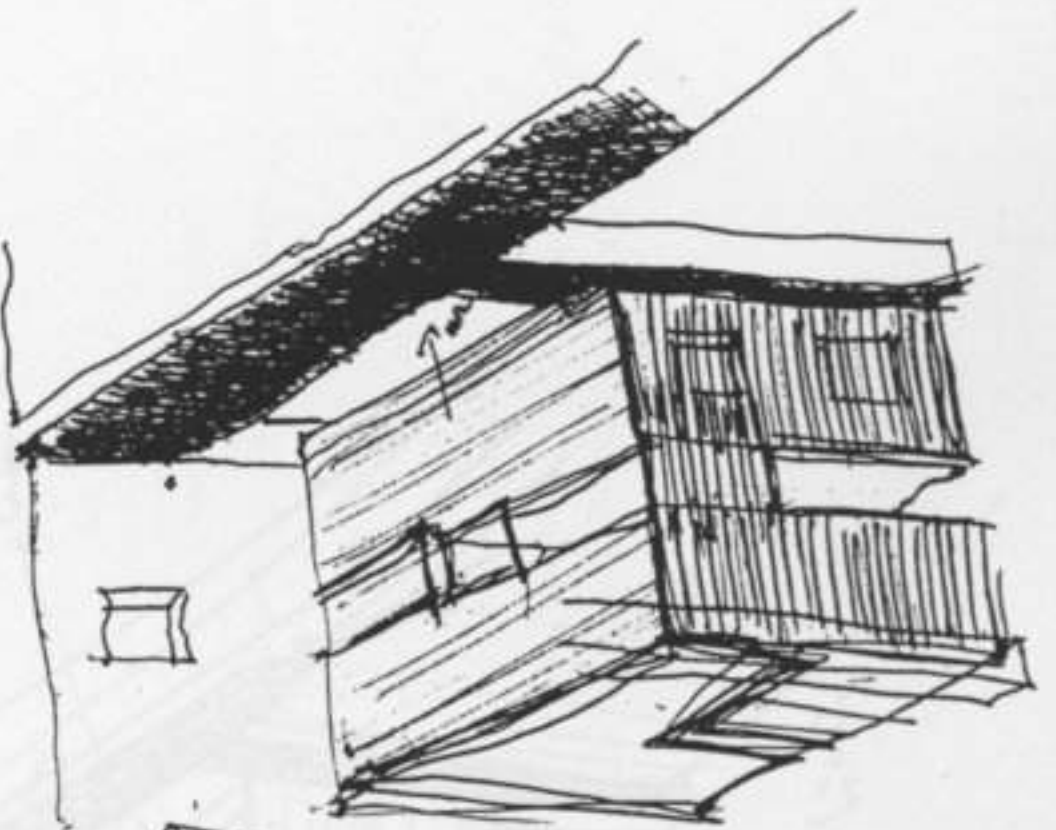
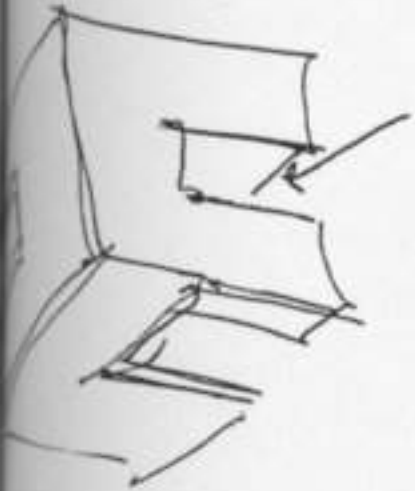


$3,33 \text{ m} \div 17,5 \text{ cm}$
 19,02p.
 $18 \text{ cob} \times 25 = 450$



G

$3,33$
 $17,5$
 $19,02$



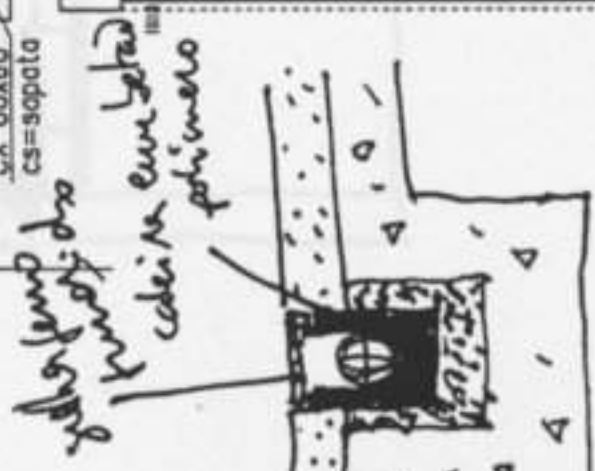
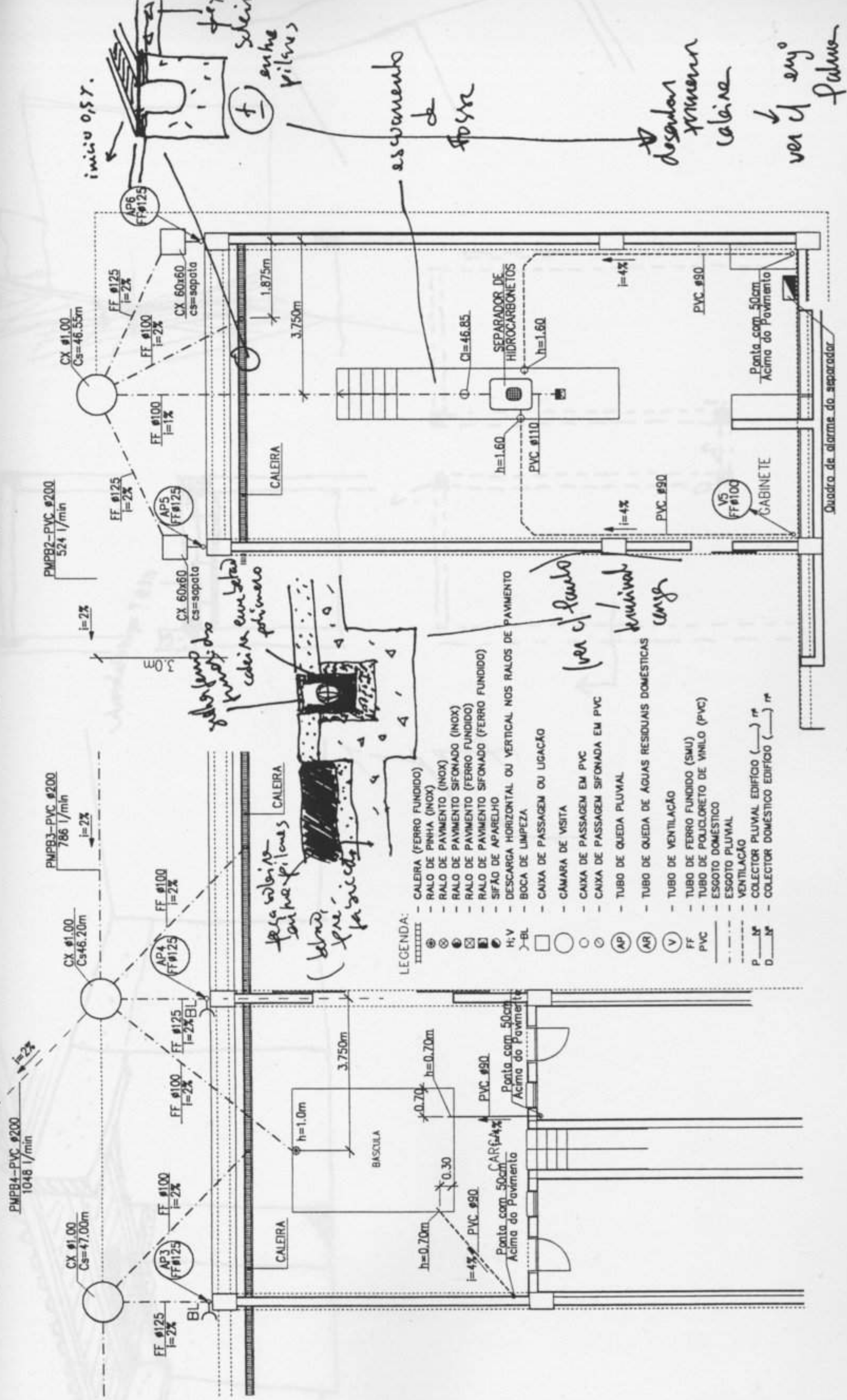
$$\begin{array}{r} 3.075 \\ 0.275 \\ \hline 2.800 \end{array}$$

Respetos a 17.5

(para de escaleta)

esquema de rede em zone a-b-c-d
(águas de lavagem)

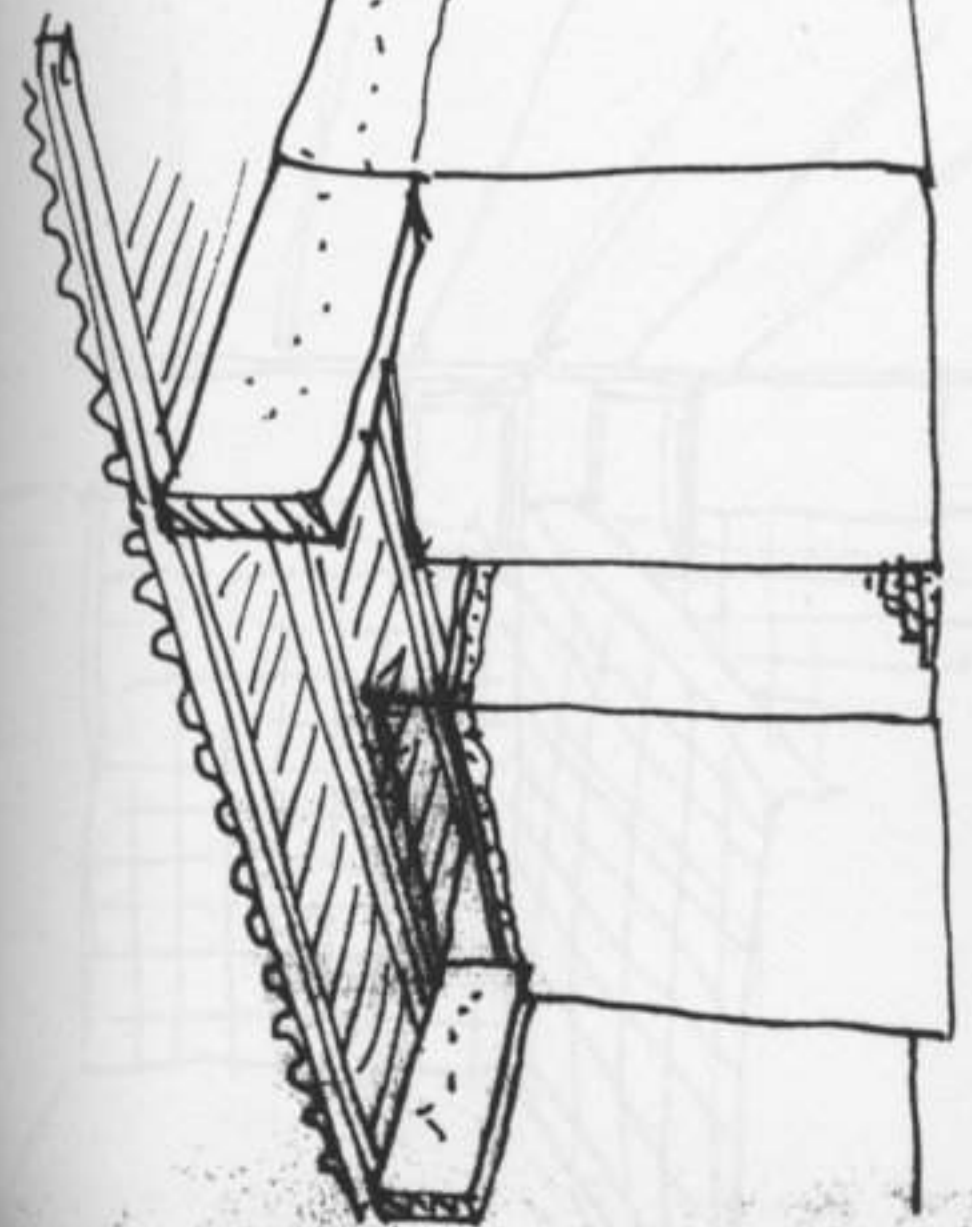
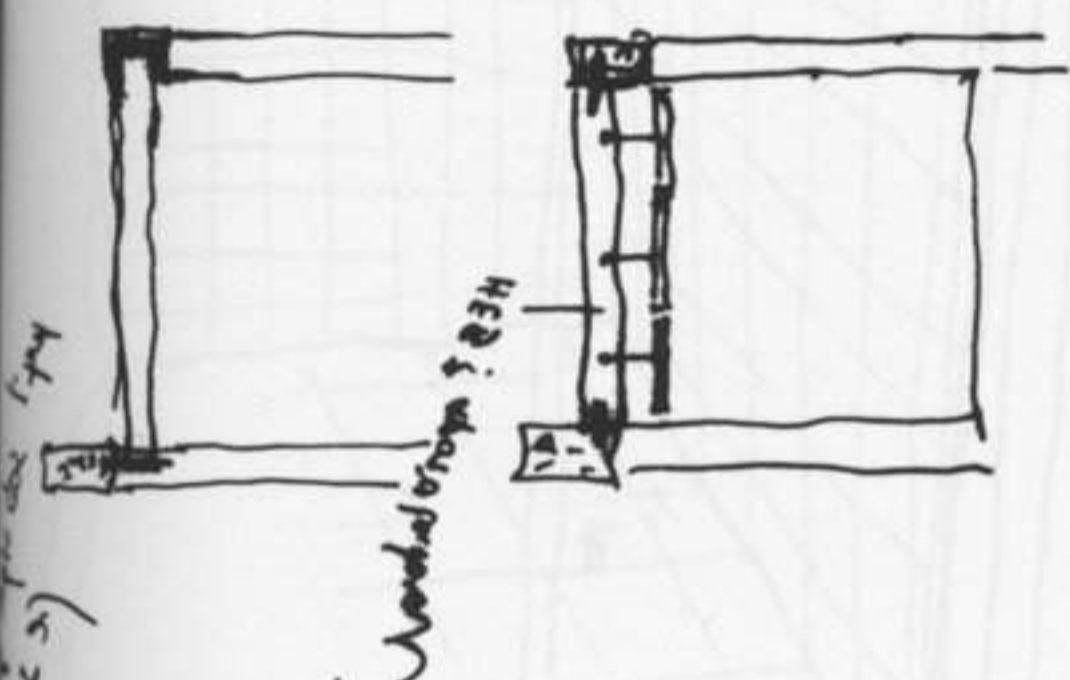
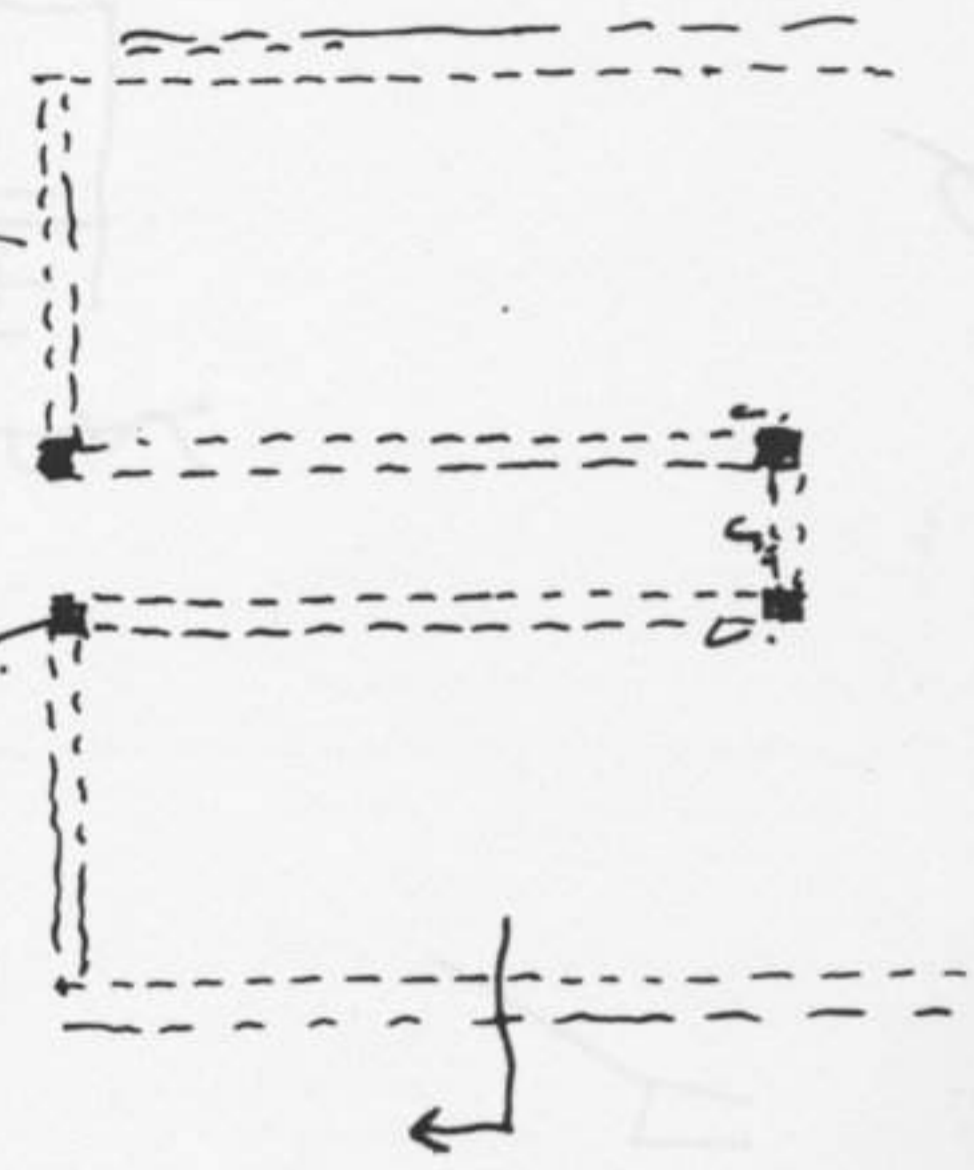
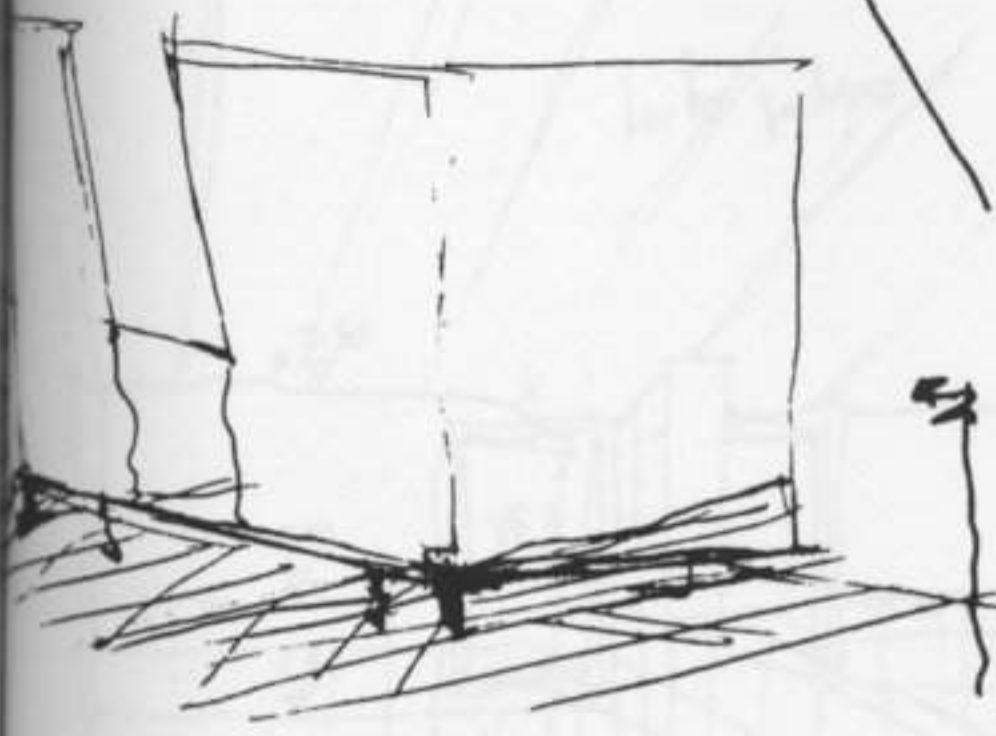
zona de lavagem



- LEGENDA:
- CALEIRA (FERRO FUNDIDO)
 - RALO DE PINHA (INOX)
 - RALO DE PAVIMENTO SIFONADO (INOX)
 - RALO DE PAVIMENTO SIFONADO (FERRO FUNDIDO)
 - RALO DE PAVIMENTO SIFONADO (FERRO FUNDIDO)
 - SIFÃO DE APARELHO
 - DESCARGA HORIZONTAL OU VERTICAL NOS RALOS DE PAVIMENTO
 - BOCA DE LIMPEZA
 - CAIXA DE PASSAGEM OU LIGAÇÃO
 - CÂMARA DE VISITA
 - CAIXA DE PASSAGEM EM PVC
 - CAIXA DE PASSAGEM SIFONADA EM PVC
 - TUBO DE QUEDA PLUVIAL
 - TUBO DE QUEDA DE ÁGUAS RESIDUAIS DOMESTICAS
 - TUBO DE VENTILAÇÃO
 - TUBO DE FERRO FUNDIDO (SMU)
 - TUBO DE POLIURETO DE VINILO (PVC)
 - ESGOTO DOMESTICO
 - ESGOTO PLUVIAL
 - VENTILAÇÃO
 - COLECTOR PLUVIAL EDIFÍCIO (---) (P)
 - COLECTOR DOMÉSTICO EDIFÍCIO (---) (D)

(ver o fundo)
reunir
caixa

ver o enjô
Palmeira



① WALL - 150

lecho falso

2.50

2.10

1.80

VE3

5

↓
IS_S TRIAM - piso (1)

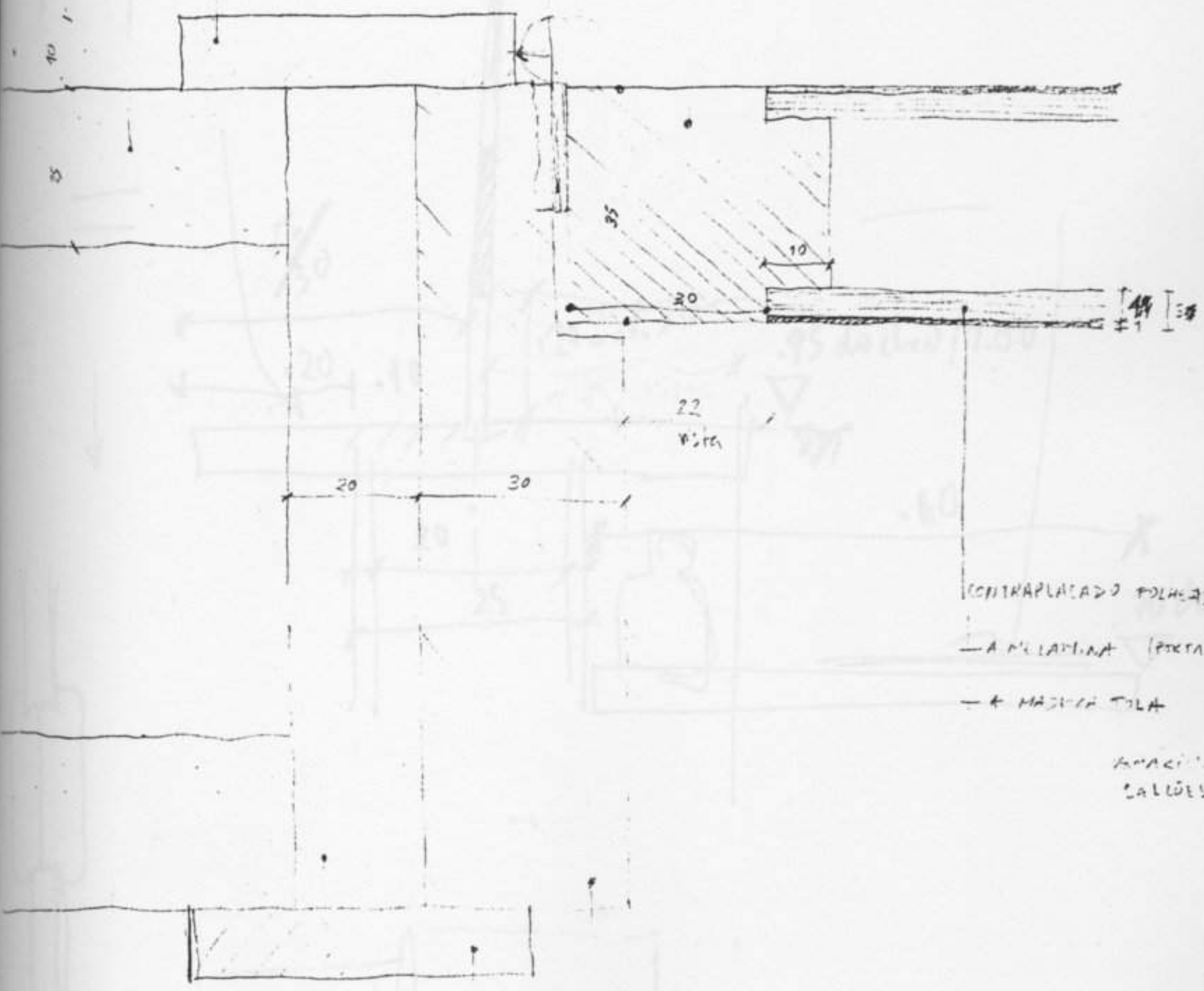
PORTAS INTERIORES - PORTA TIPO

REBORDO + FINITURA

60x100 (50x10) EM MAD. MACICA TOLA

REVESTIMENTO MAD. MACICA DE TOLA

com dobradiças (sem neos)



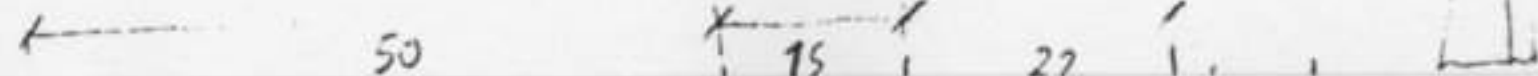
CONTRAPLACADO POLIURETANO
 - A MELAMINA (PORTA)
 - + MAD. MACICA TOLA

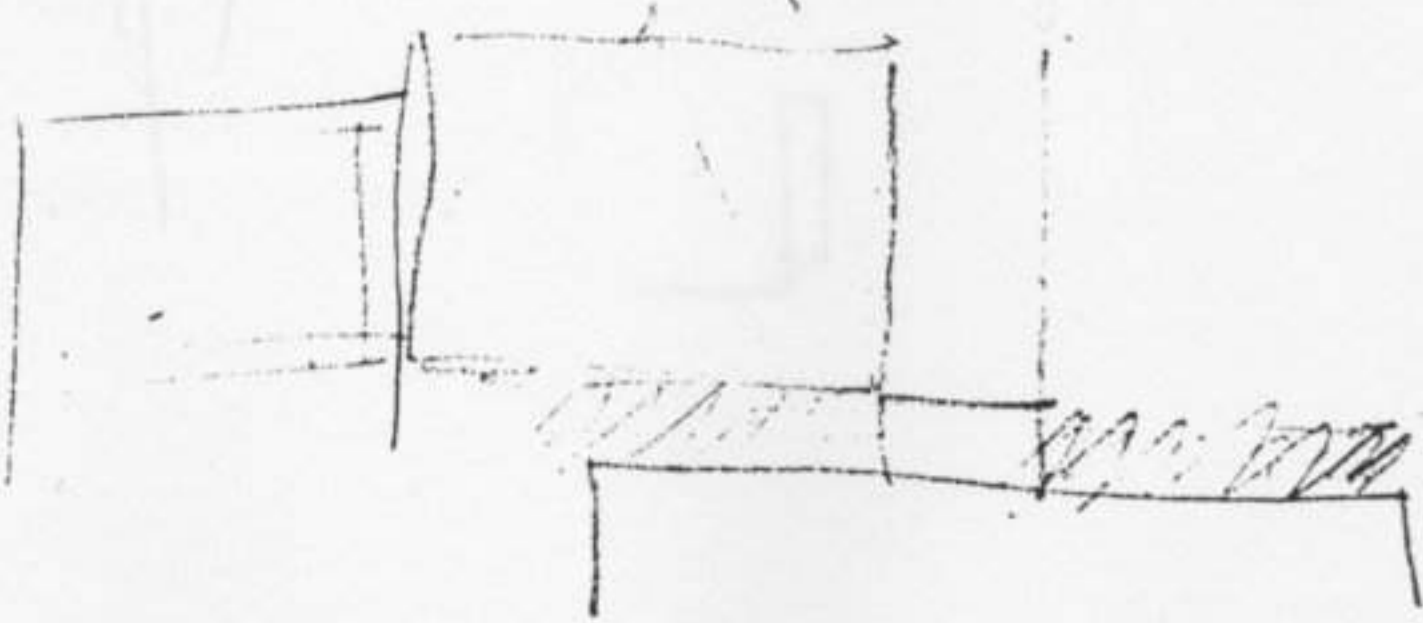
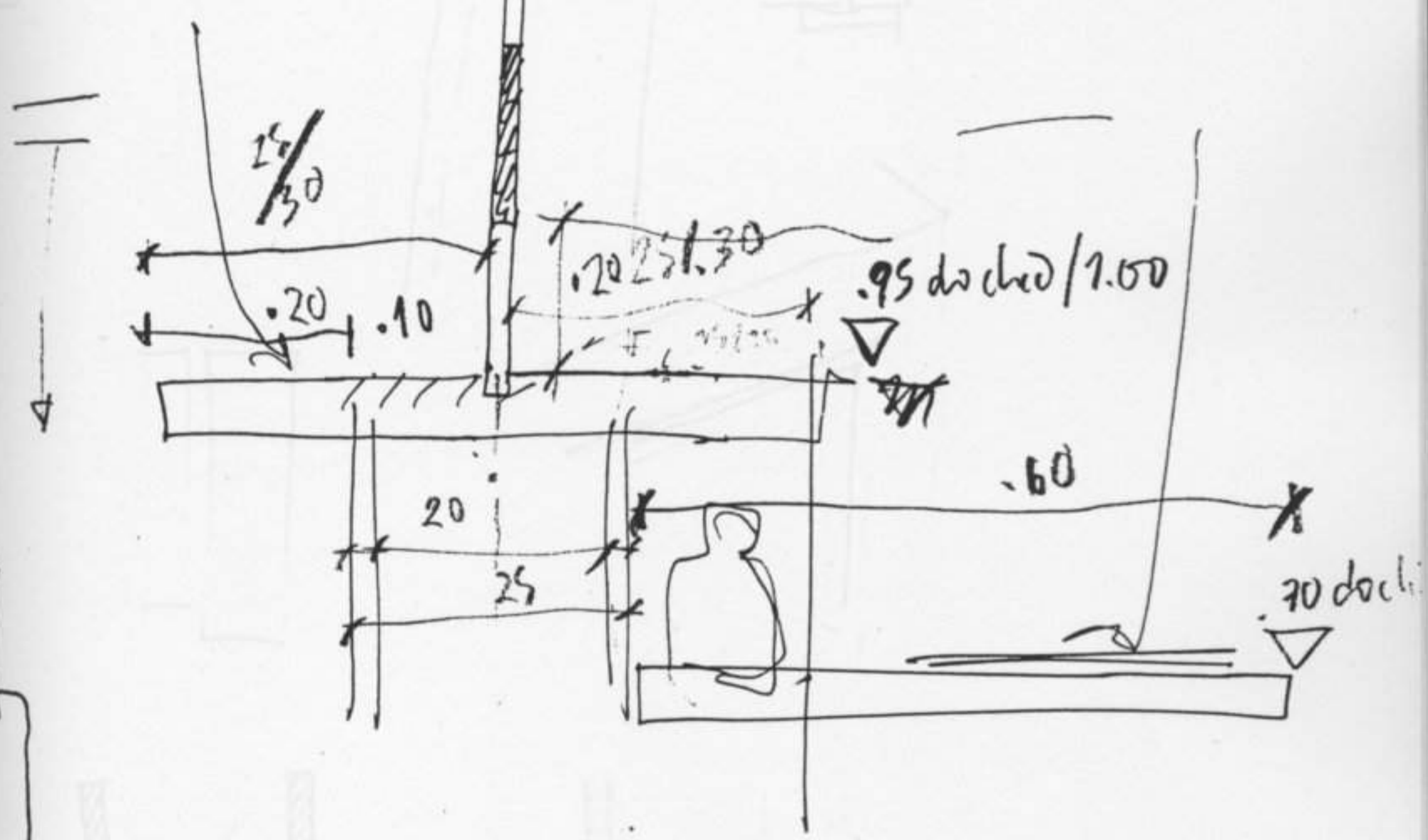
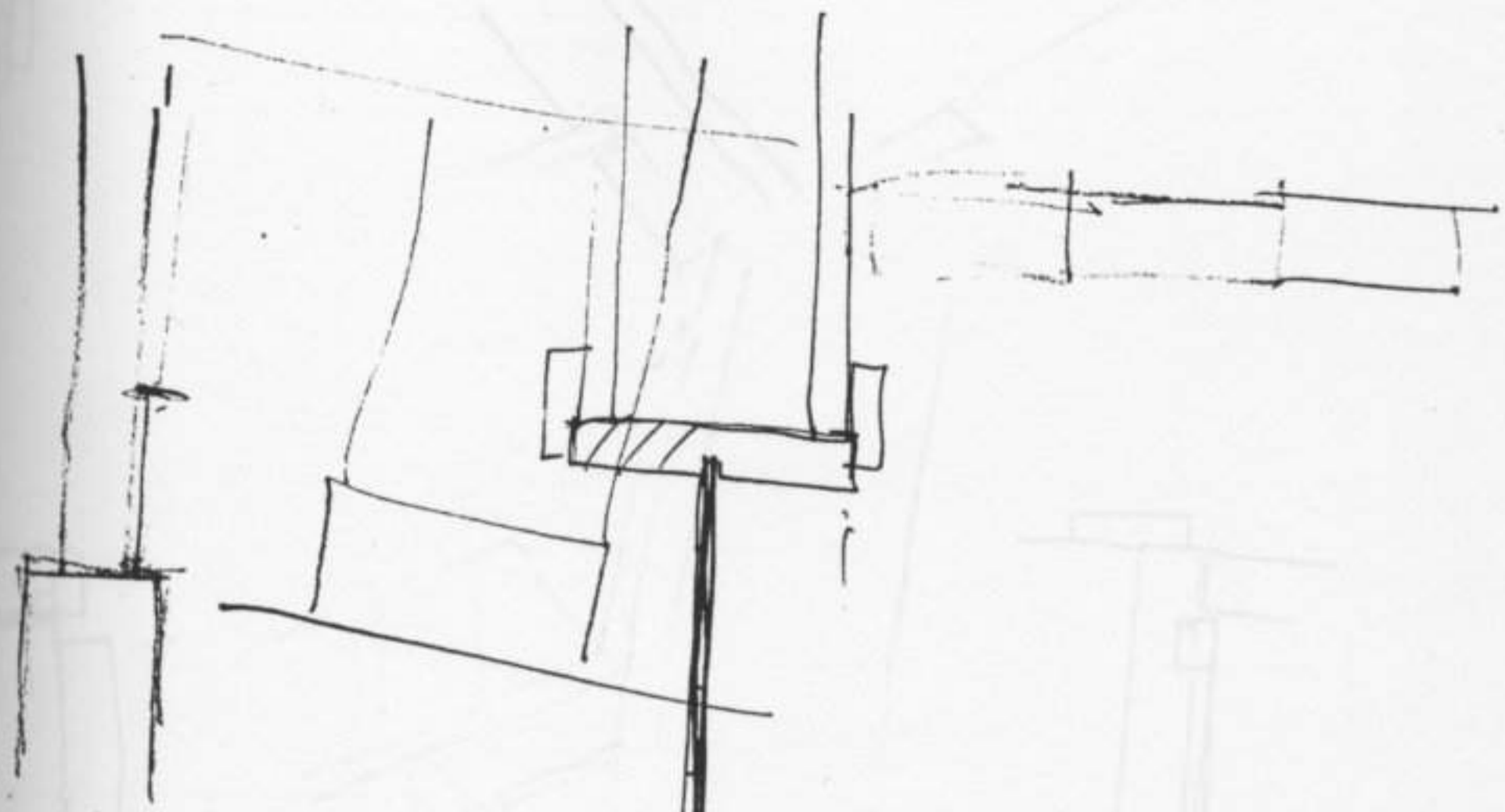
AMACI...
 CALÇES...

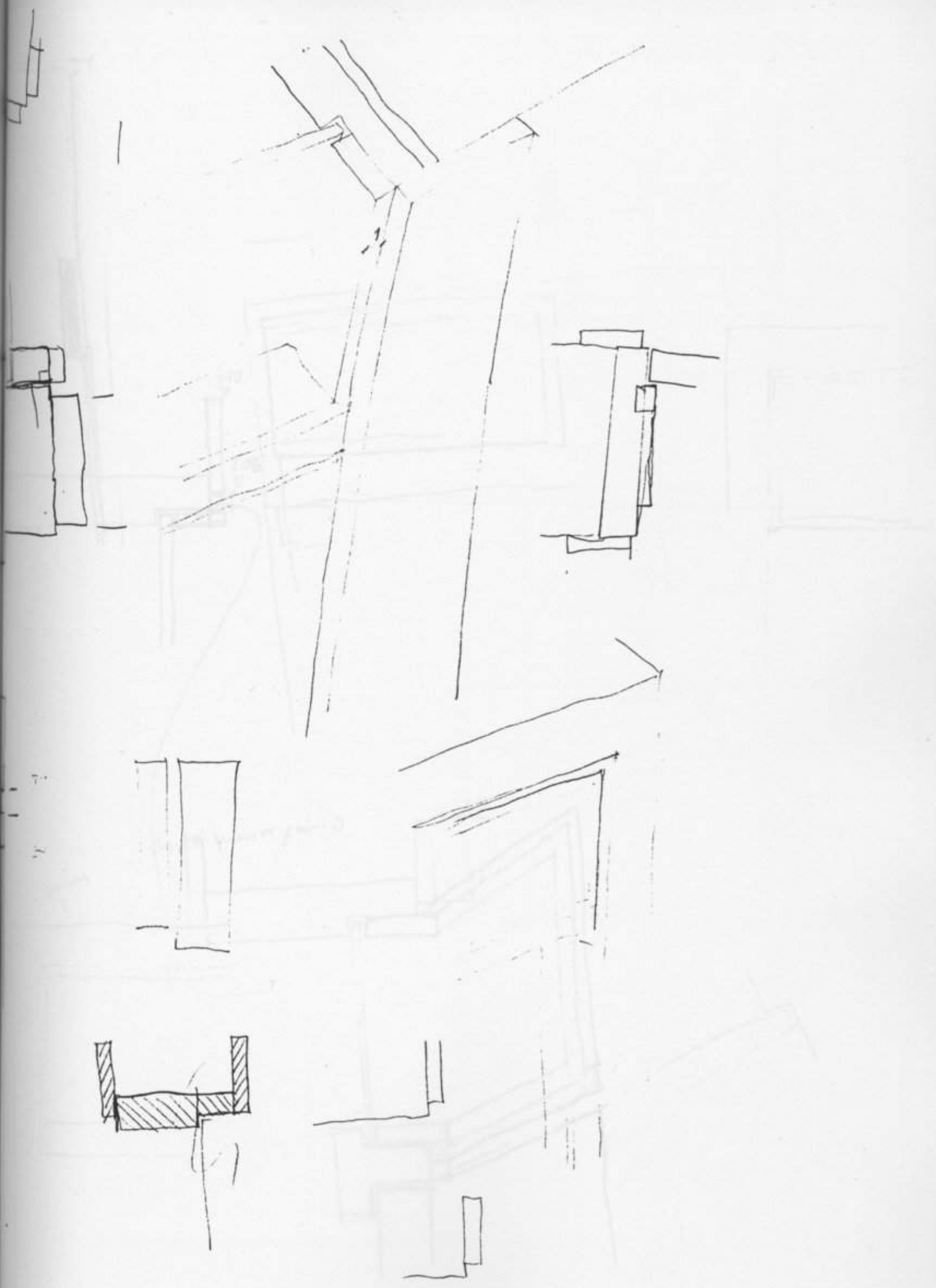
100-100

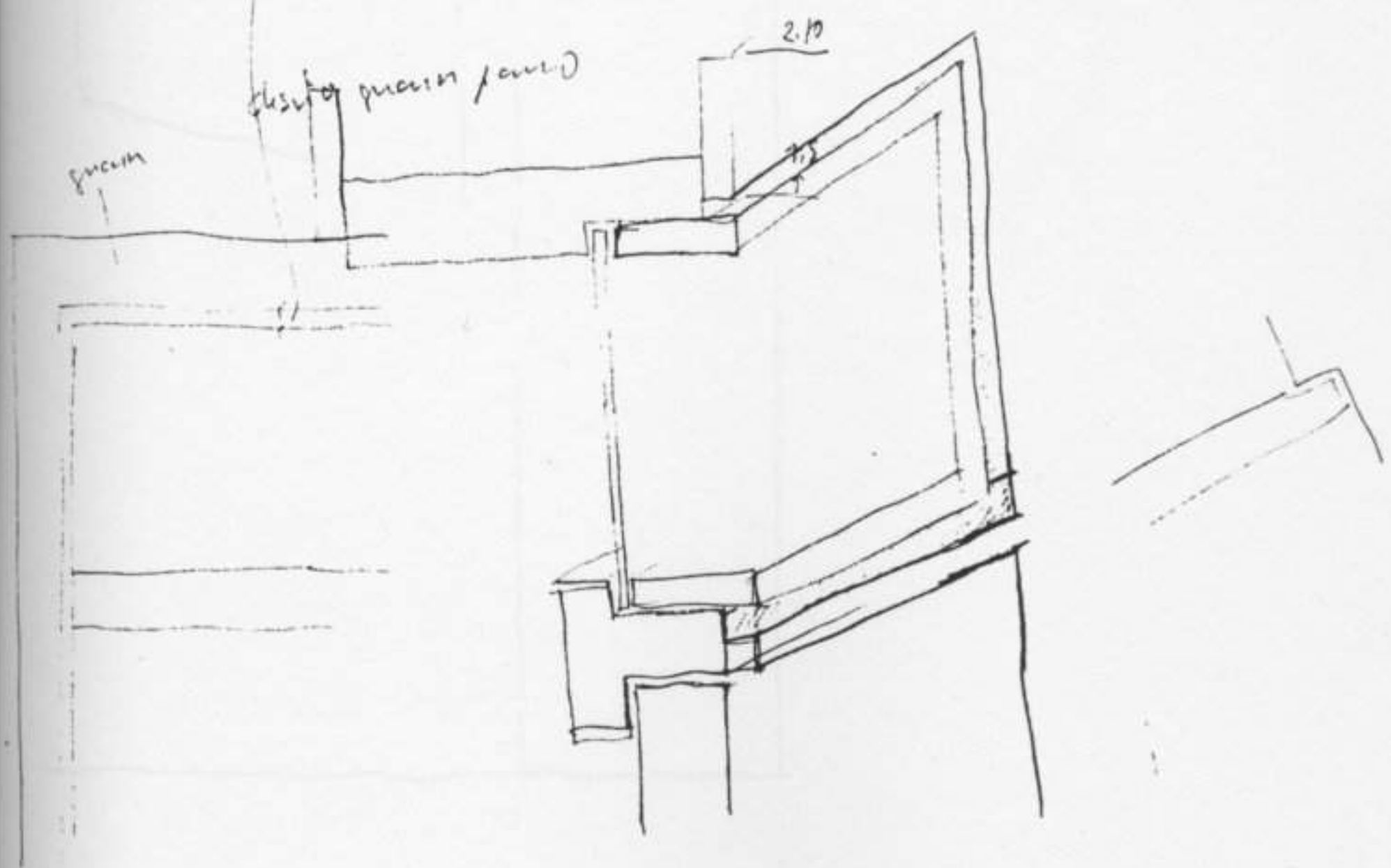
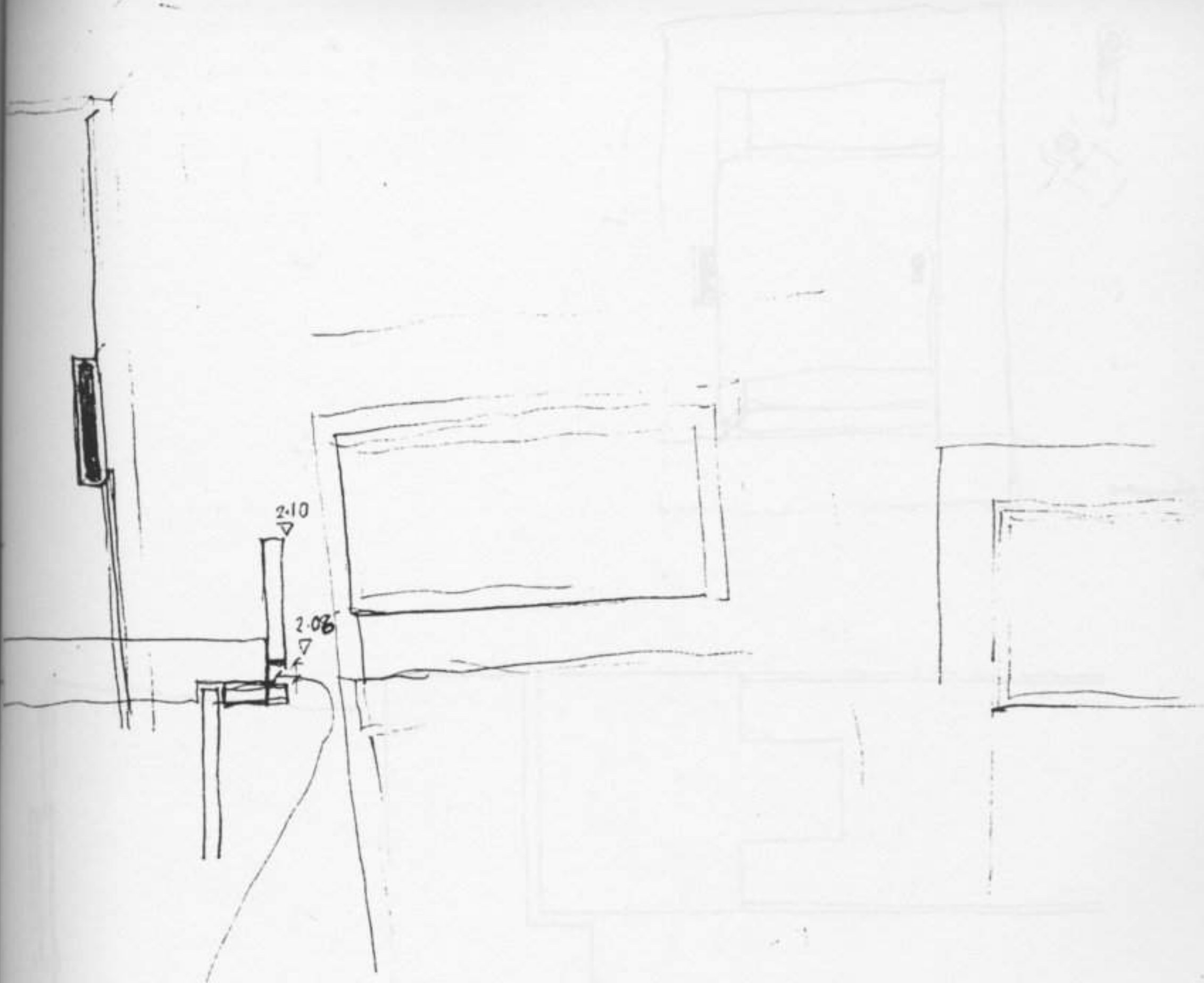
60x100 (50x10) EM MAD. MACICA TOLA

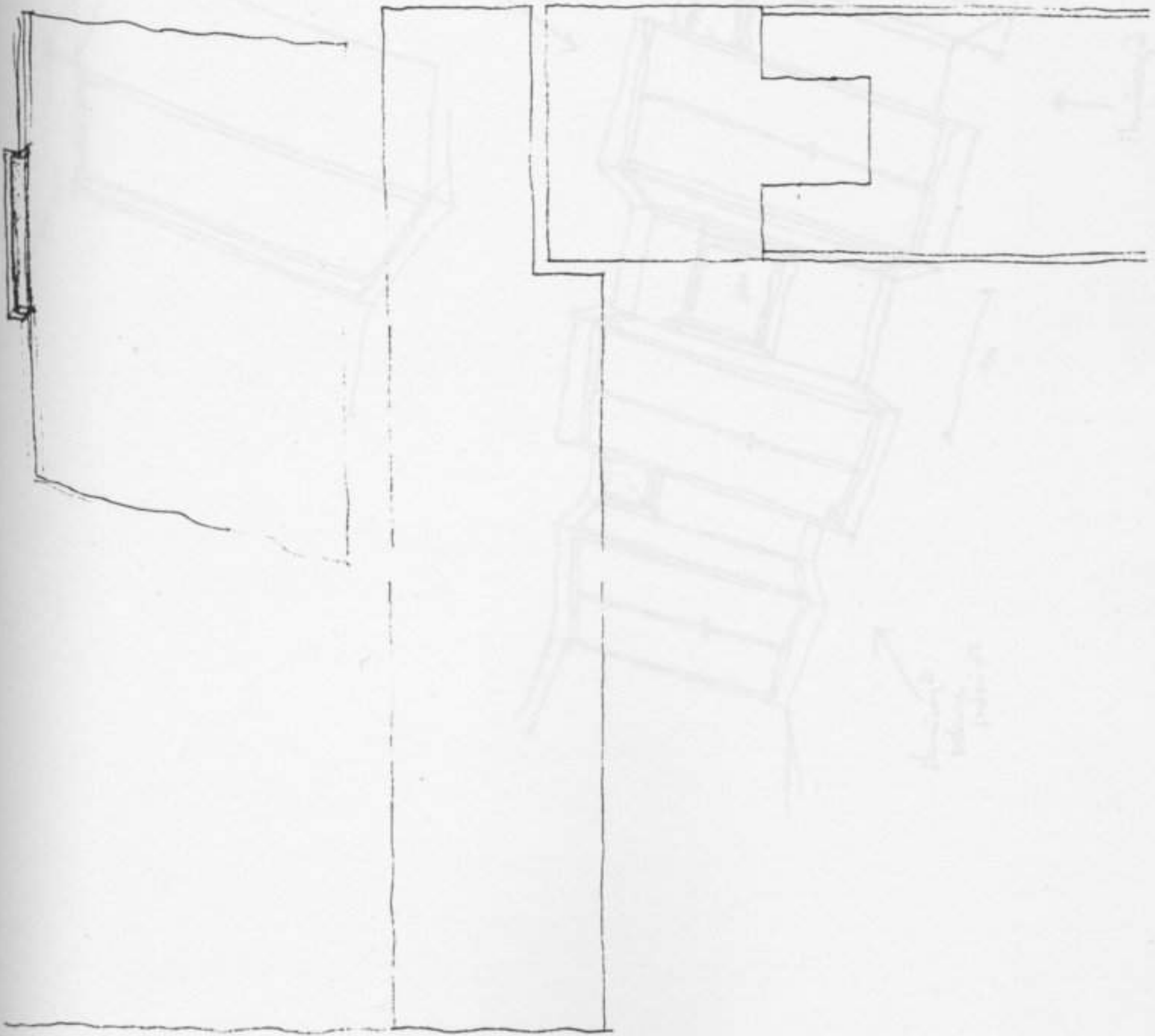
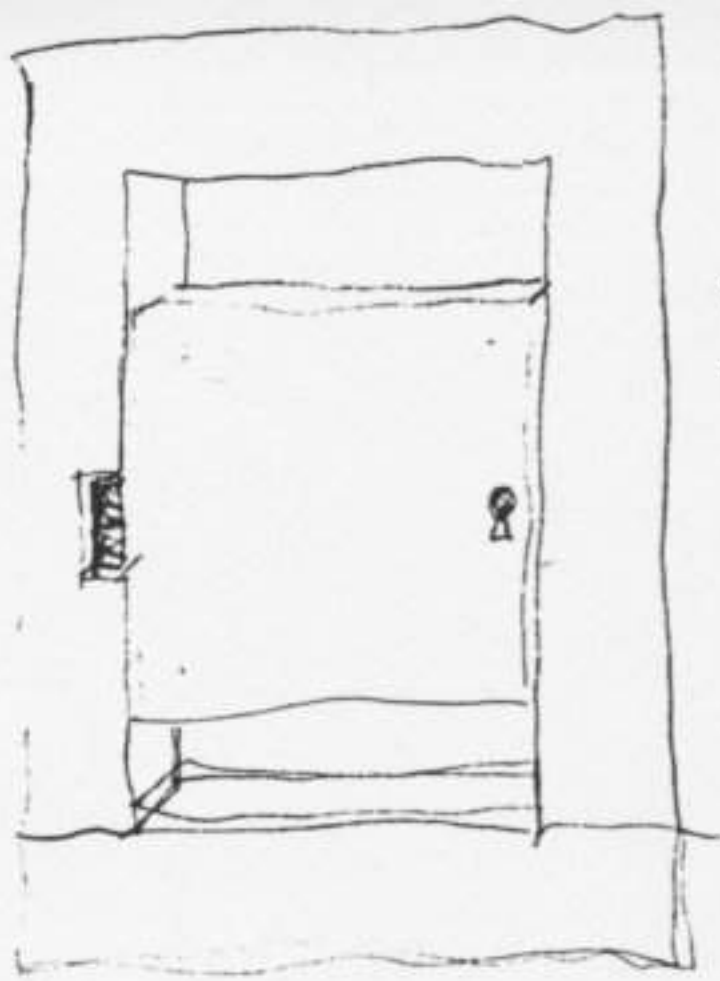
60x100 (50x10) EM MAD. MACICA TOLA

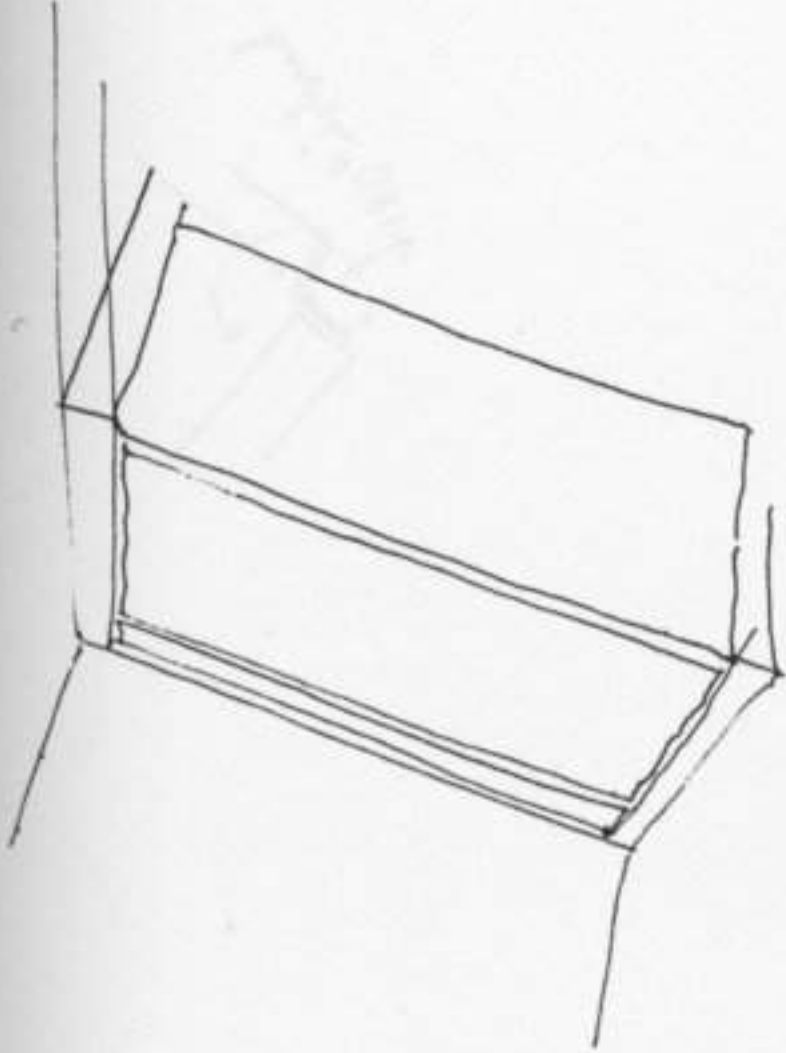




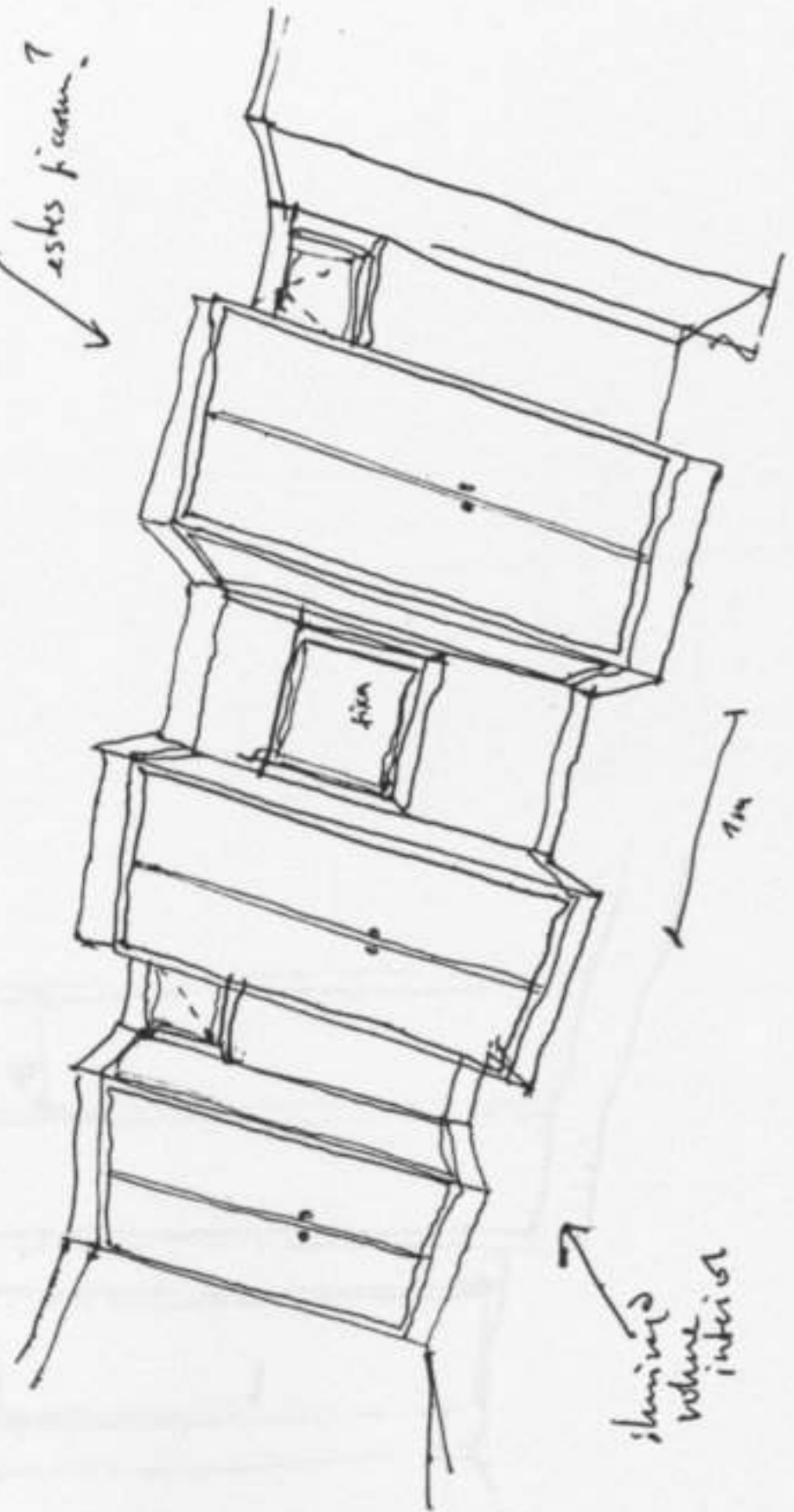








estes fixam?

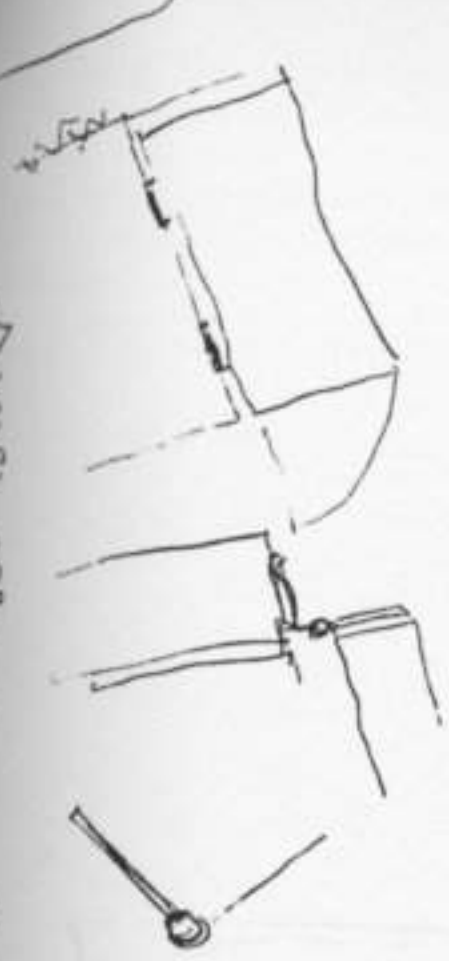


iluminação
volume
interior

iluminação
volume
interior

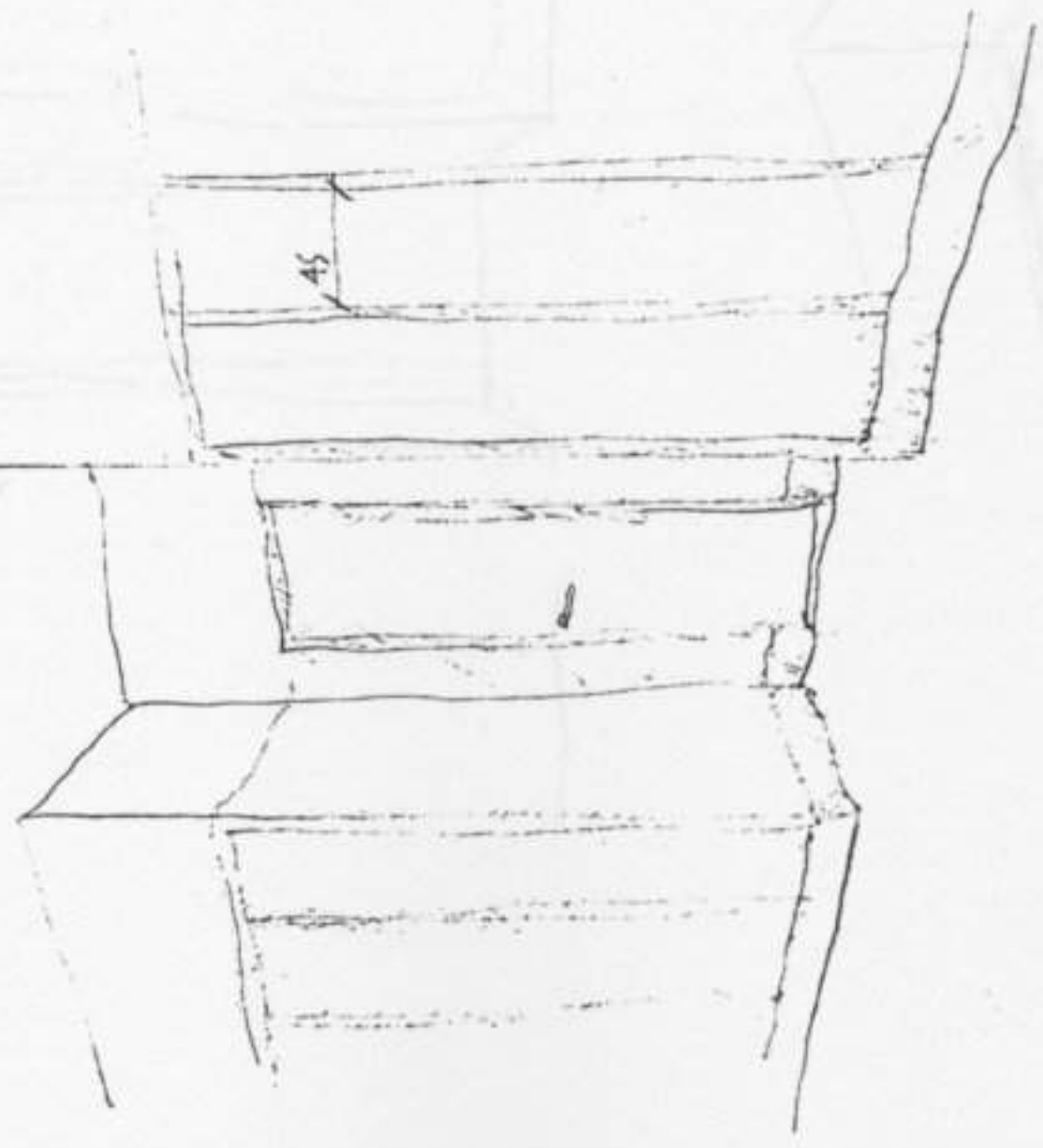
TRAM 74

— 130 ESCM ✓



180° abhned

9



9

fs

11. Stange

12. Pfeiler

13. Pfeiler

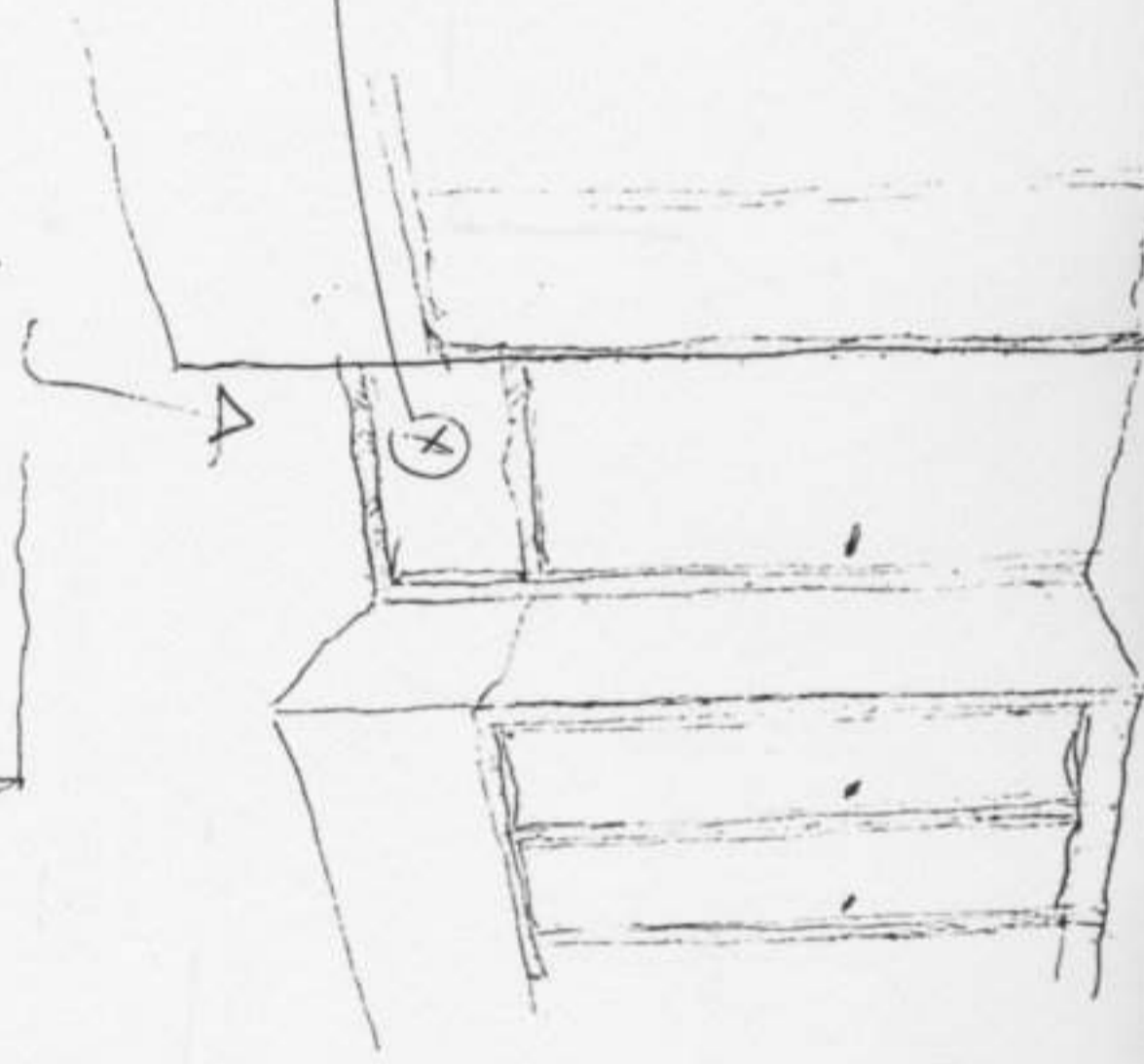
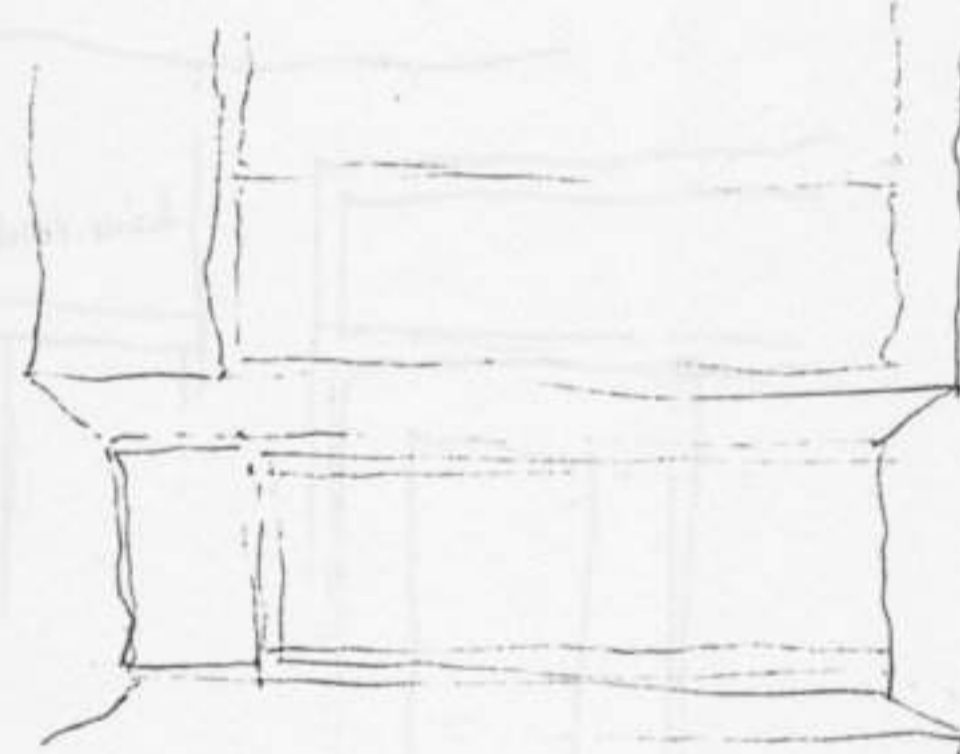
14. Pfeiler

15. Pfeiler

16. Pfeiler

17. Pfeiler

18. Pfeiler



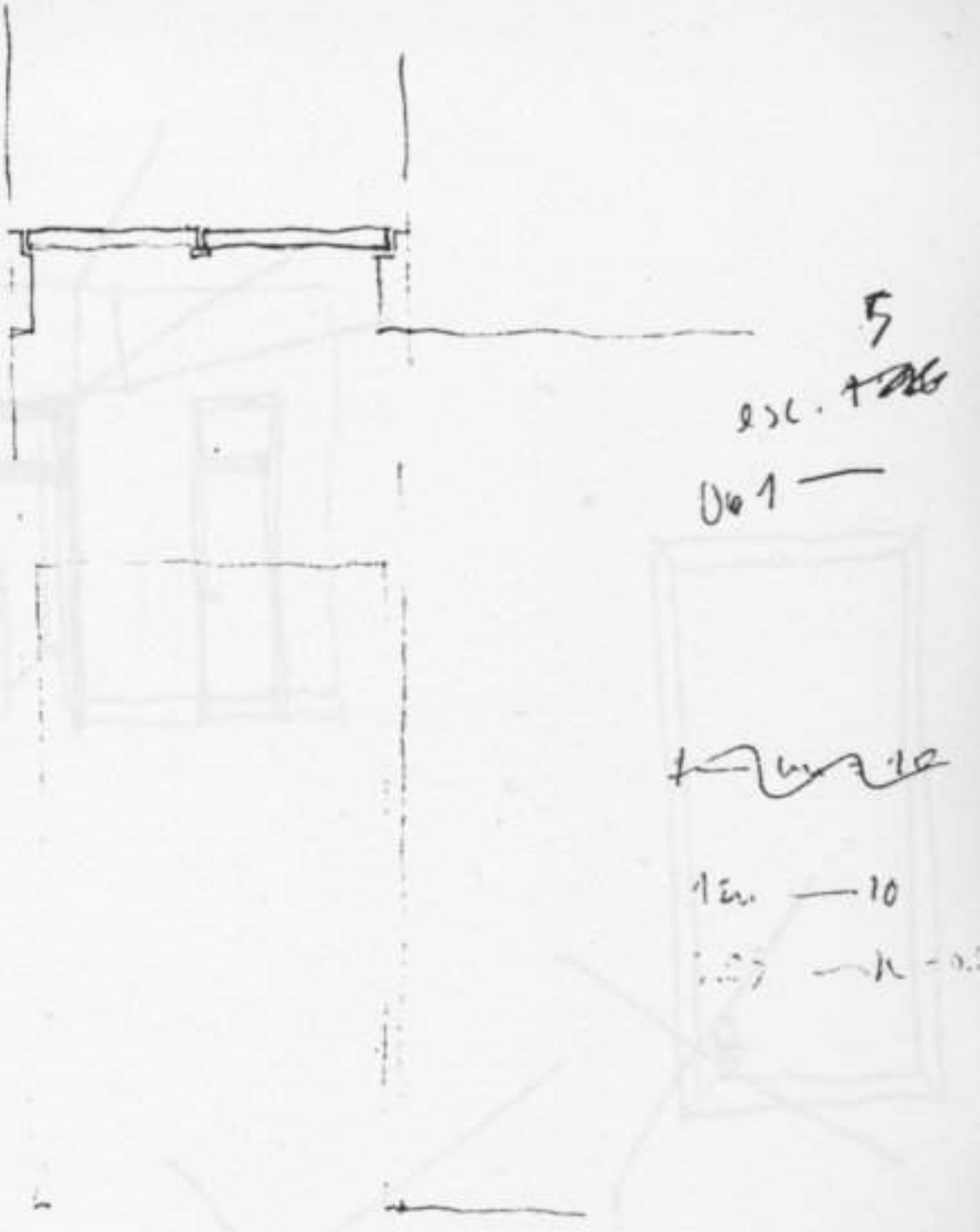
19. Pfeiler

20. Pfeiler

2

2.75
1.125 c 1.25 cm

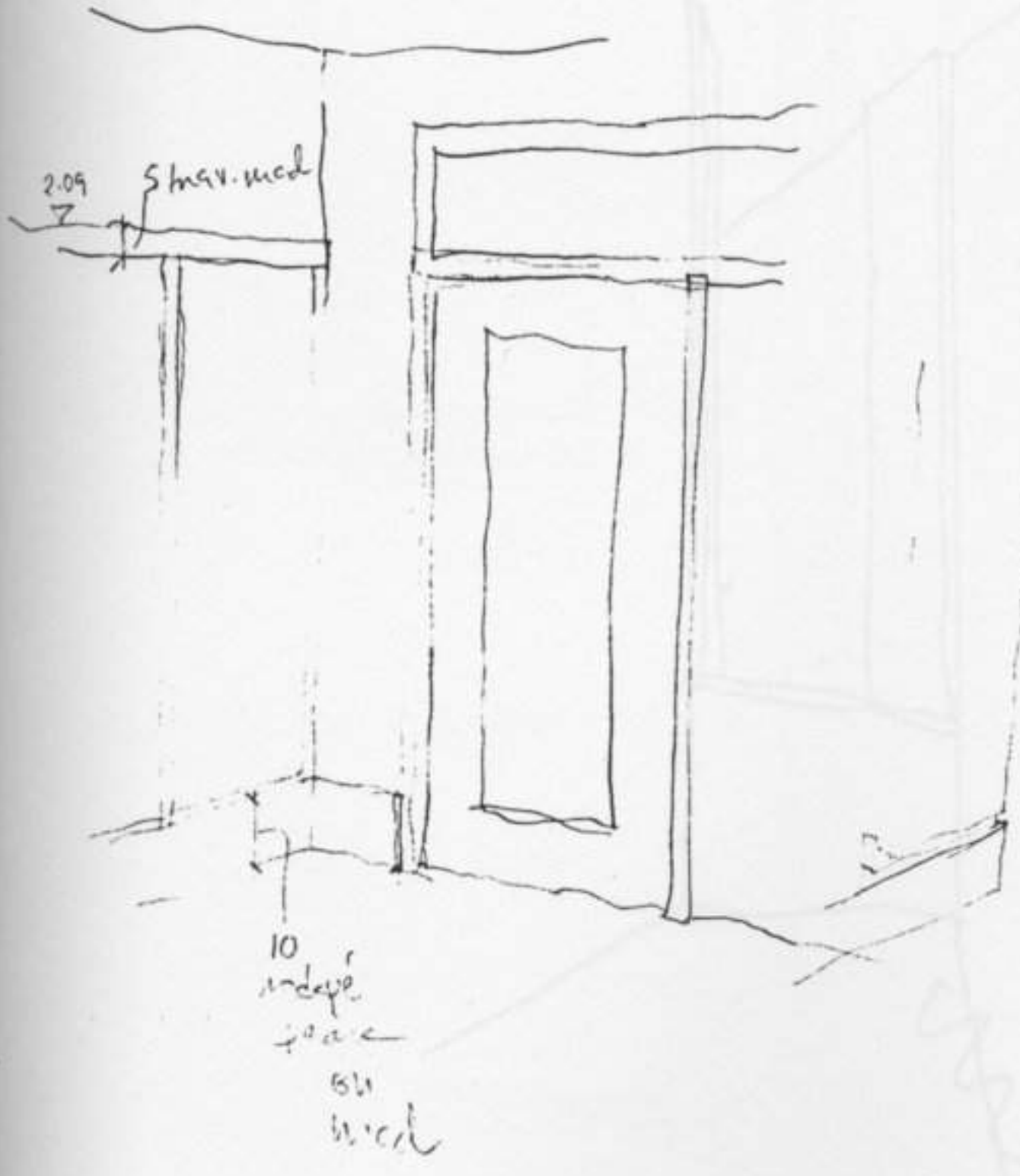
2.4 - 2 FOLHAS ENVIDRAÇADAS
MAU MALHA
BANDEIRA

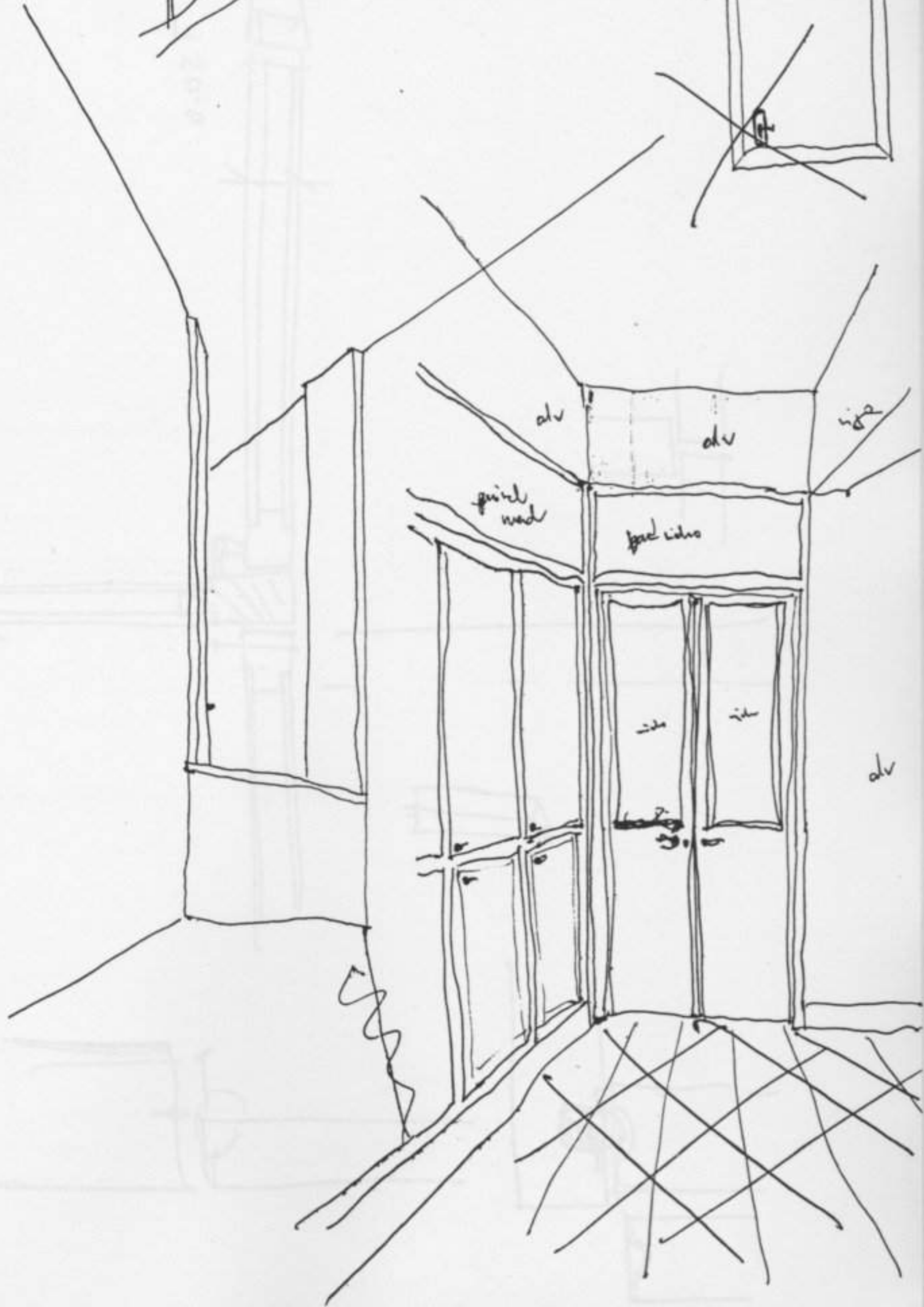
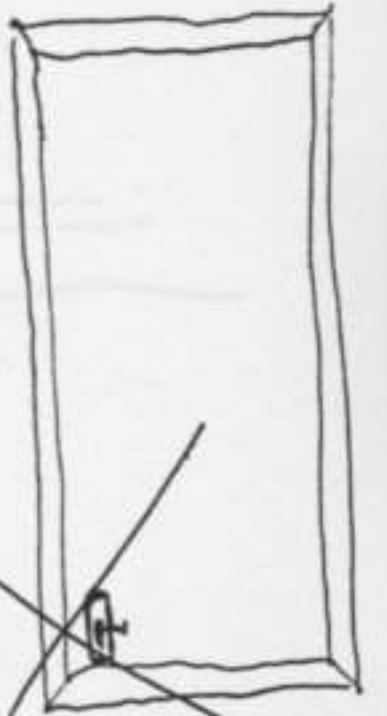


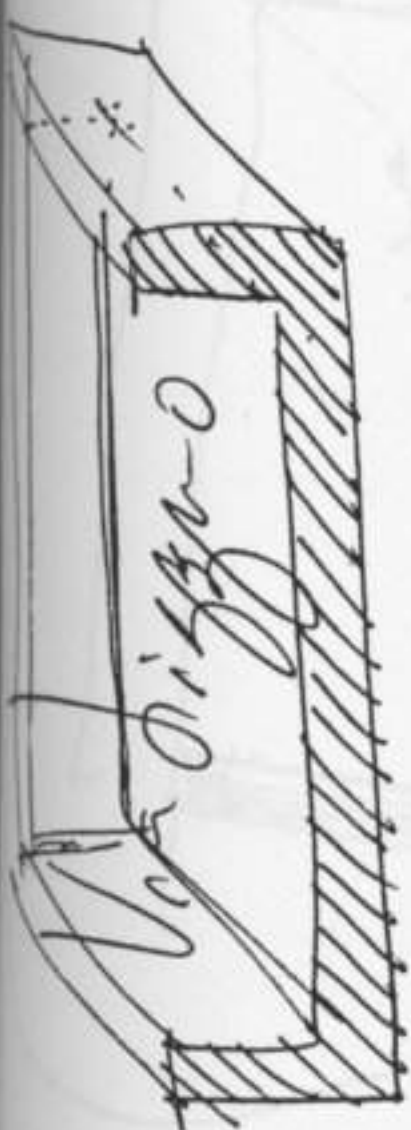
2.5 3, 2.025
1:1

1.5
2.75

1.2m - 10
1.25 - 11 - 0.2

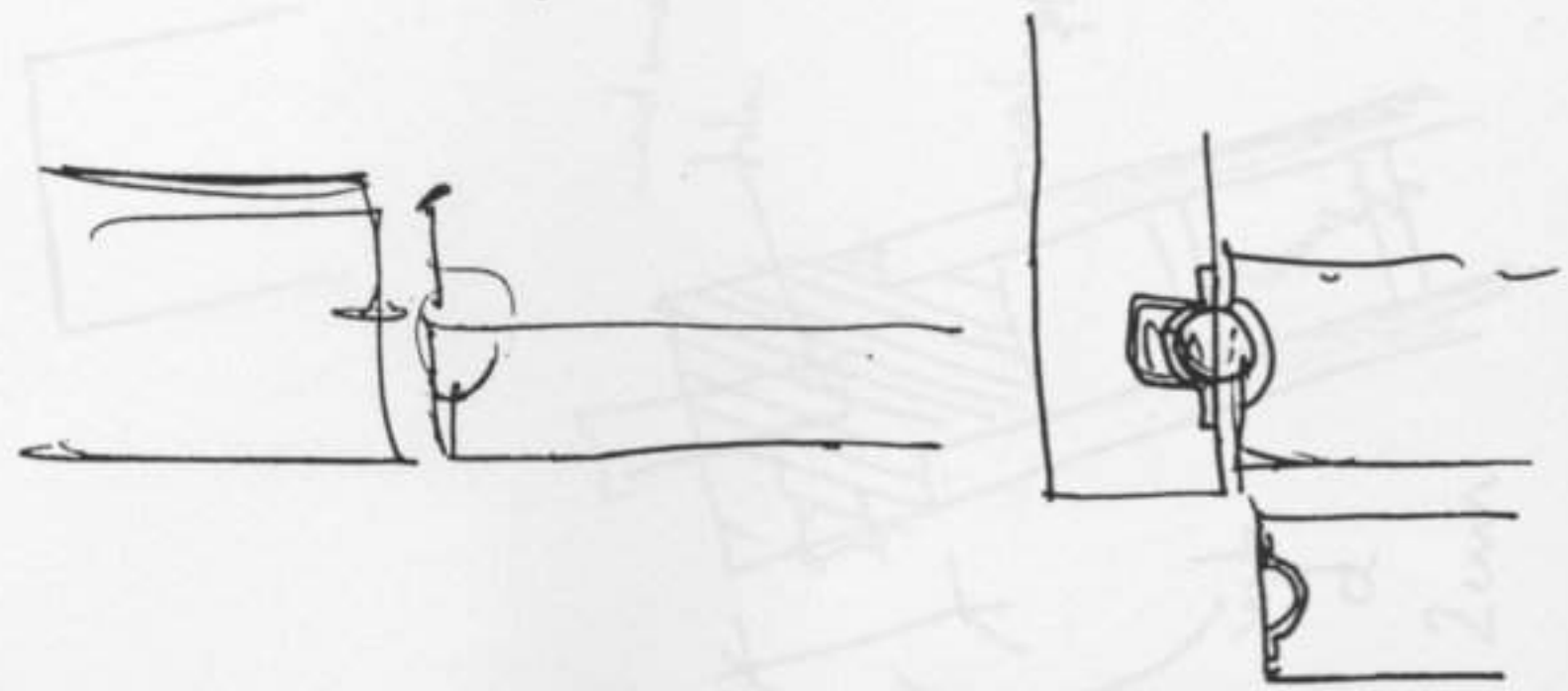
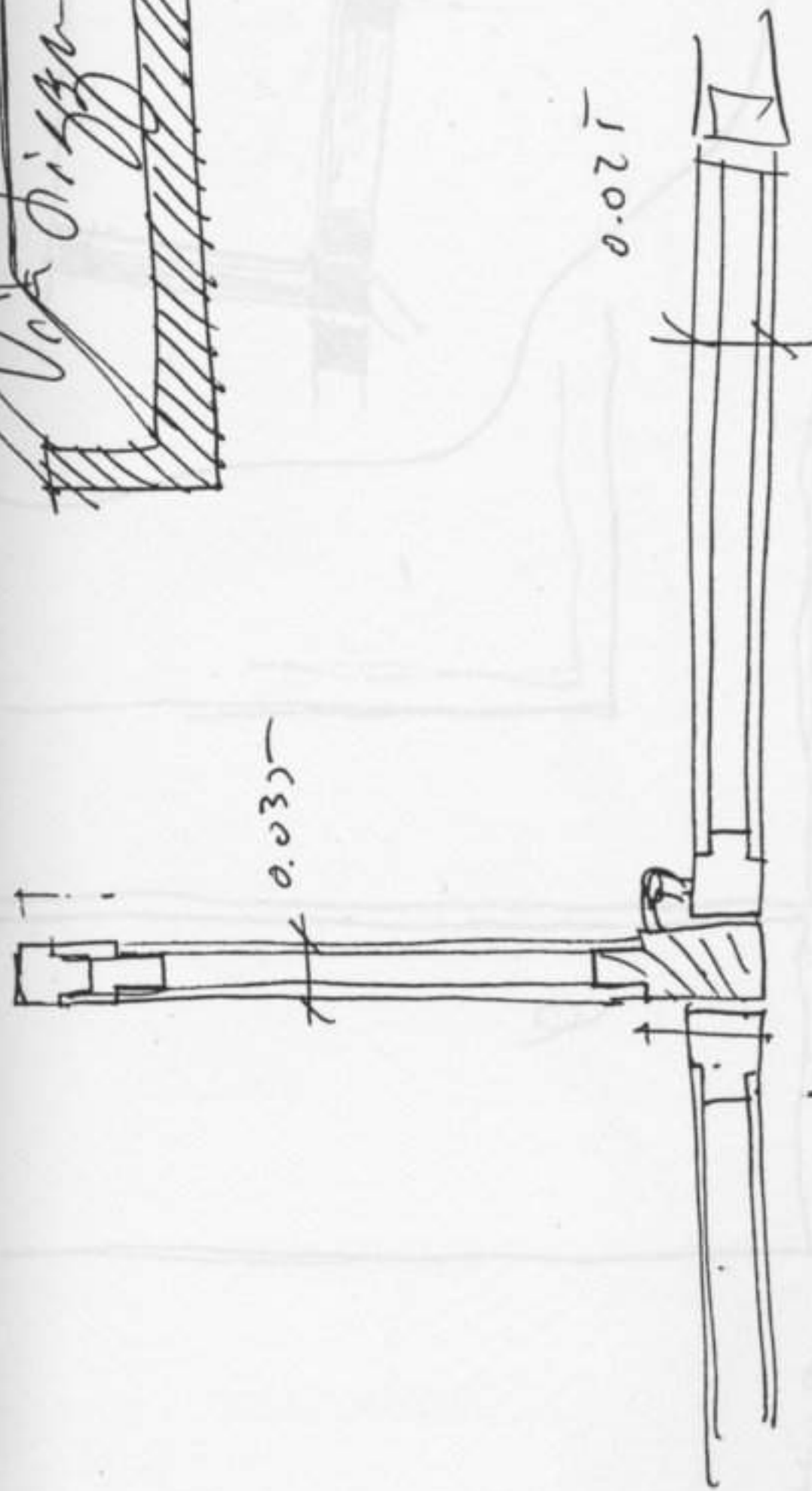




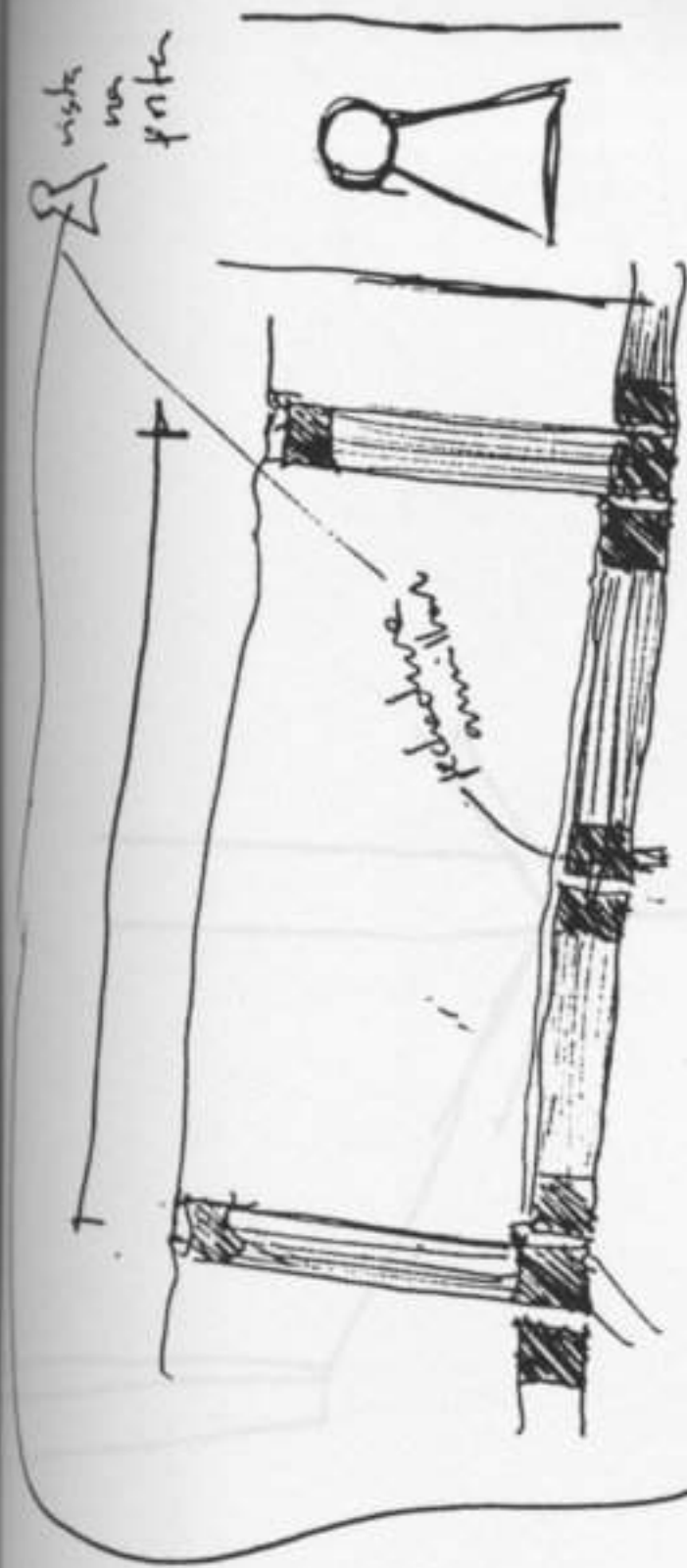


0.030

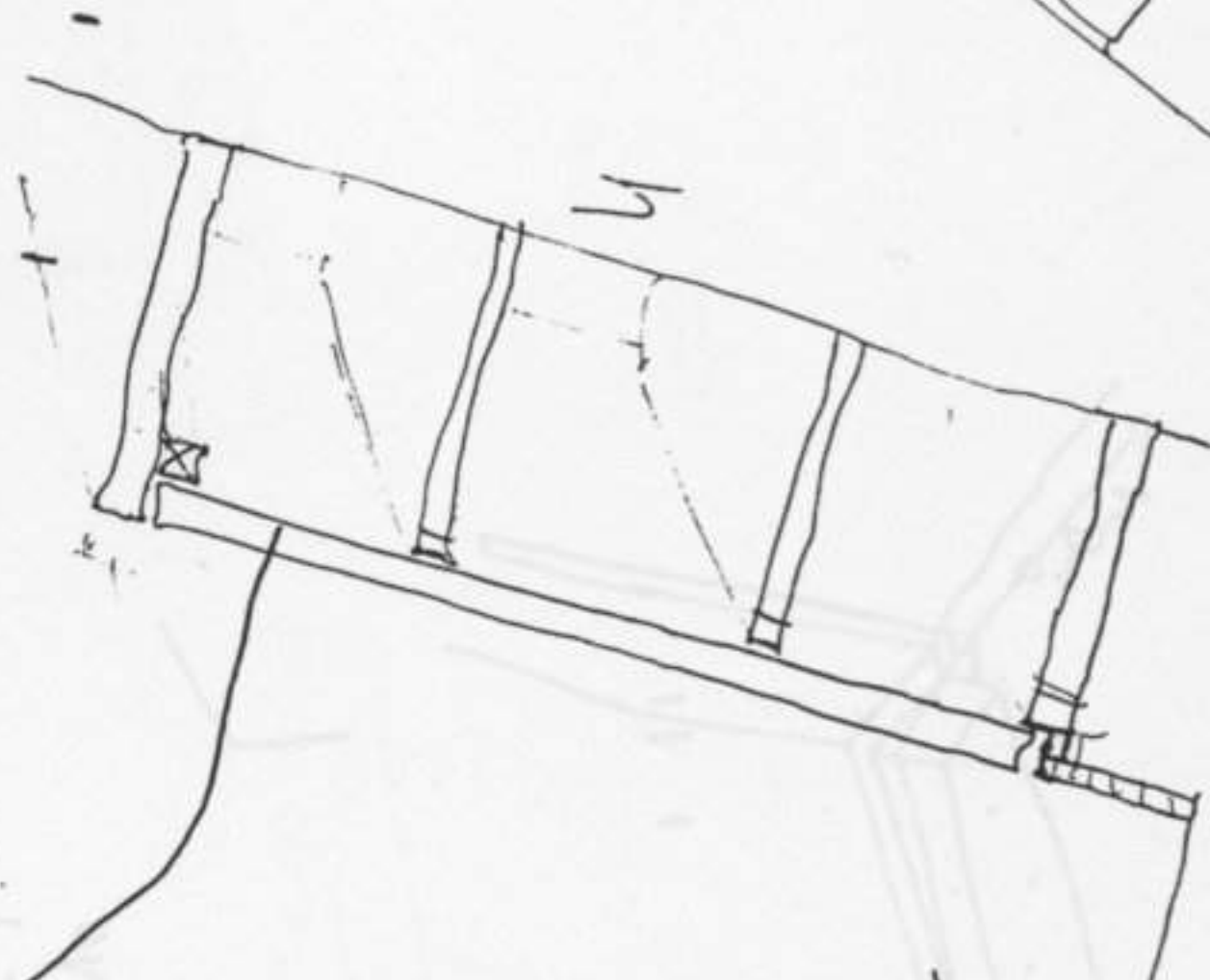
120.0



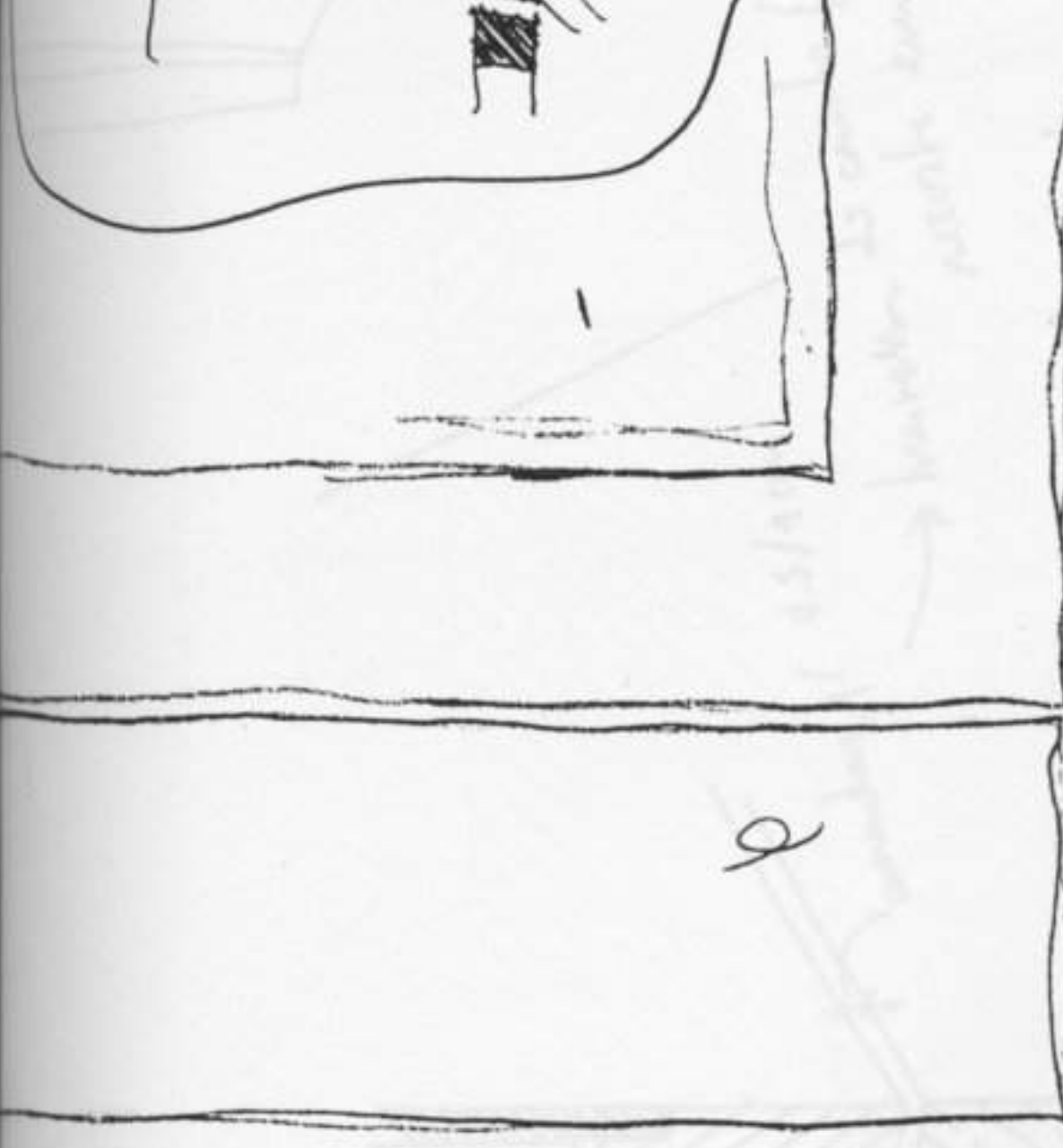
vista
na
porta



porta

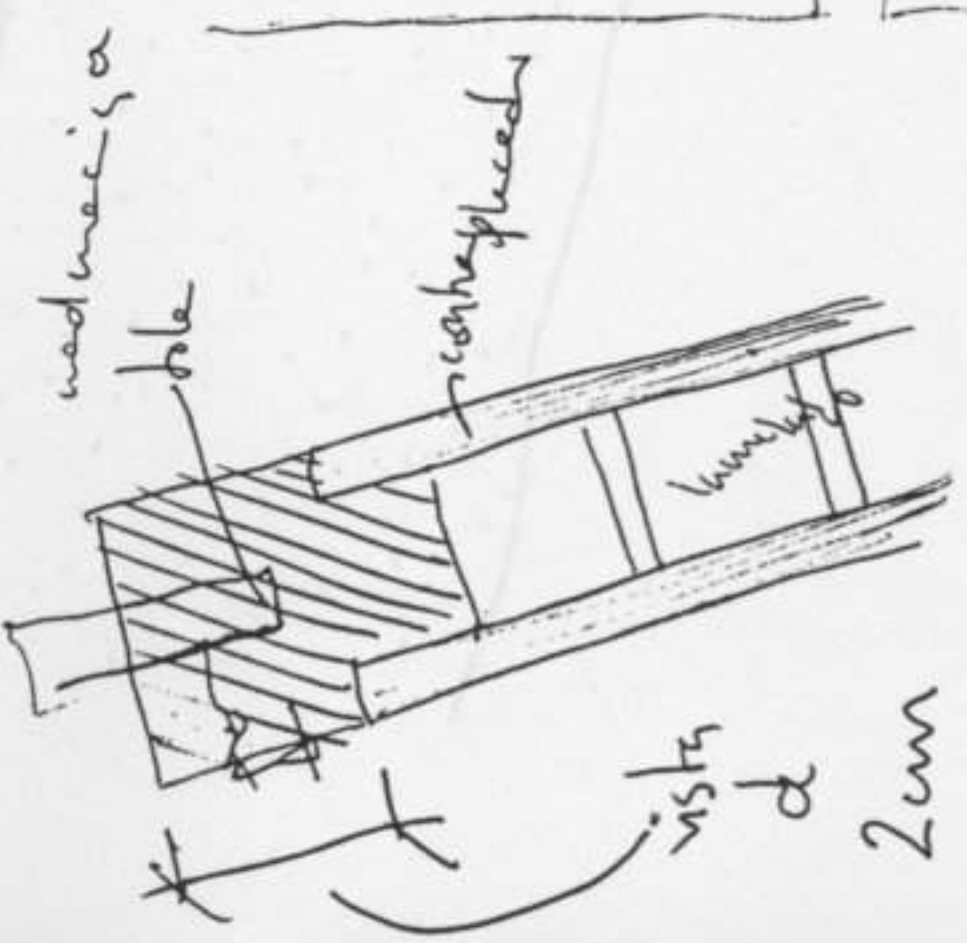
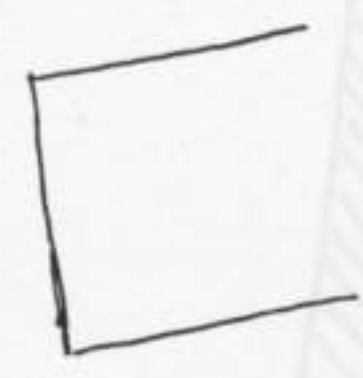


l



d

→ janela para o
meio da porta



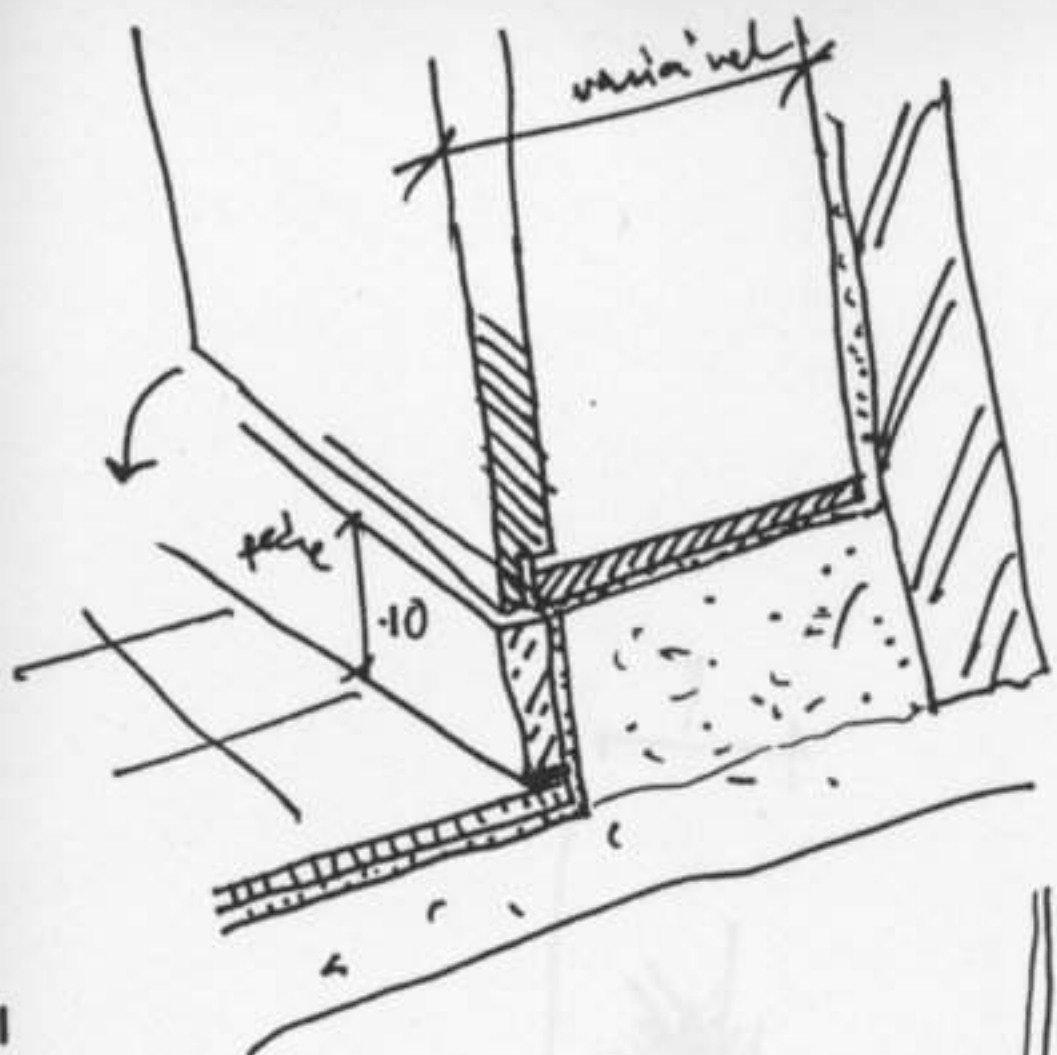
medianeira

bole

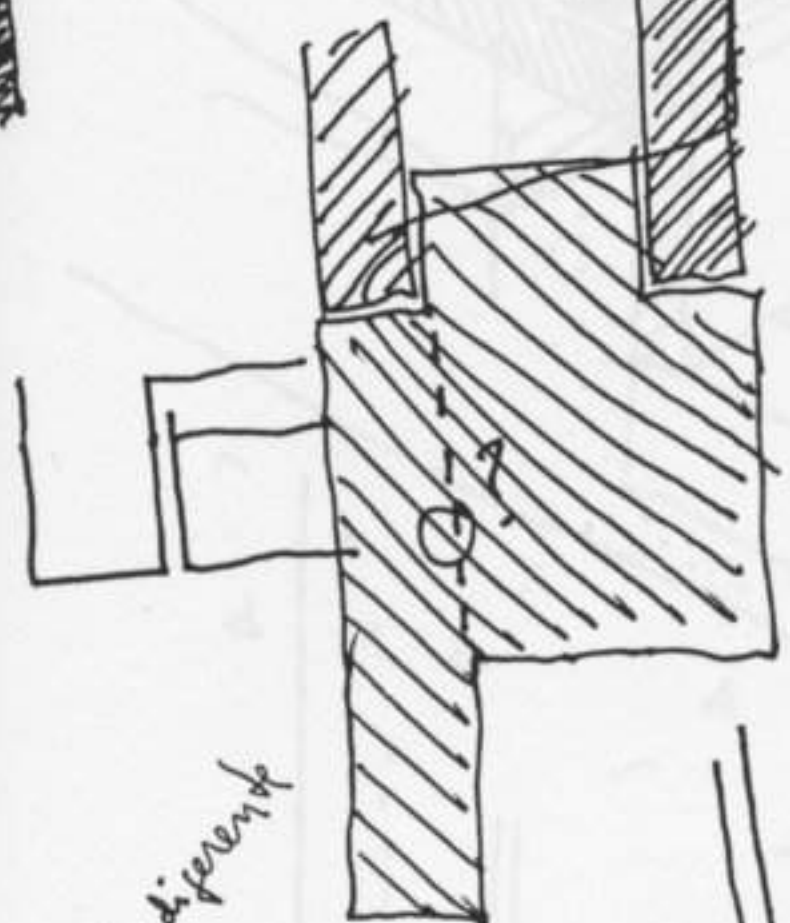
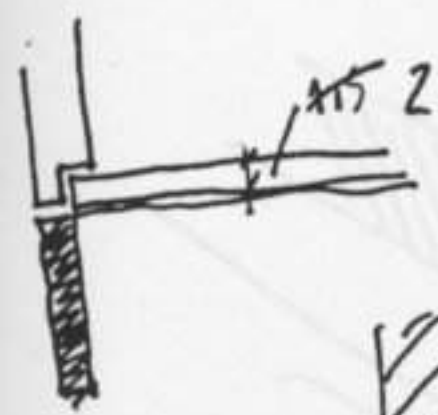
travessal

luminosa

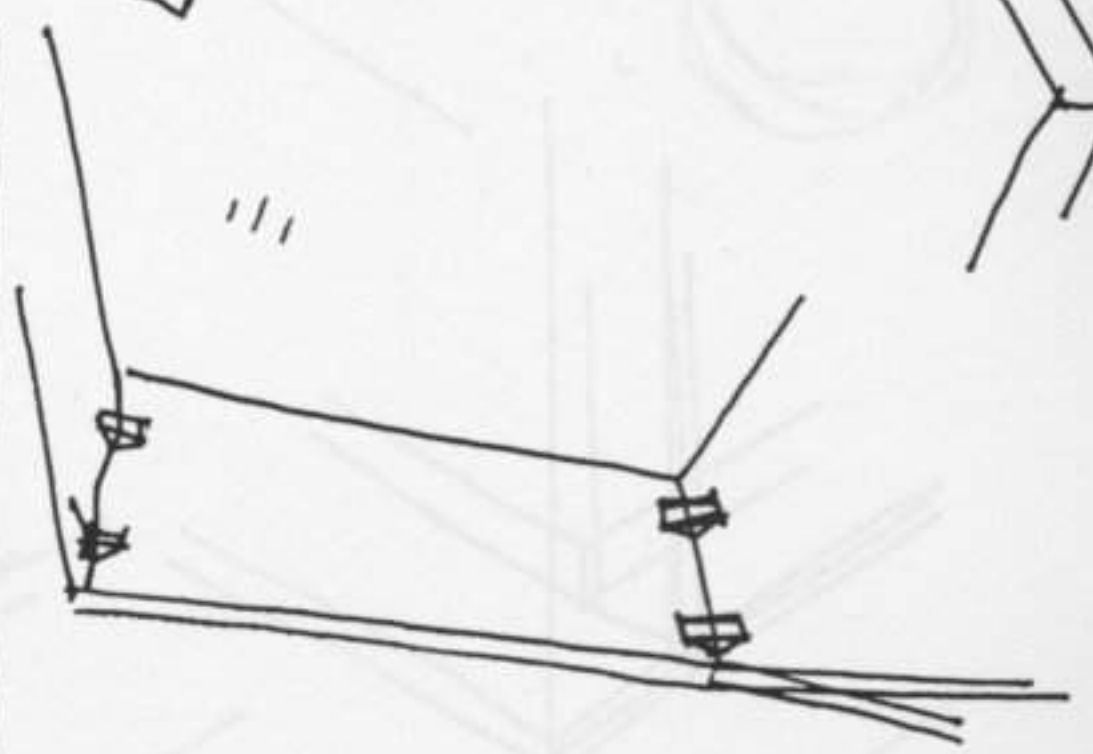
vista
de
2m



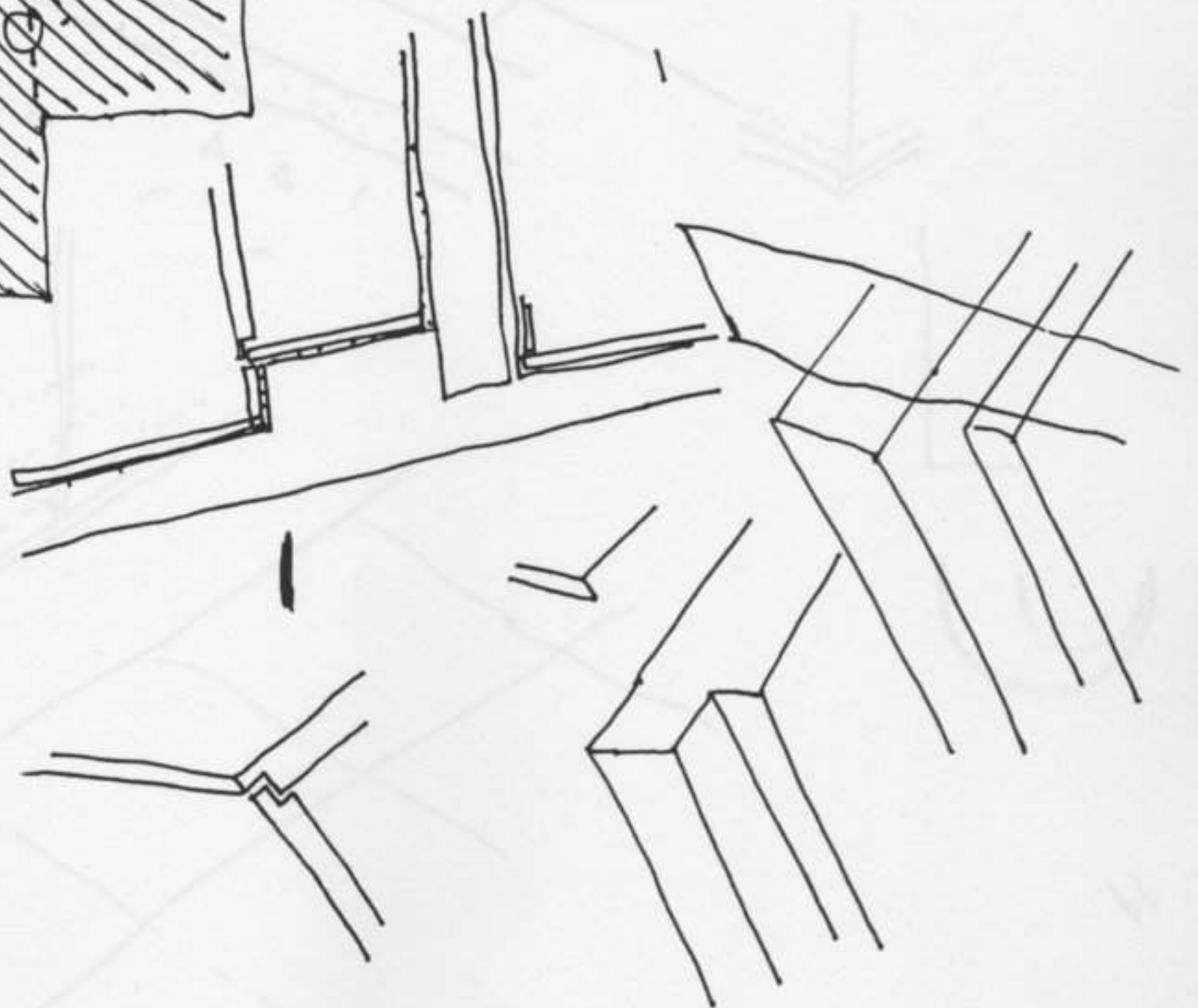
11

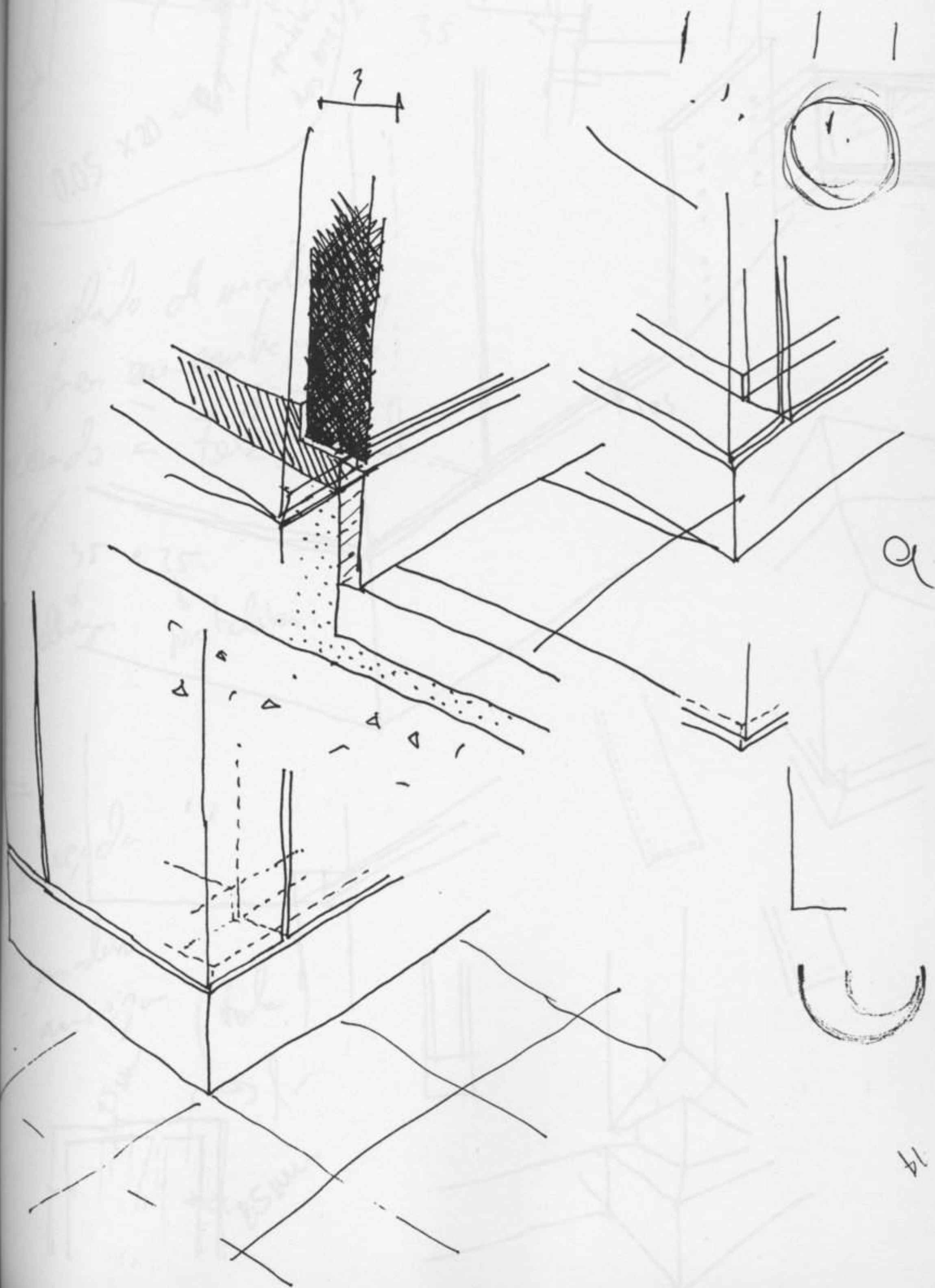


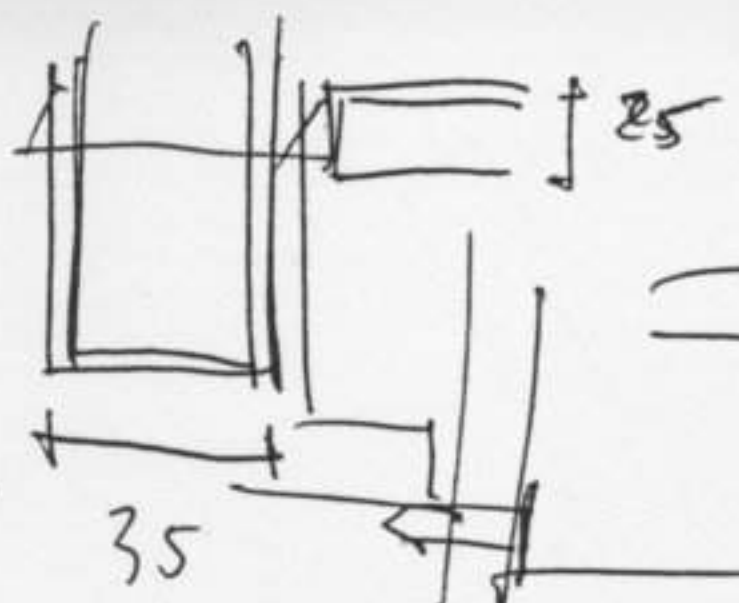
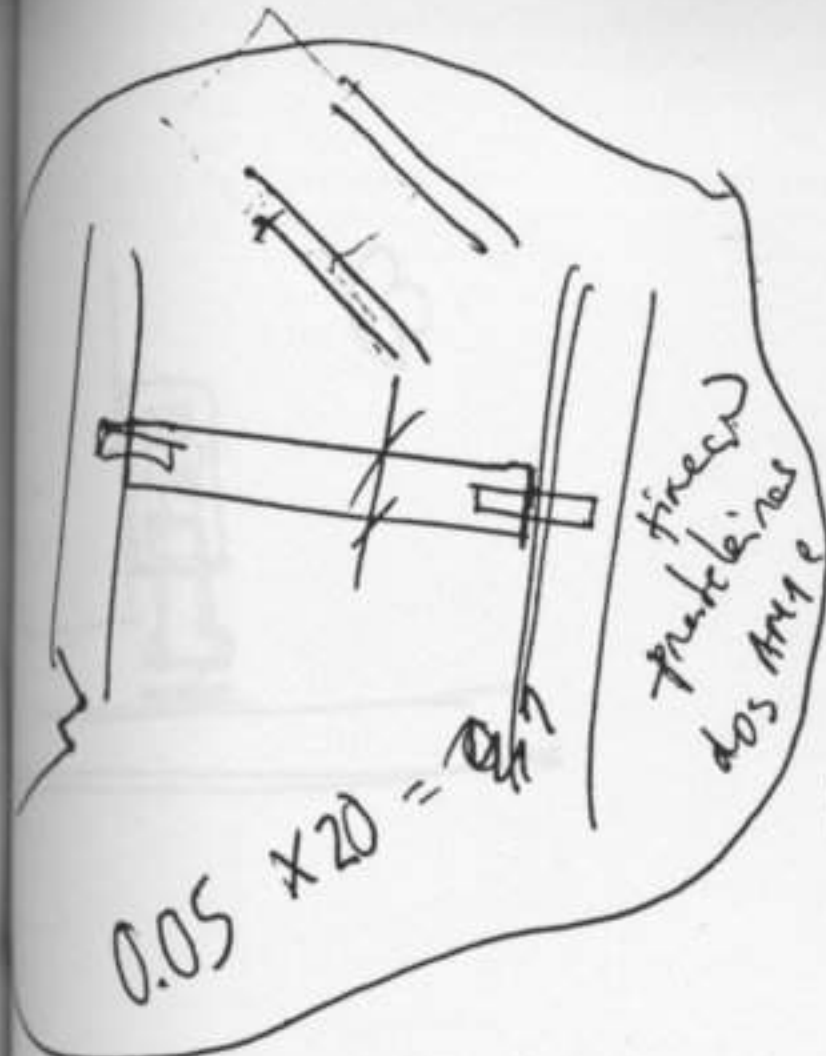
fish di peremp



51





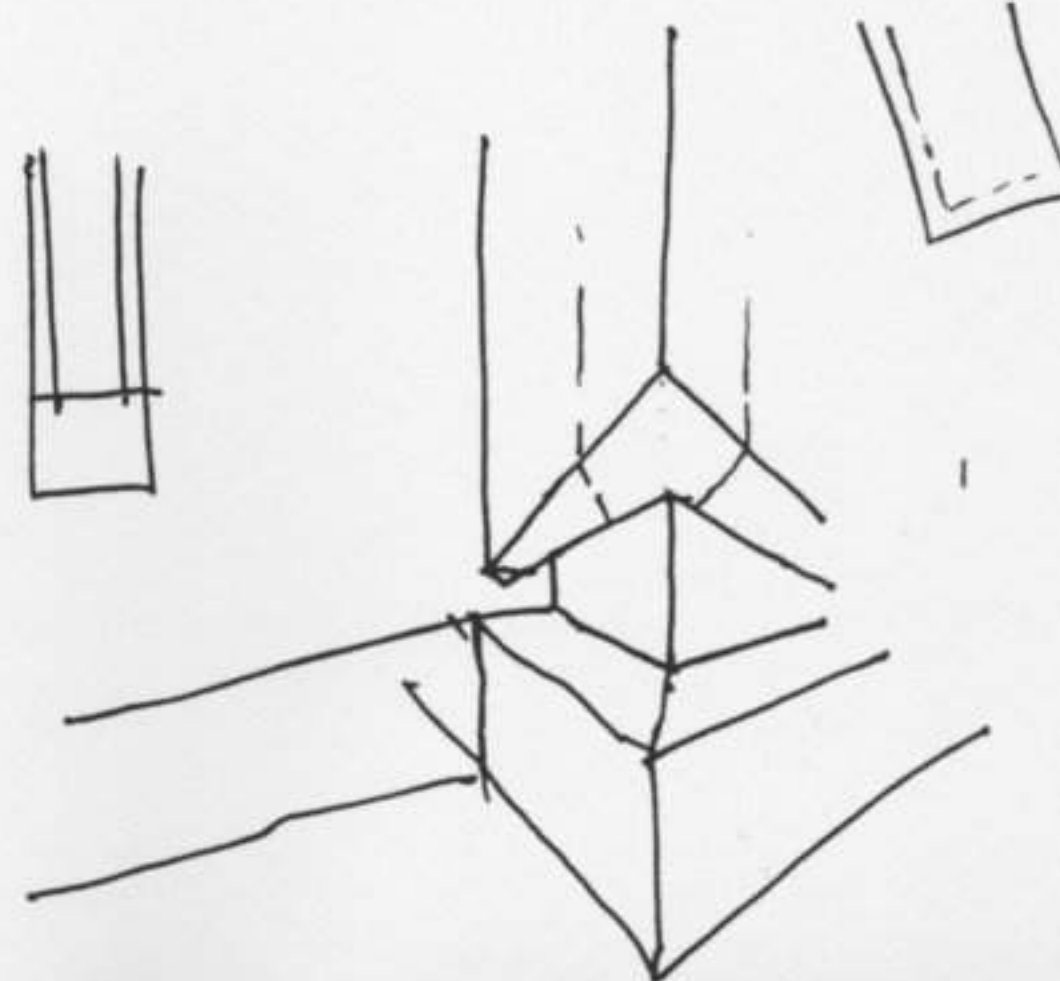
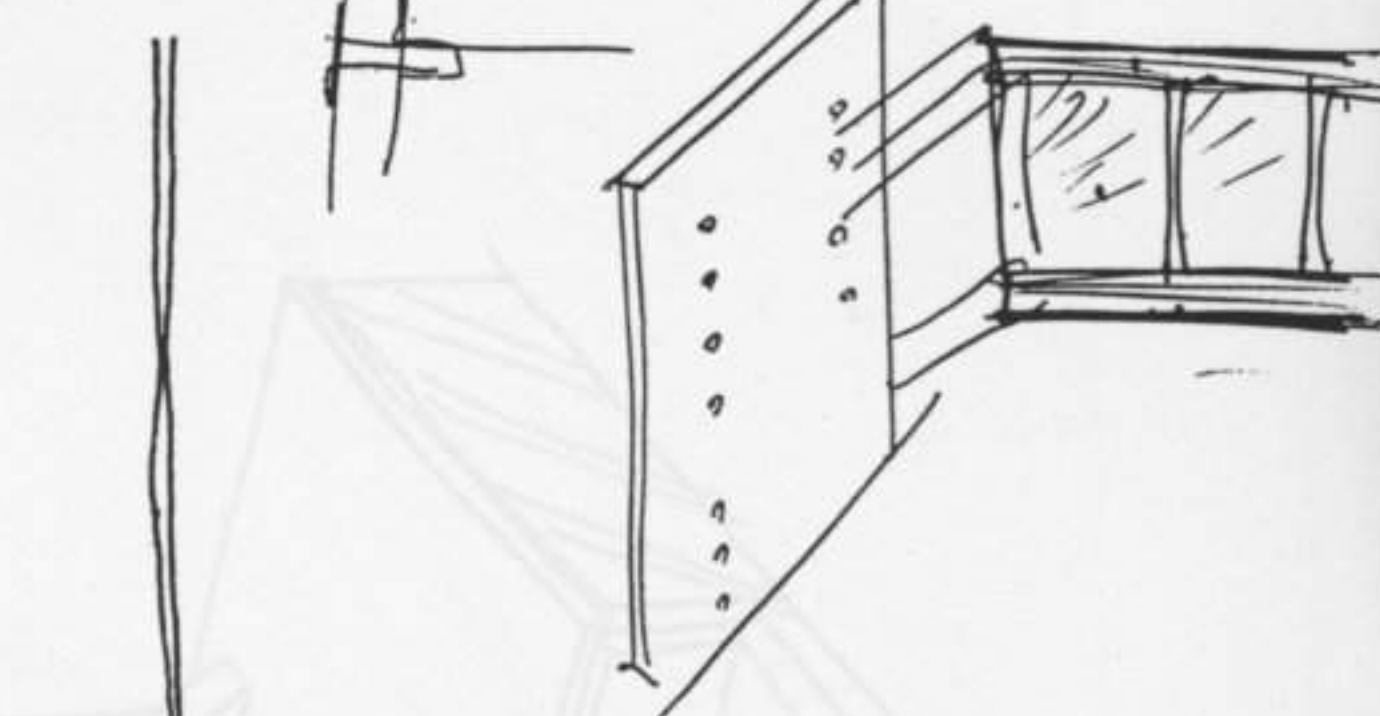
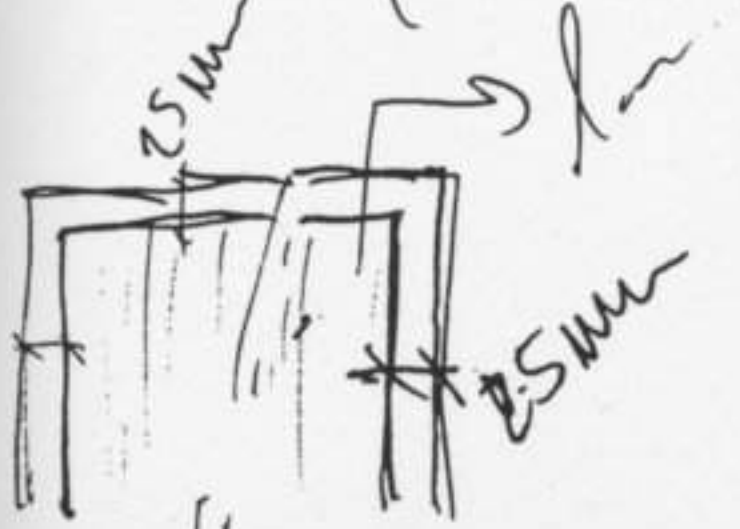


lameados de madeira
 para o contraplacado
 colado a tela.

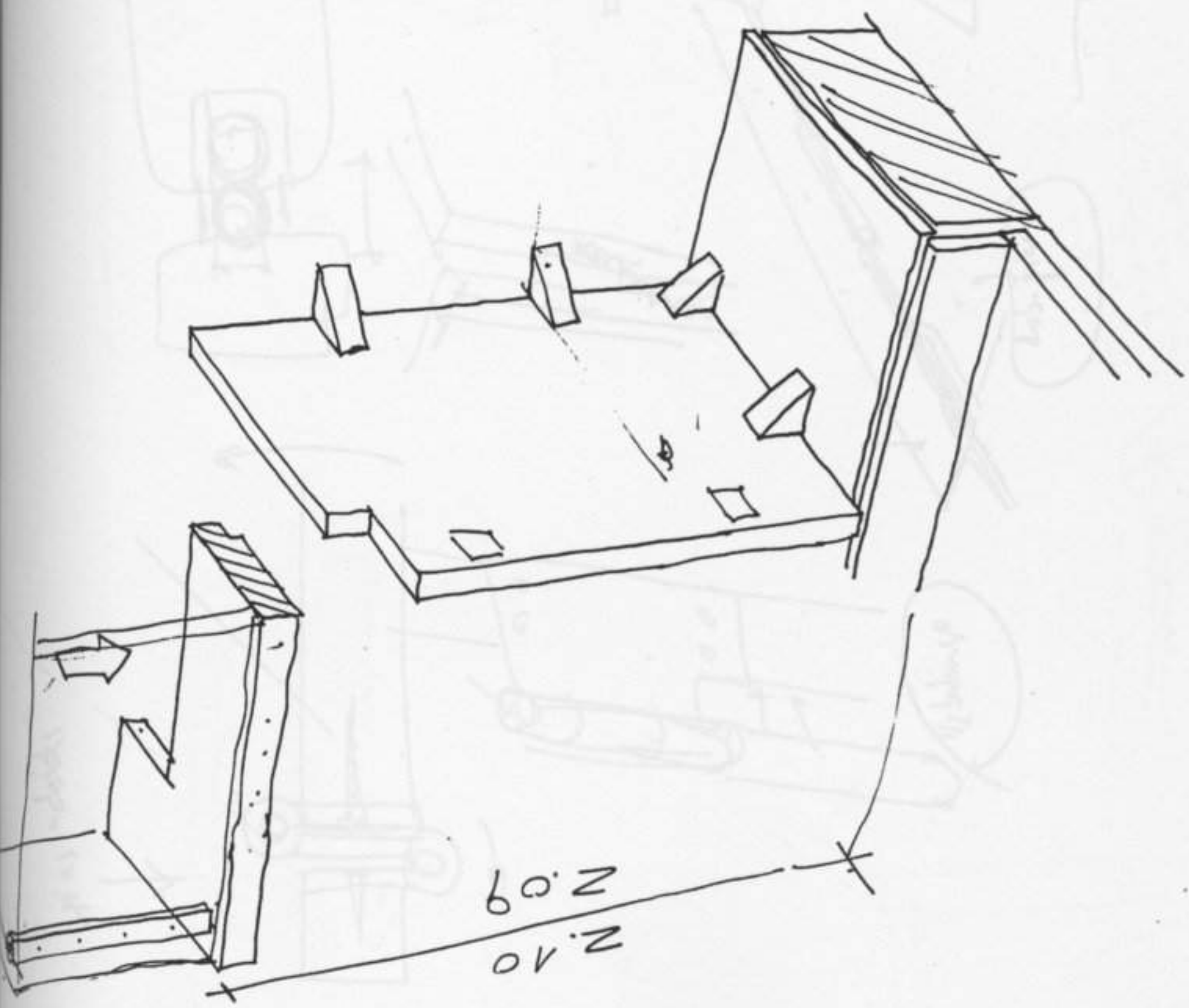
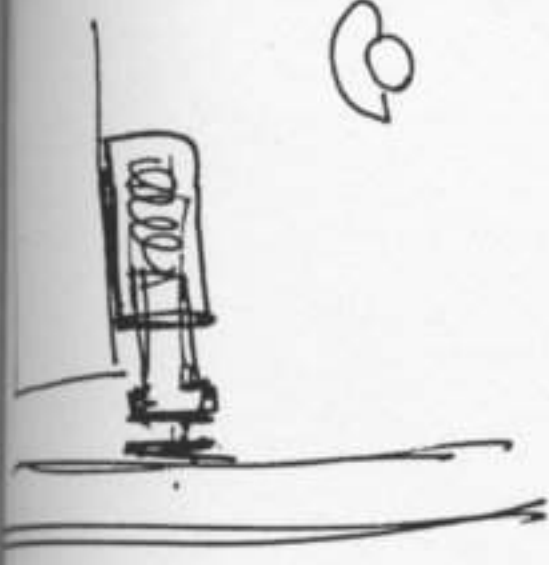
35 e 25:
 de
 altura para tela.

recheada

madeira
 ancinha (sola)

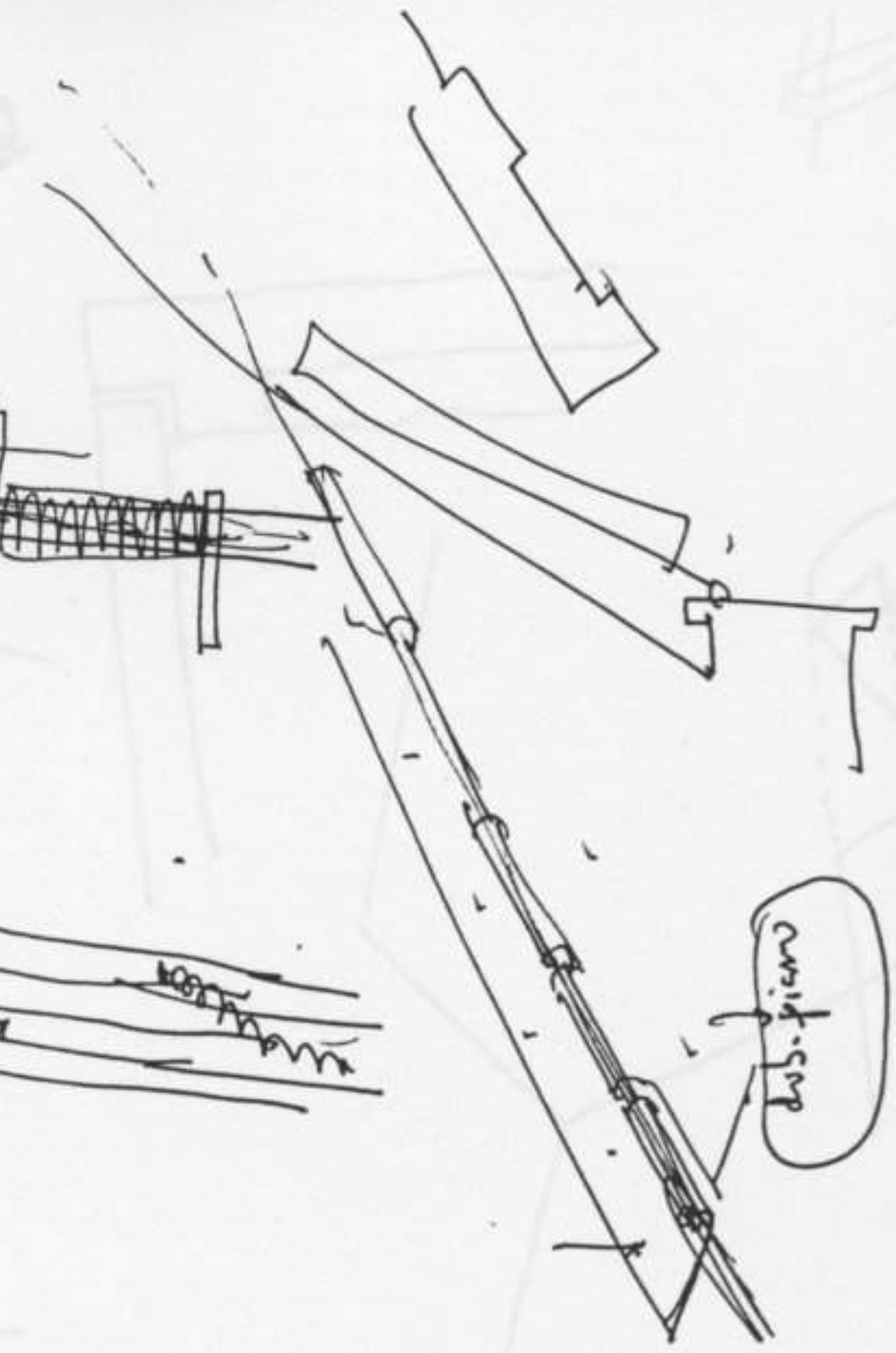
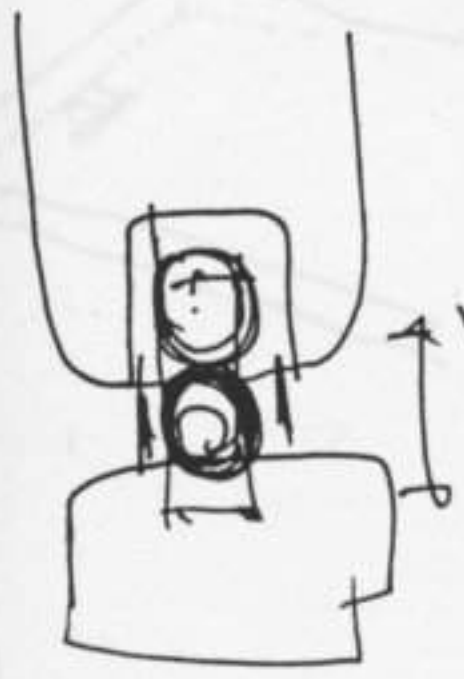
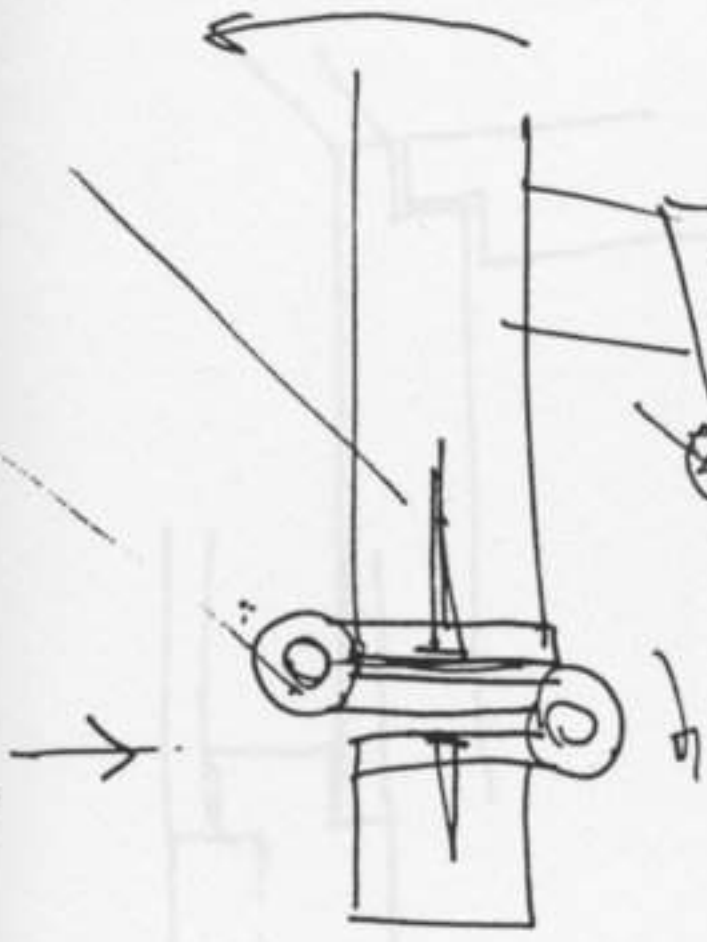


6

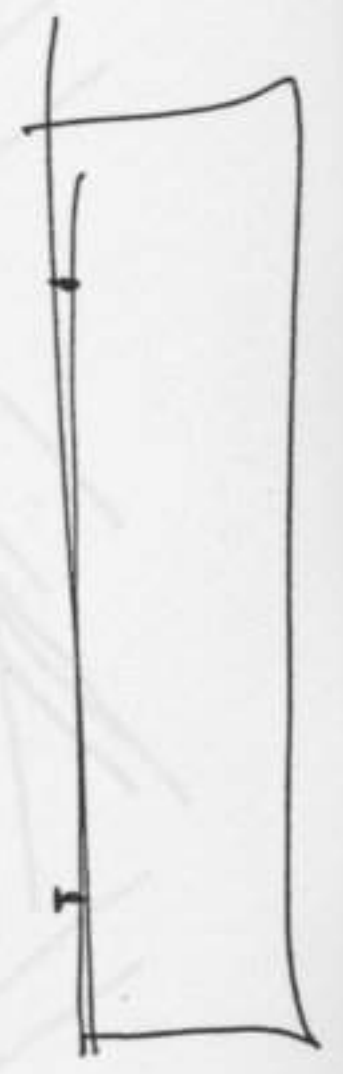
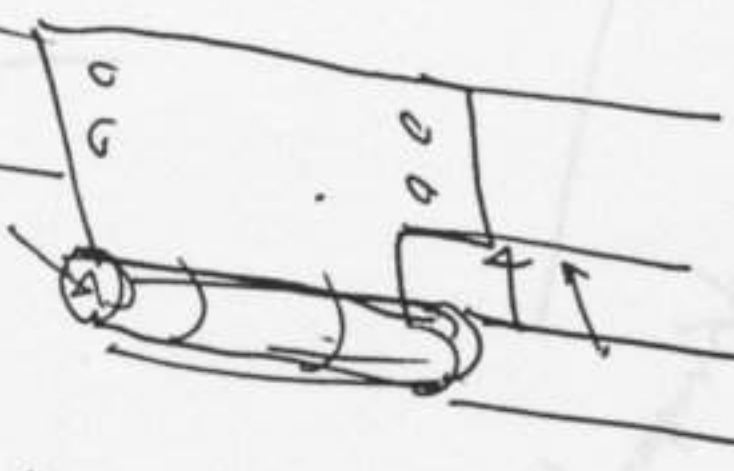


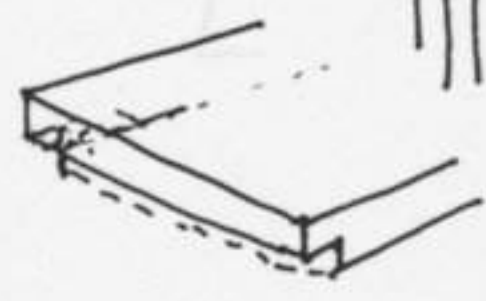
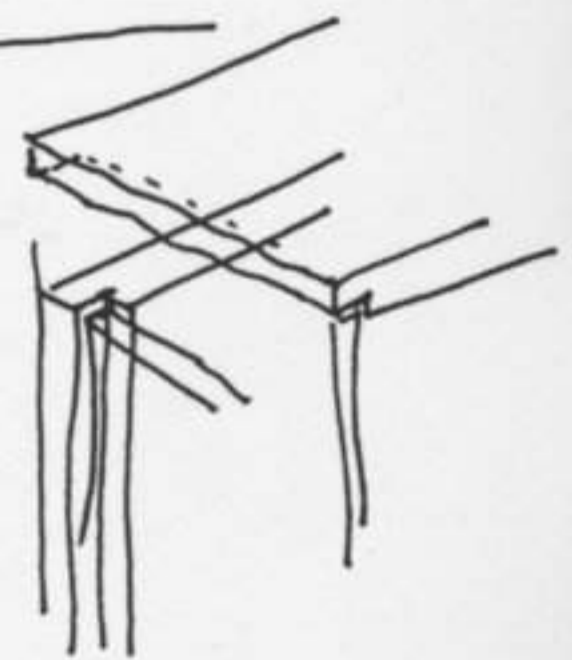
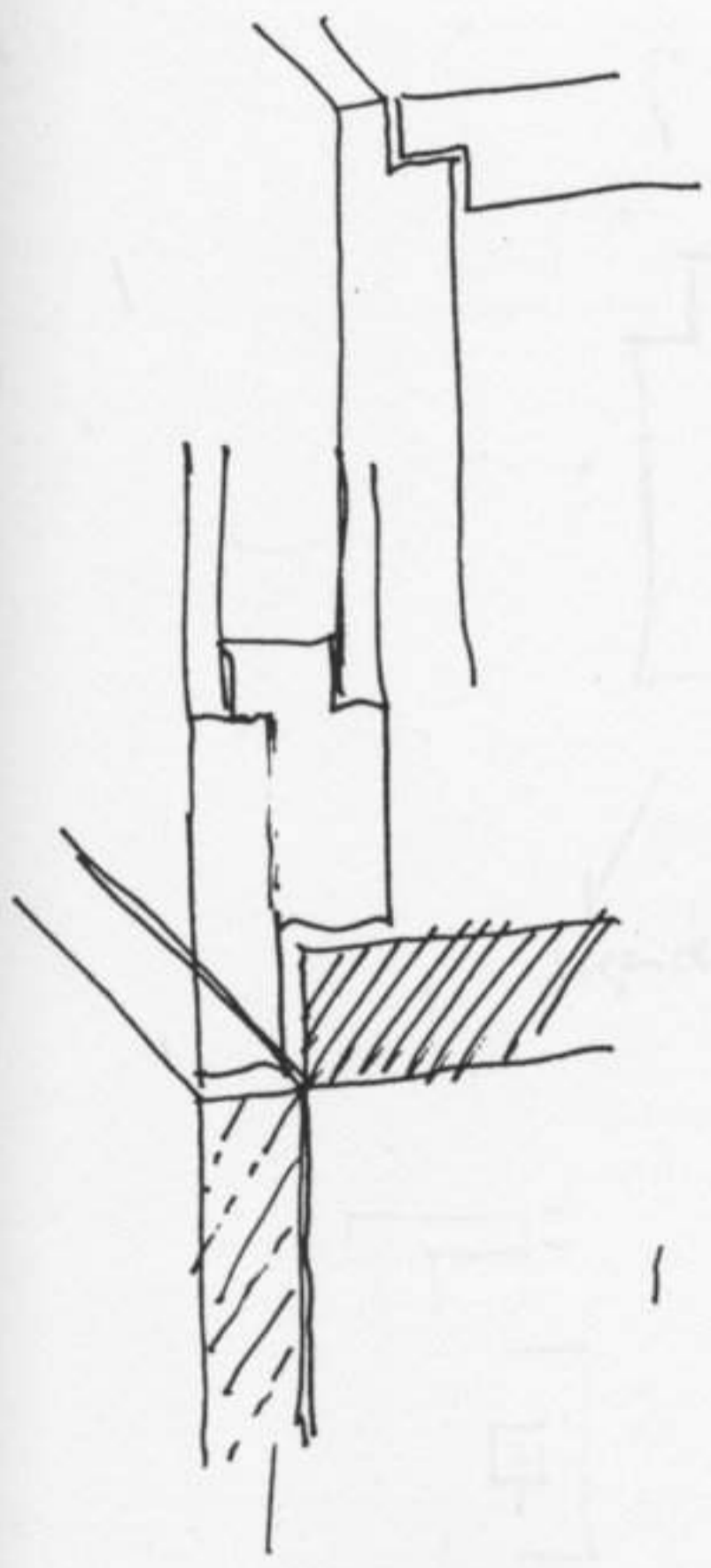
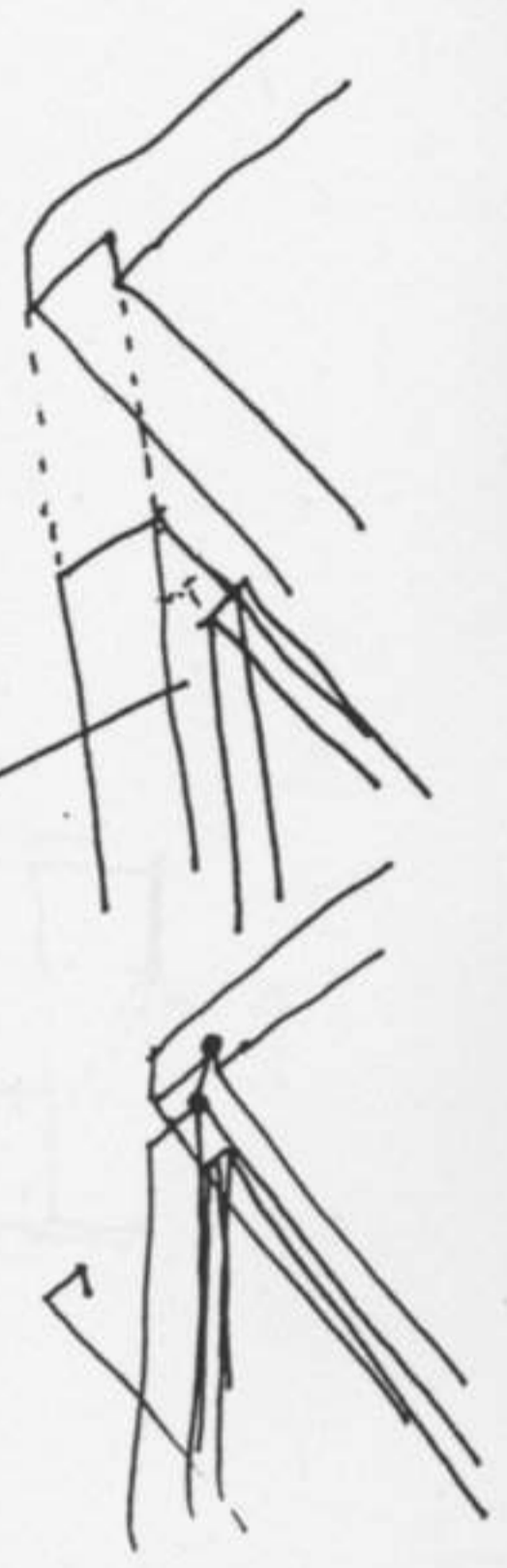
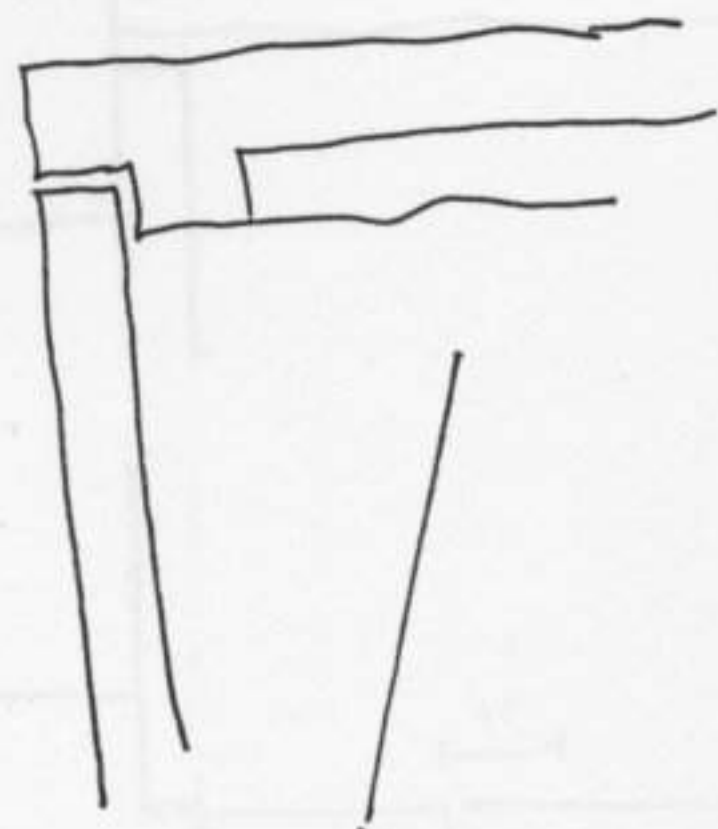
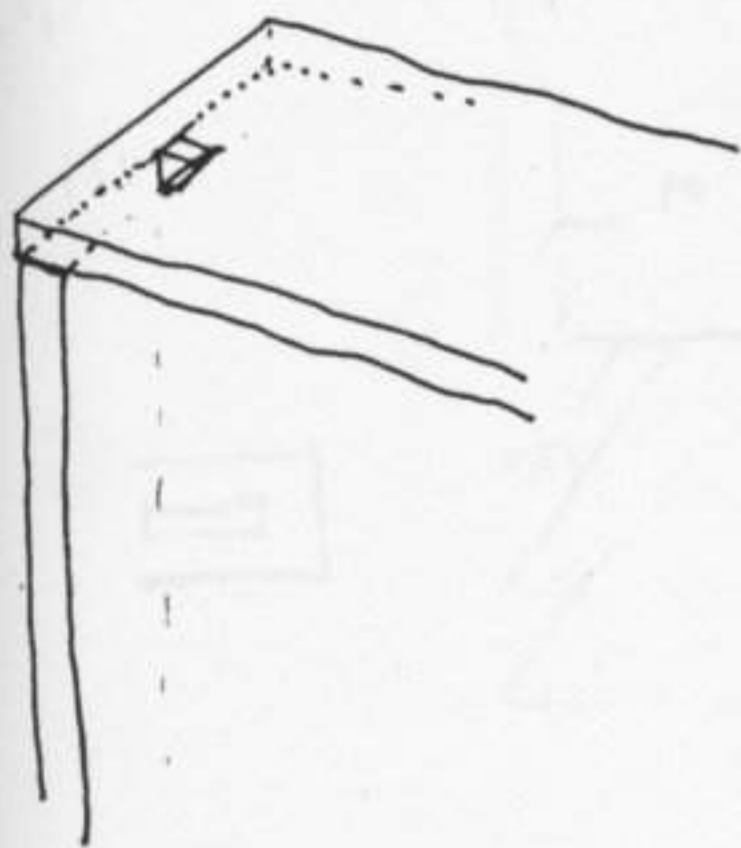
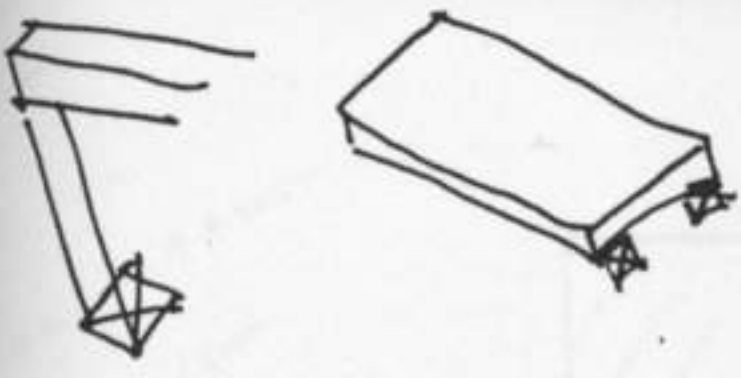
2.10
2.09

Has disks

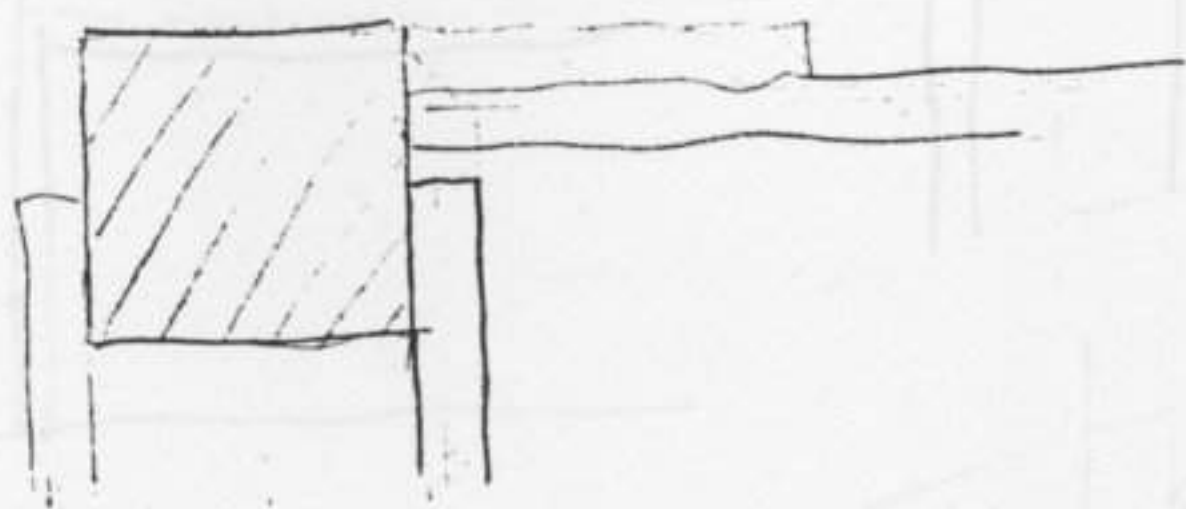


1/2 balam sp

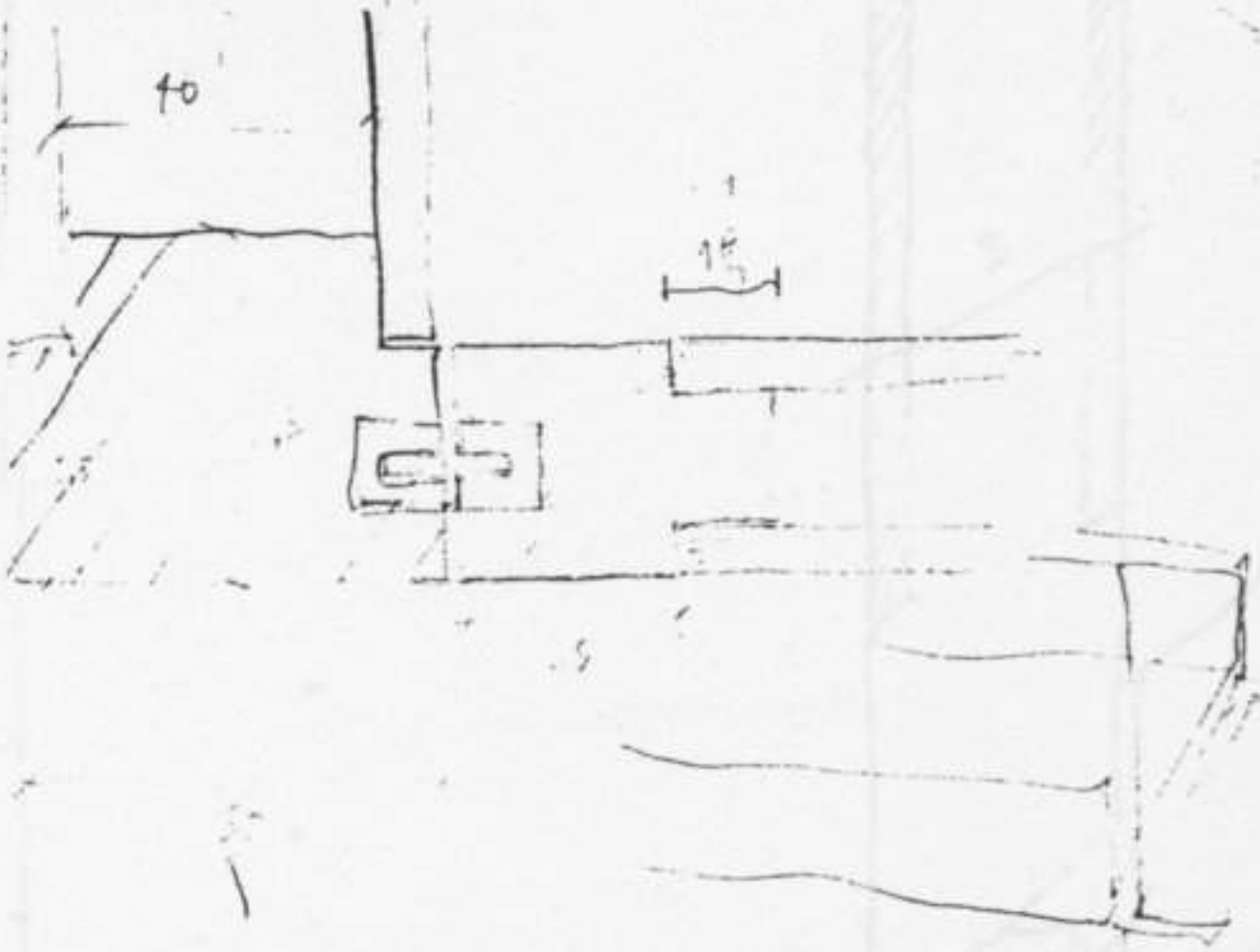
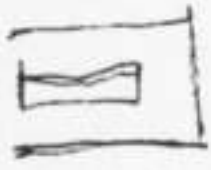




2
10m - 10m
1m - 2m



20
9
25 III



5
1.5



↑
piso de la casa



parallels

5
5

prop all height = 0.5

0.5/1

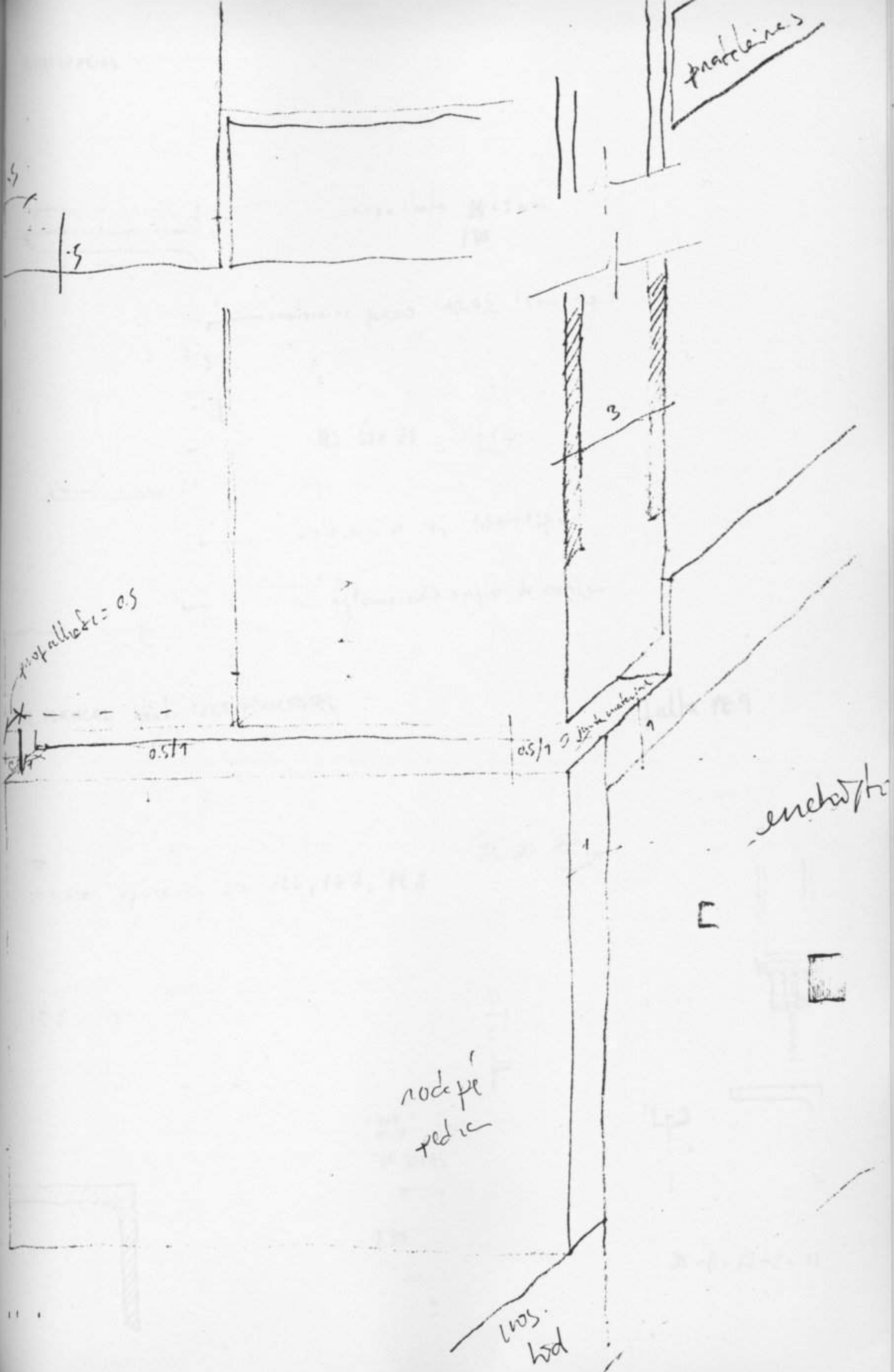
0.5/1

2 inch material

enclat/h

rod pe
rod ic

lws.
had



SEMELHARIAS

casca chata 25 x 5 mm
170

construção ferro 40.40 (5mm esp.)

HS 30x30 (5mm esp.)

depois de 11,5mm esp.

afimbrado tipo de castiça

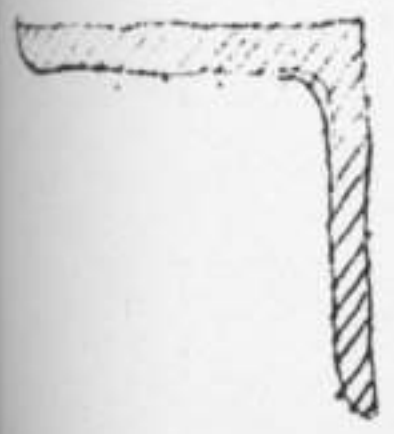
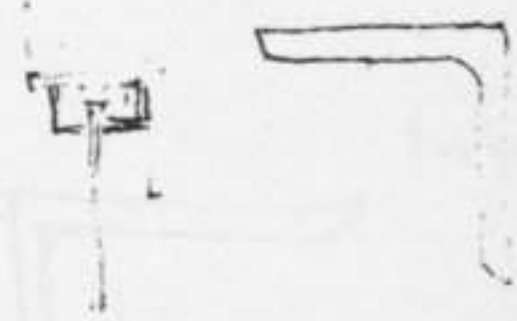
CORTE VERTICAL ident. corte HORIZONTAL

falta PE 9

problemas de alinhamento PE 6, PE 7, PE 8



vertical



ENT 30-30 r=3

HS 30x45

T 30

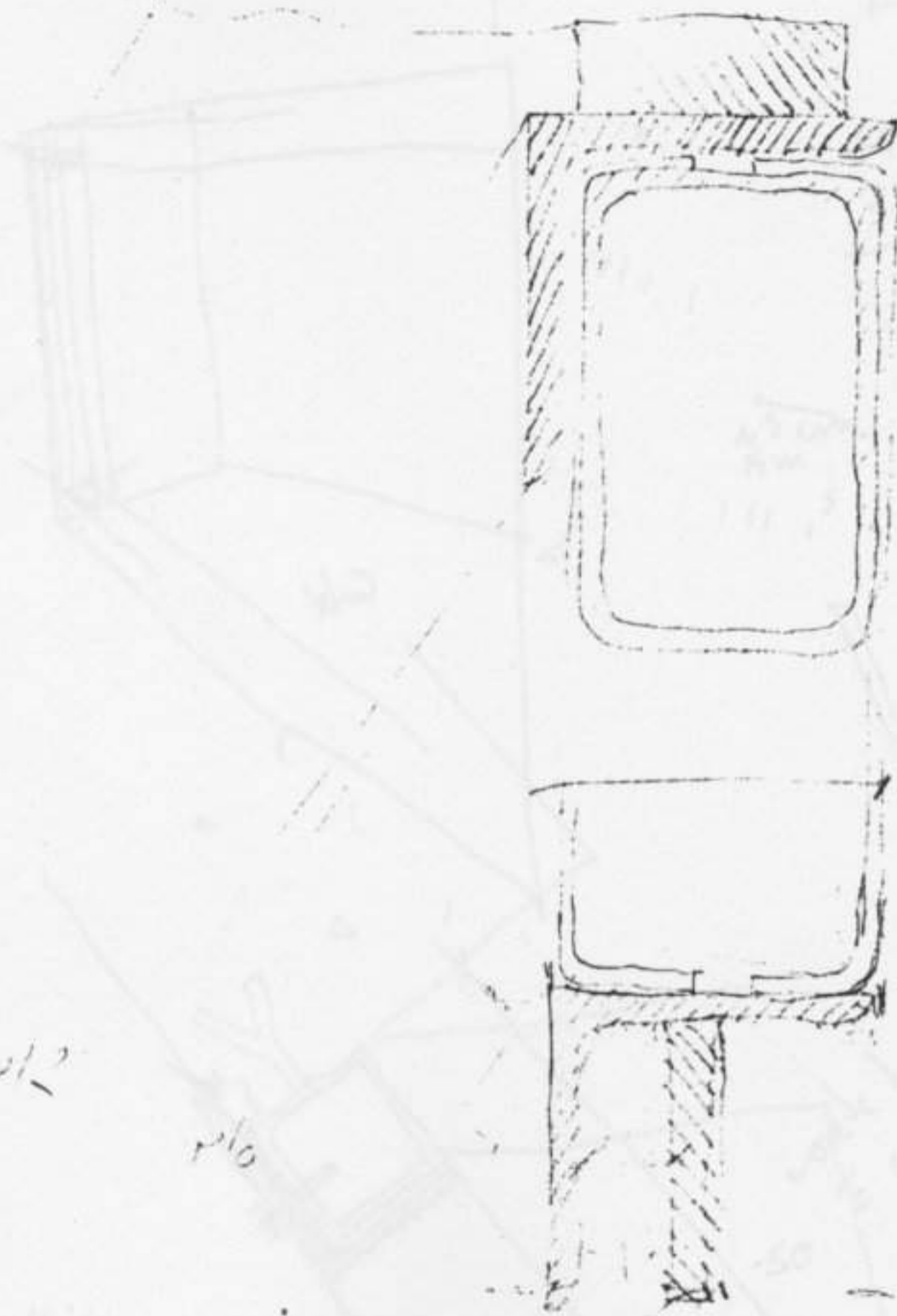
30-8-12-2-11

11

10000



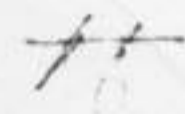
pl 3



30 x 20
35 x 30

pl 2

pl 0



finch

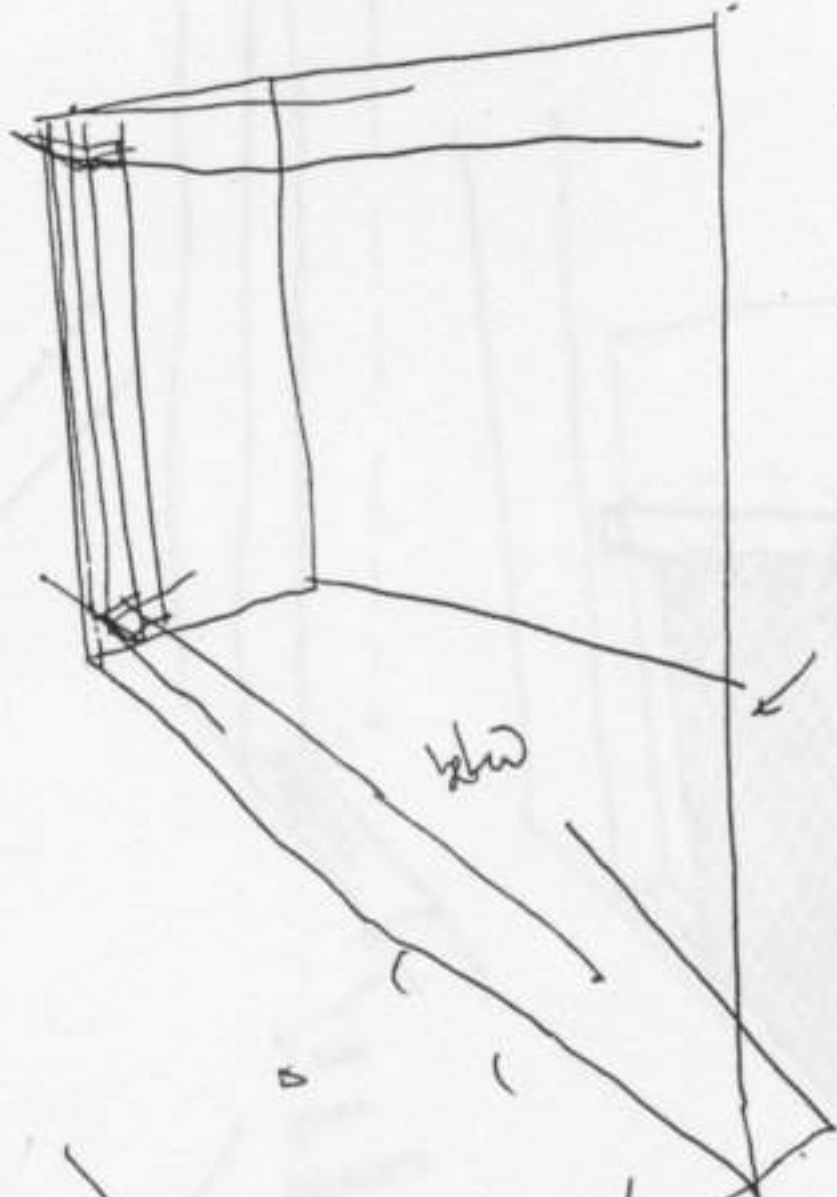
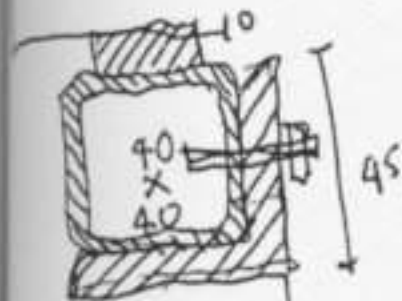
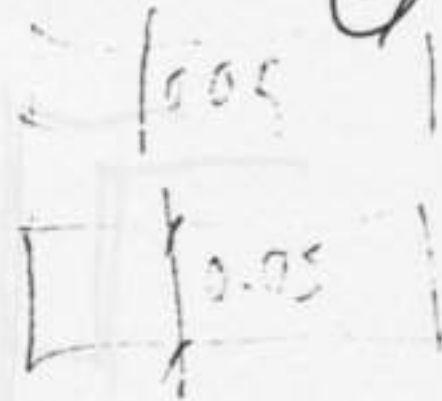


1

SERRA 134

6

0.20



1 "

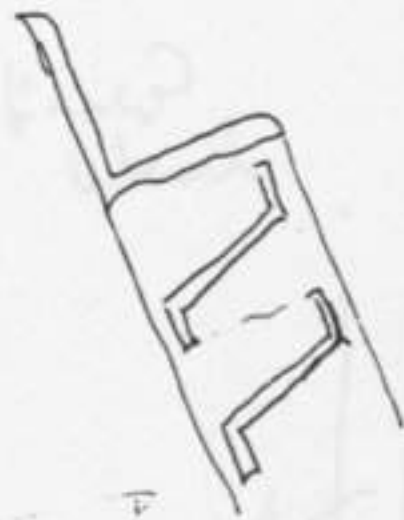
39 cm

35

4 cm

1111

11.5 cm
19 cm
1111 5



work hole.
in center of head
50

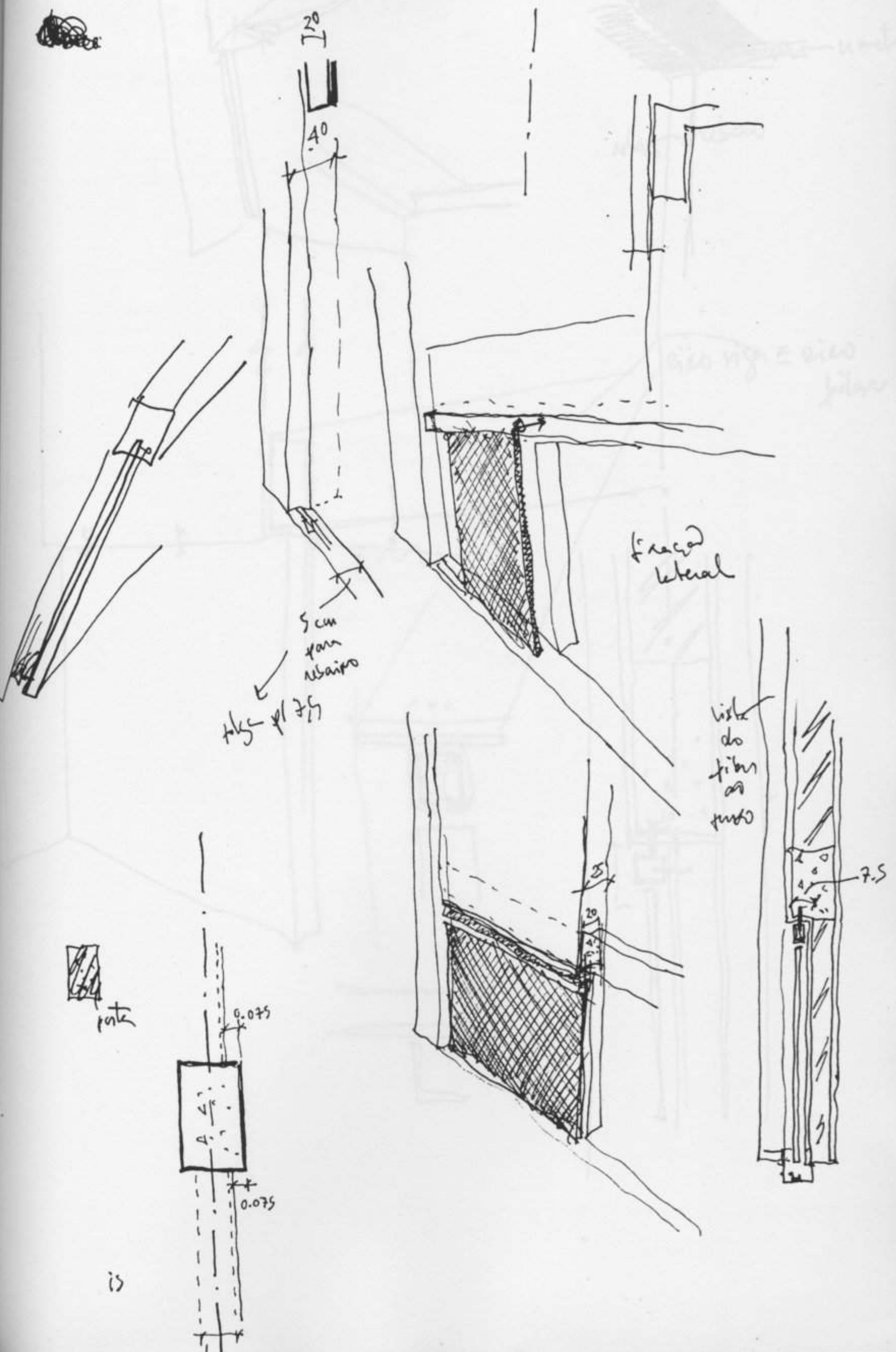
10/5

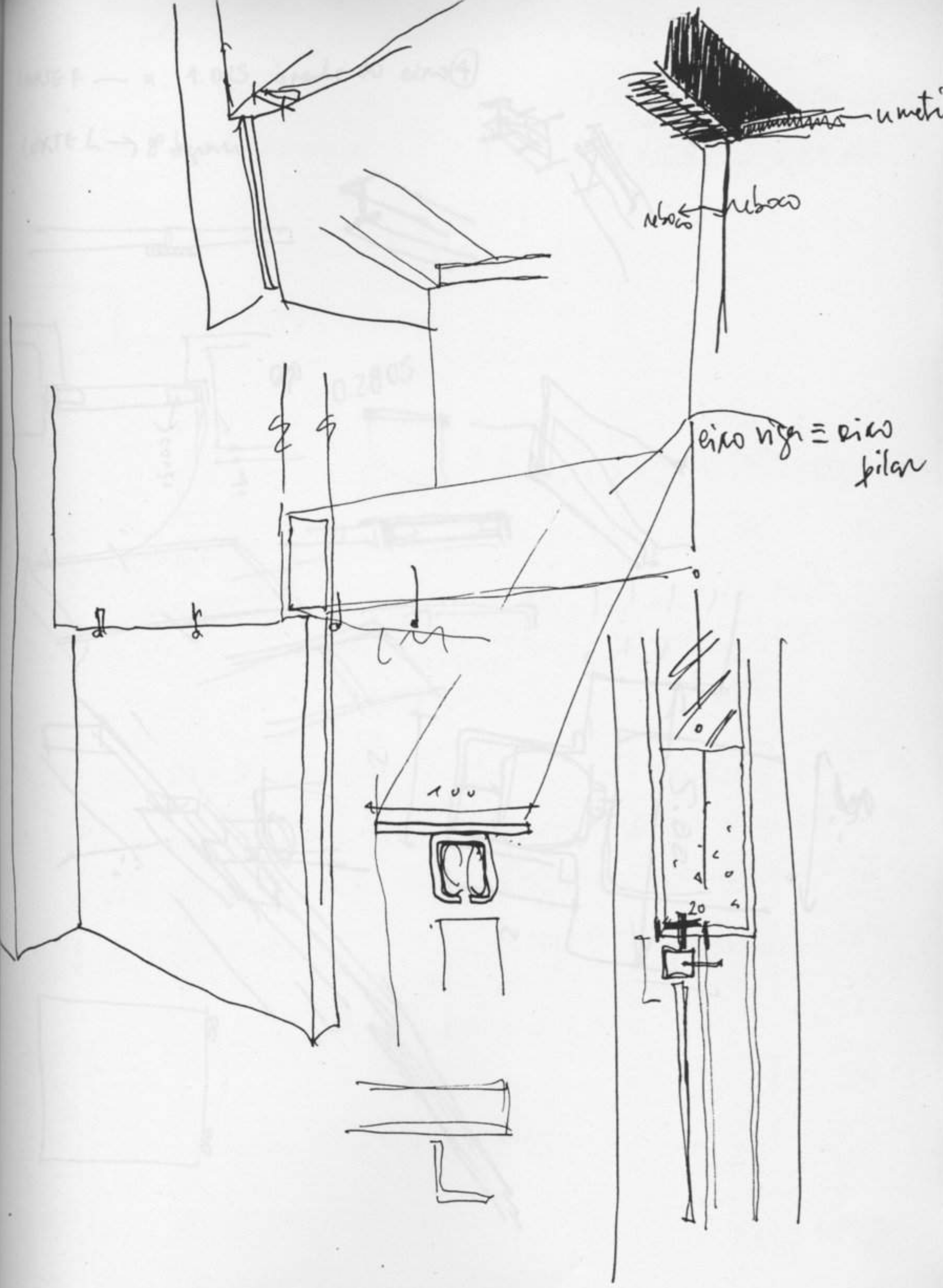
40x40 esp 26

60x40 esp. = 5

60x40 50x36 (5)

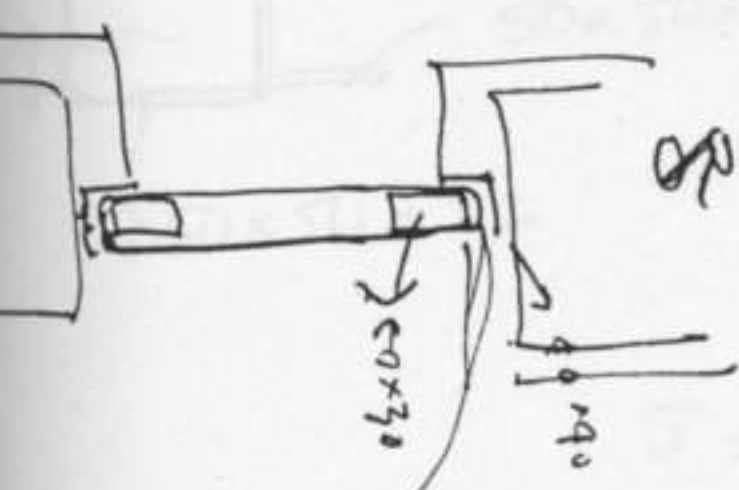
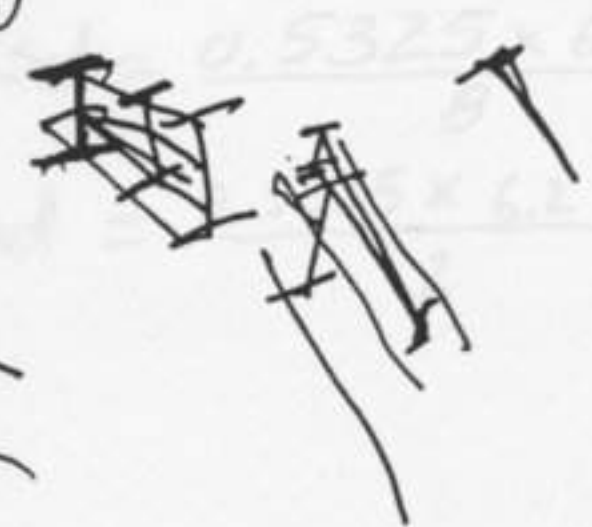
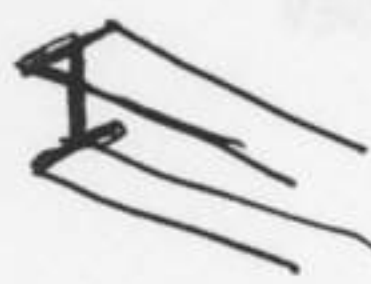
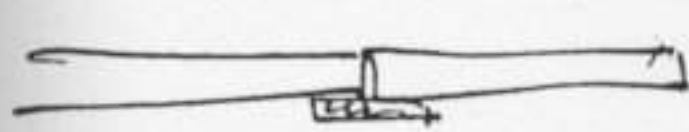




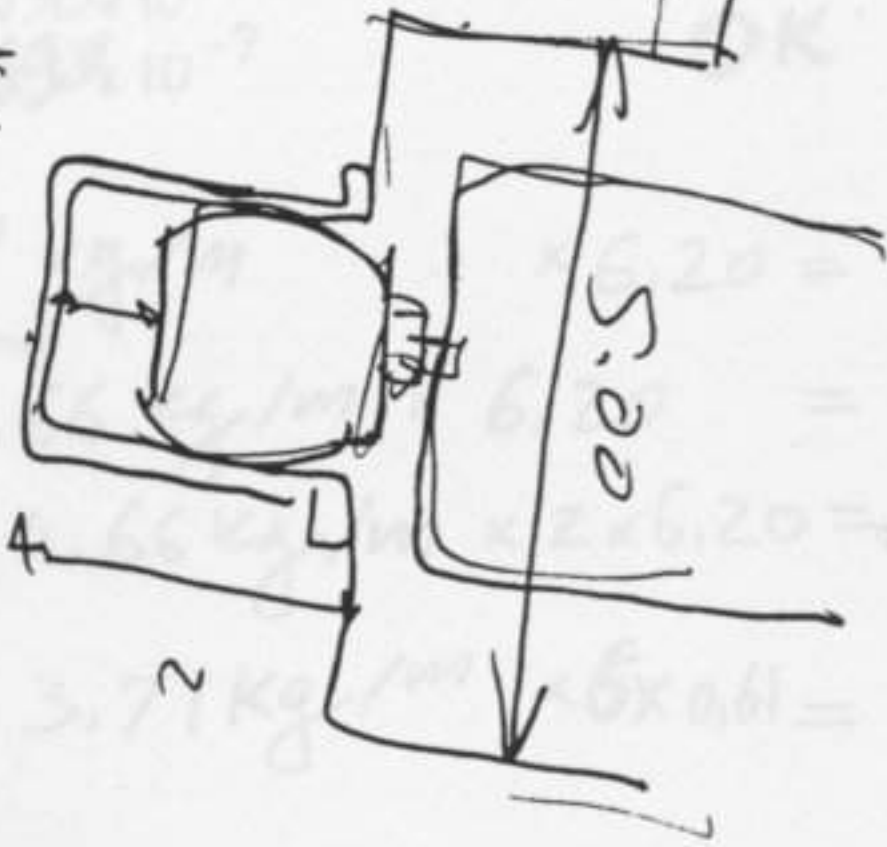
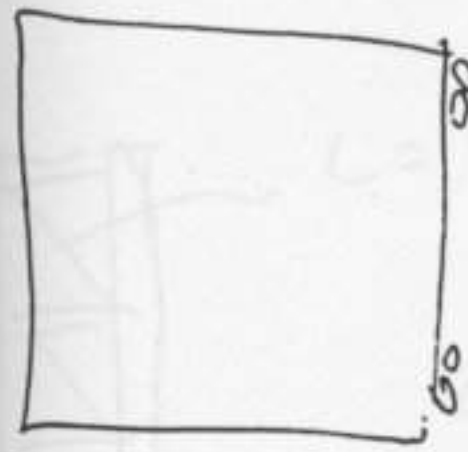
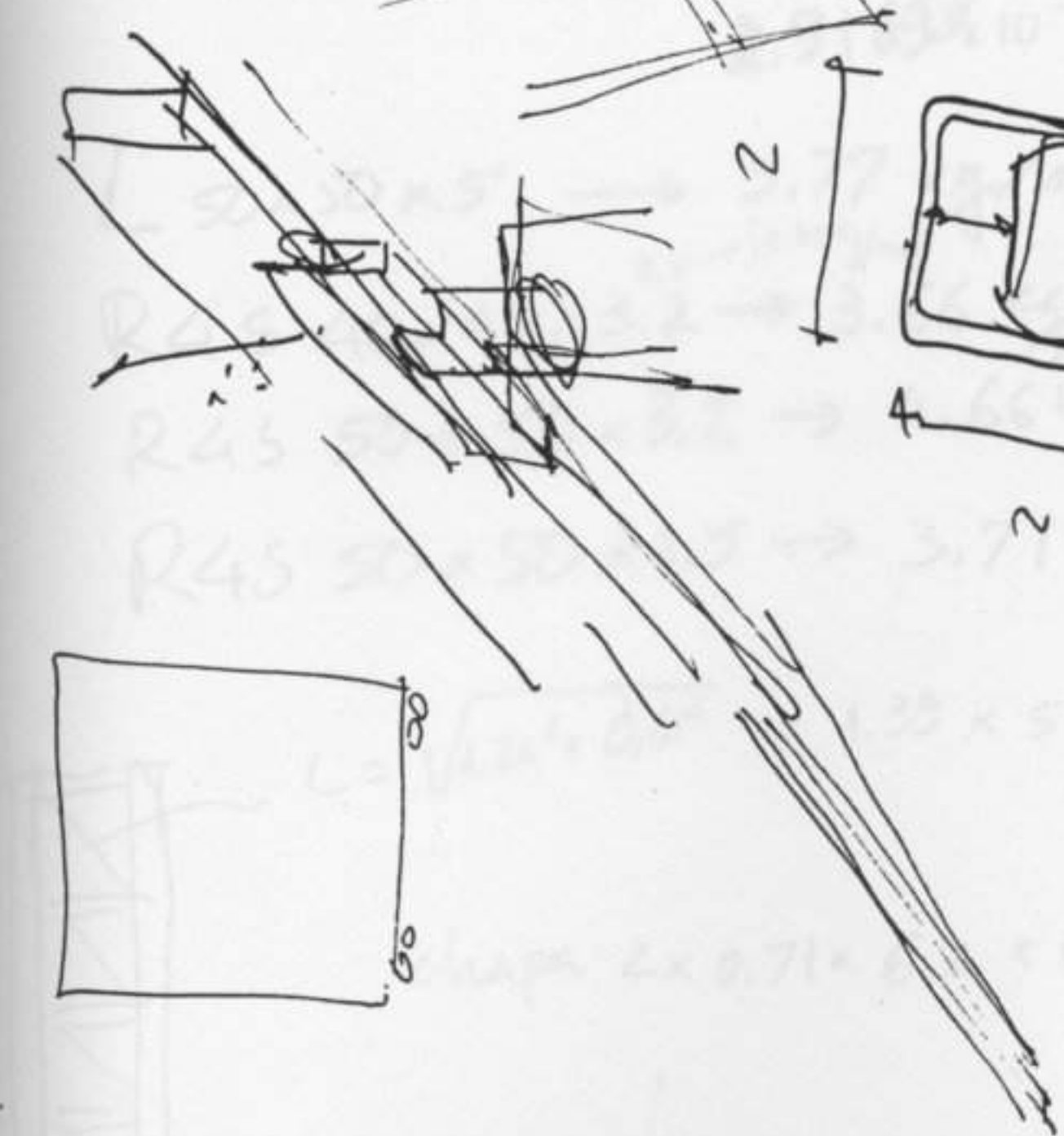
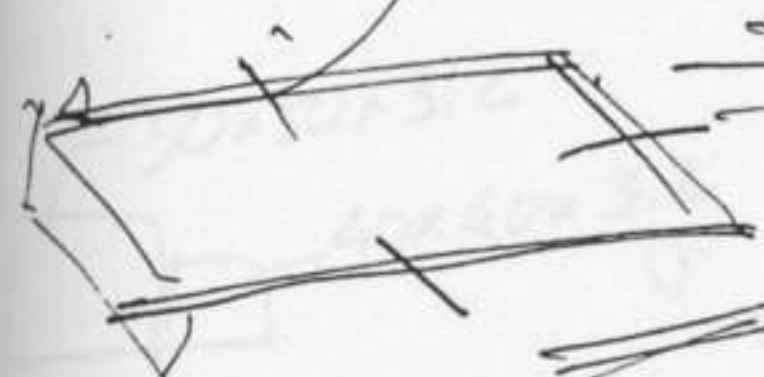


WATE F — a 1.025 à parte do eixo (4)

WATE L → 8° de grau



0.2805



130.94 kg

69.24 kg

200.18 kg

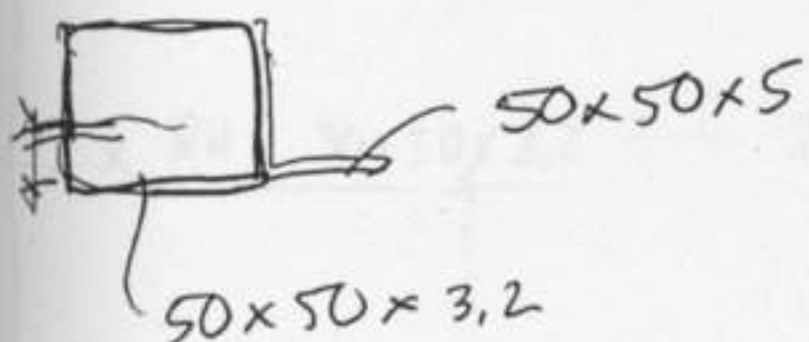
1.055

Porta M.J. - pontos fora MATERIAL PLACA A e B

$$\frac{0,71 \times 1,5}{2} = 0,5325 \text{ KN/m}$$

$$M_{sd} = \frac{0,5325 \times 6,2^2}{8} = 2,56 \text{ KN.m}$$

$$V_{sd} = \frac{0,5325 \times 6,2}{2} = 1,65 \text{ KN}$$

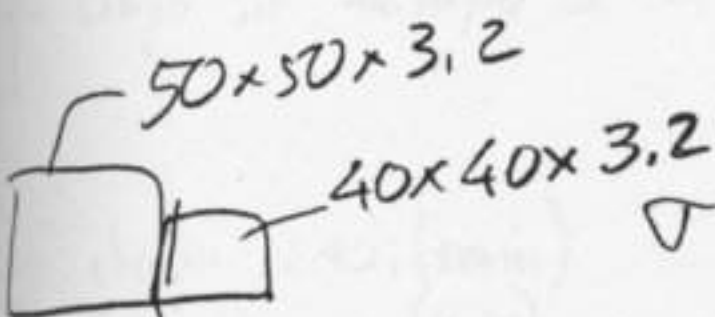


$$0,03000 \text{ m}$$

$$3,4505 \times 10^{-7} \text{ m}^4$$

$$\sigma = \frac{2,56 \times 0,03}{3,4505 \times 10^{-7}} = 222,576 \text{ MPa}$$

OK $\sigma =$



$$\sigma = \frac{2,46 \times 0,0271}{3,07498 \times 10^{-7}} = 226,915 \text{ MPa}$$

$$\sigma = \frac{2,46 \times 0,0269}{2,91692 \times 10^{-7}} = 225,614 \text{ MPa}$$

OK

$$L_{50 \times 50 \times 5} \rightarrow 3,77 \text{ kg/m} \times 6,20 = 23,37 \text{ kg}$$

$$R4S_{40 \times 40 \times 3,2} \rightarrow 3,66 \text{ kg/m} \times 6,20 = 22,69 \text{ kg}$$

$$R4S_{50 \times 50 \times 3,2} \rightarrow 4,66 \text{ kg/m} \times 2 \times 6,20 = 57,78 \text{ kg}$$

$$R4S_{50 \times 50 \times 2,5} \rightarrow 3,71 \text{ kg/m} \times 6 \times 0,61 = 13,58 \text{ kg}$$

$$L = \sqrt{1,24^2 + 0,61^2} = 1,38 \times 5 \times 1,96 =$$

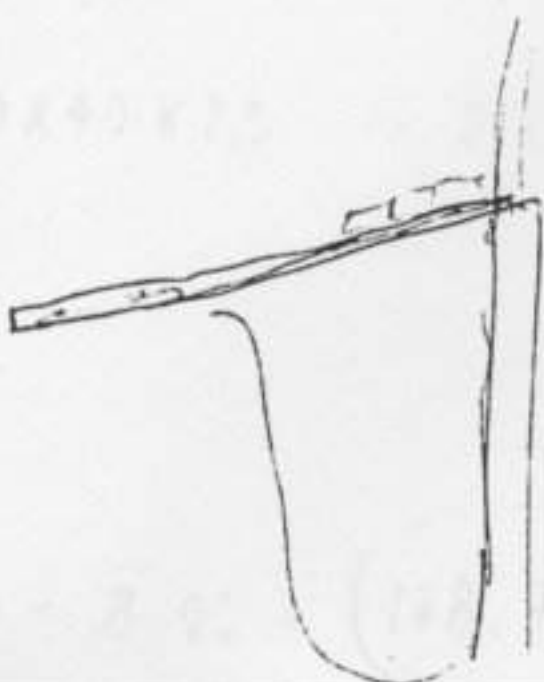
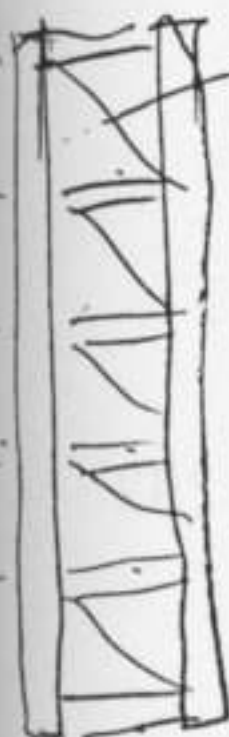
$$13,52 \text{ kg}$$

$$130,94 \text{ kg}$$

$$\text{chapa } 2 \times 0,71 \times 6,2 \times \frac{15,73}{2} = 69,24 \text{ kg}$$

$$200,18 \text{ kg}$$

$$0,055$$



PE 10 - prima file

39.50

(CORRELA) - altura passa a 6.08m - altura da fôrca

40.025

L 50 x 50 x 5 → 3,77 kg/m x 6,08 m = 22,92 kg

2-5 40 x 40 x 3,2 → 3,66 kg/m x 6,08 m = 22,25 kg

reduzir
espessura

2 x RHS 50 x 50 x 3,2 → 2 x 4,66 kg/m x 6,08 m = 56,67 kg

6 x RHS 50 x 50 x 2,5 → 6 x 3,71 x 6,08 = 13,58 kg

chapa em travessa → (ver no projeto) = 13,52 kg

chapa 120 x 120 (11,20) → 2 x 0,71 x 6,08 x $\frac{15,73}{2}$ = 67,90 kg - reduzir espessura

196,84 kg

REDUZIR O PISO?

chapa 120 x 120 (11,22) → 2 x 0,71 x 6,08 x $\frac{15,73}{2}$ = 54,35 kg

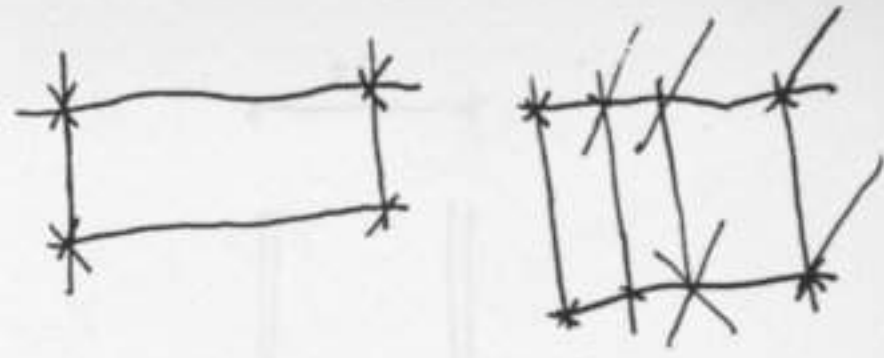
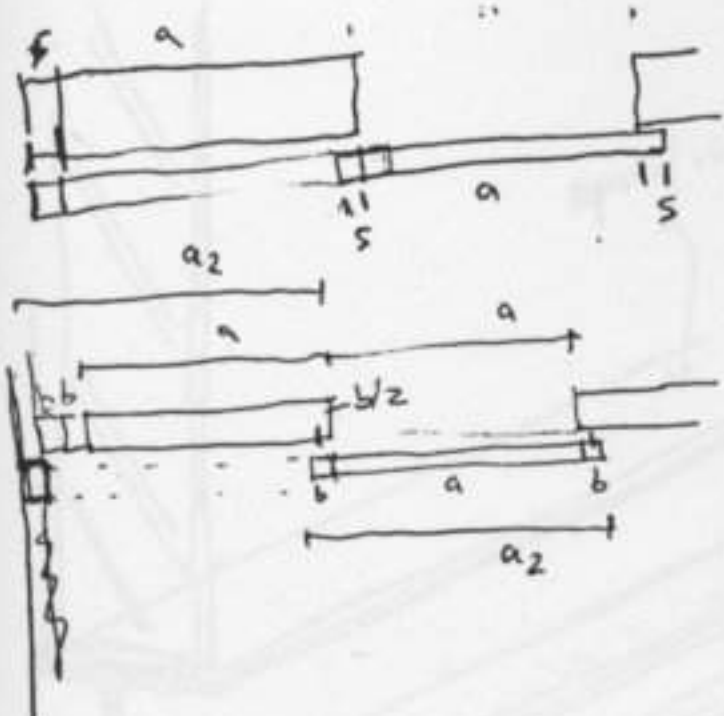
67,90 - 54,35 = 13,55 kg

RHS 40 x 40 x 2,5 → 2,92 kg/m x 6,08 m = 17,75 kg

↓
22,25 - 17,75 = 4,5 kg

196,84 - 18,05 = 178,79 kg ?

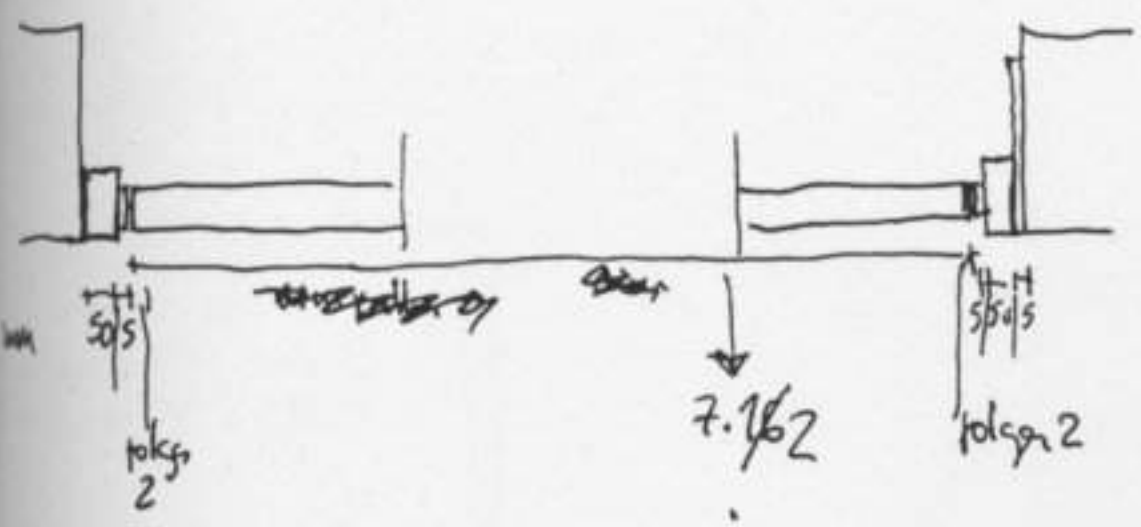
18,05



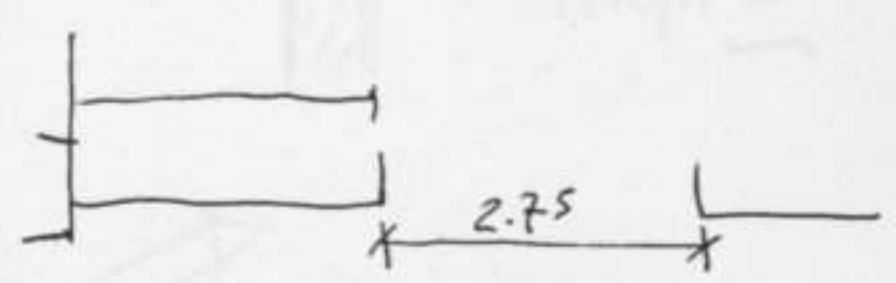
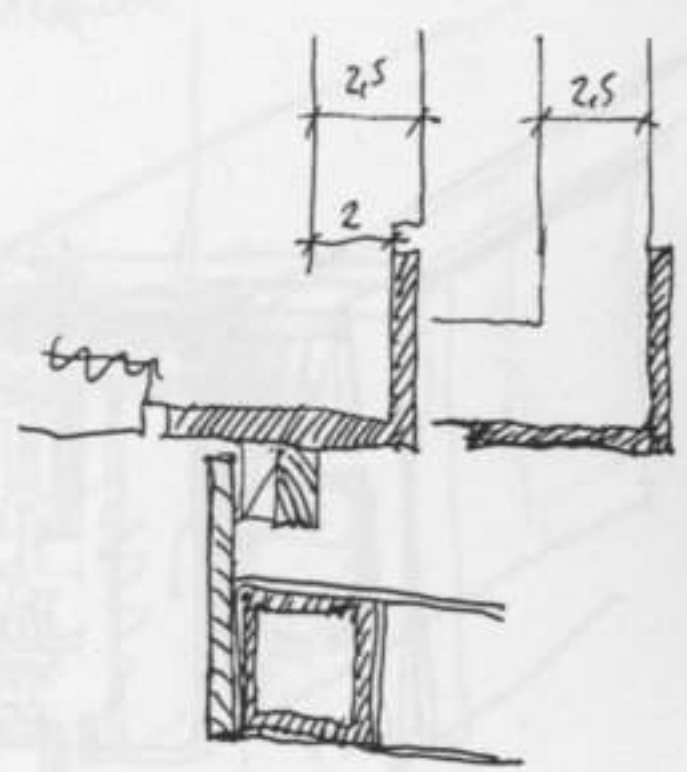
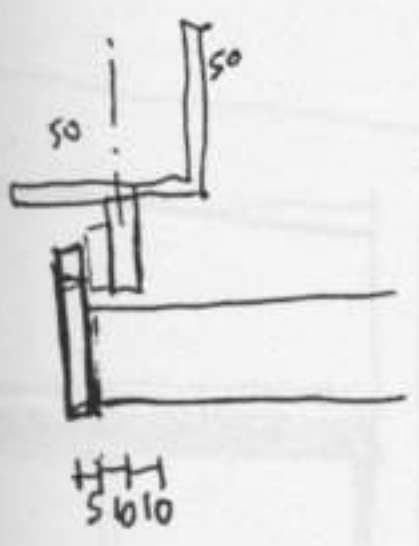
$a = 3,5$
 $a_2 = 3,6$



beton a beton 7,275m



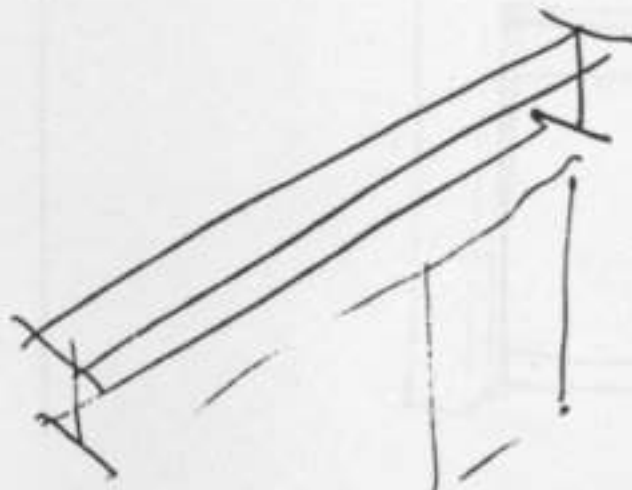
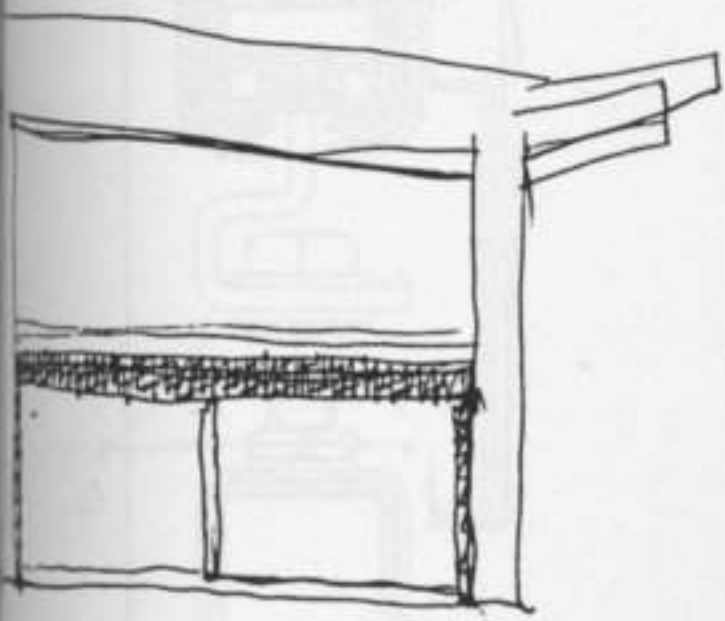
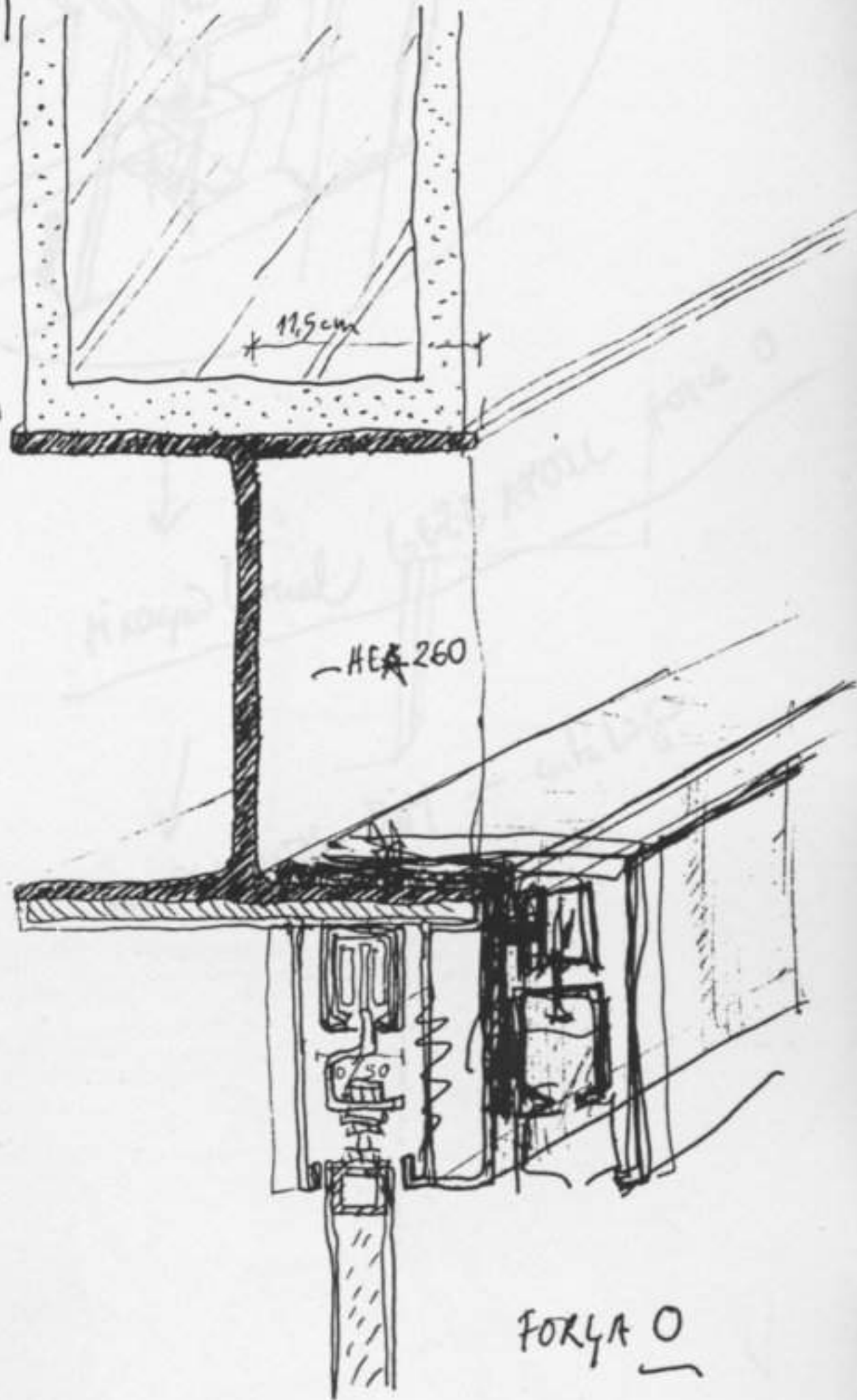
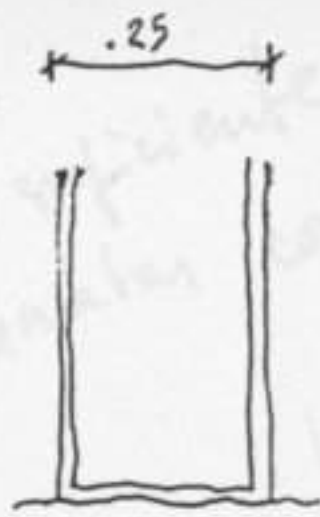
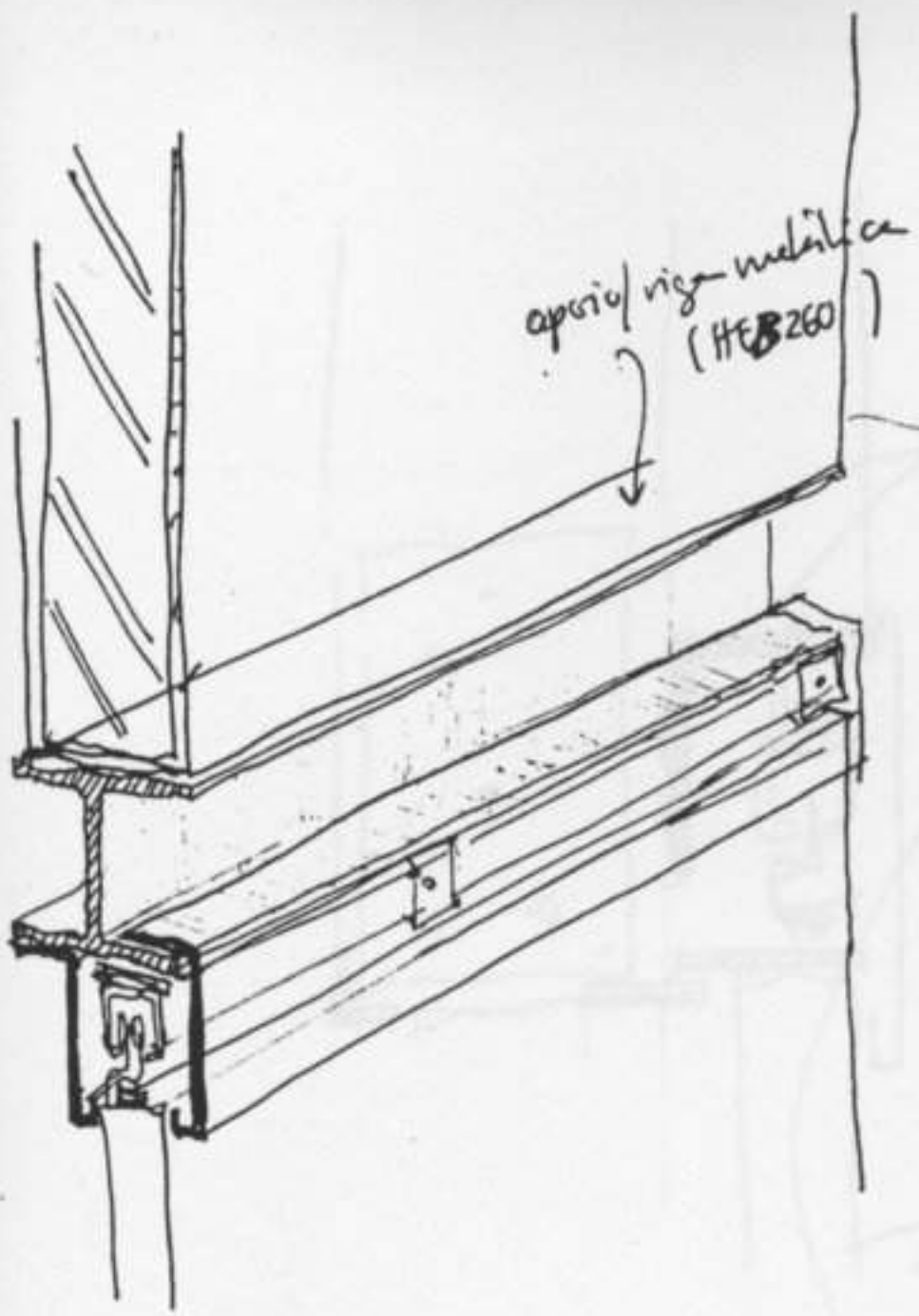
$\frac{7.162}{2}$
 $= 3.56$



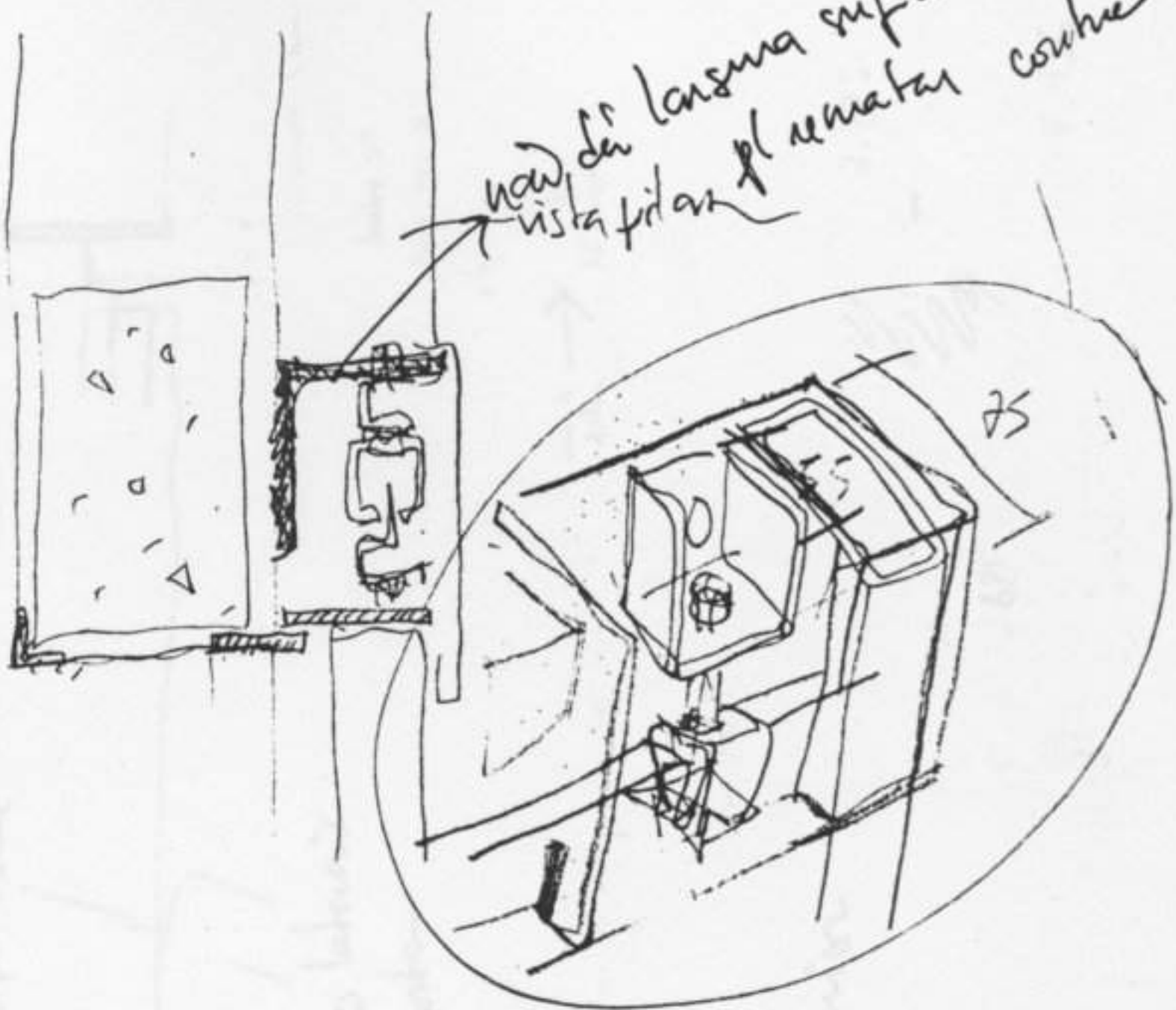
3.4875

3.5875

3.59 | 3.625

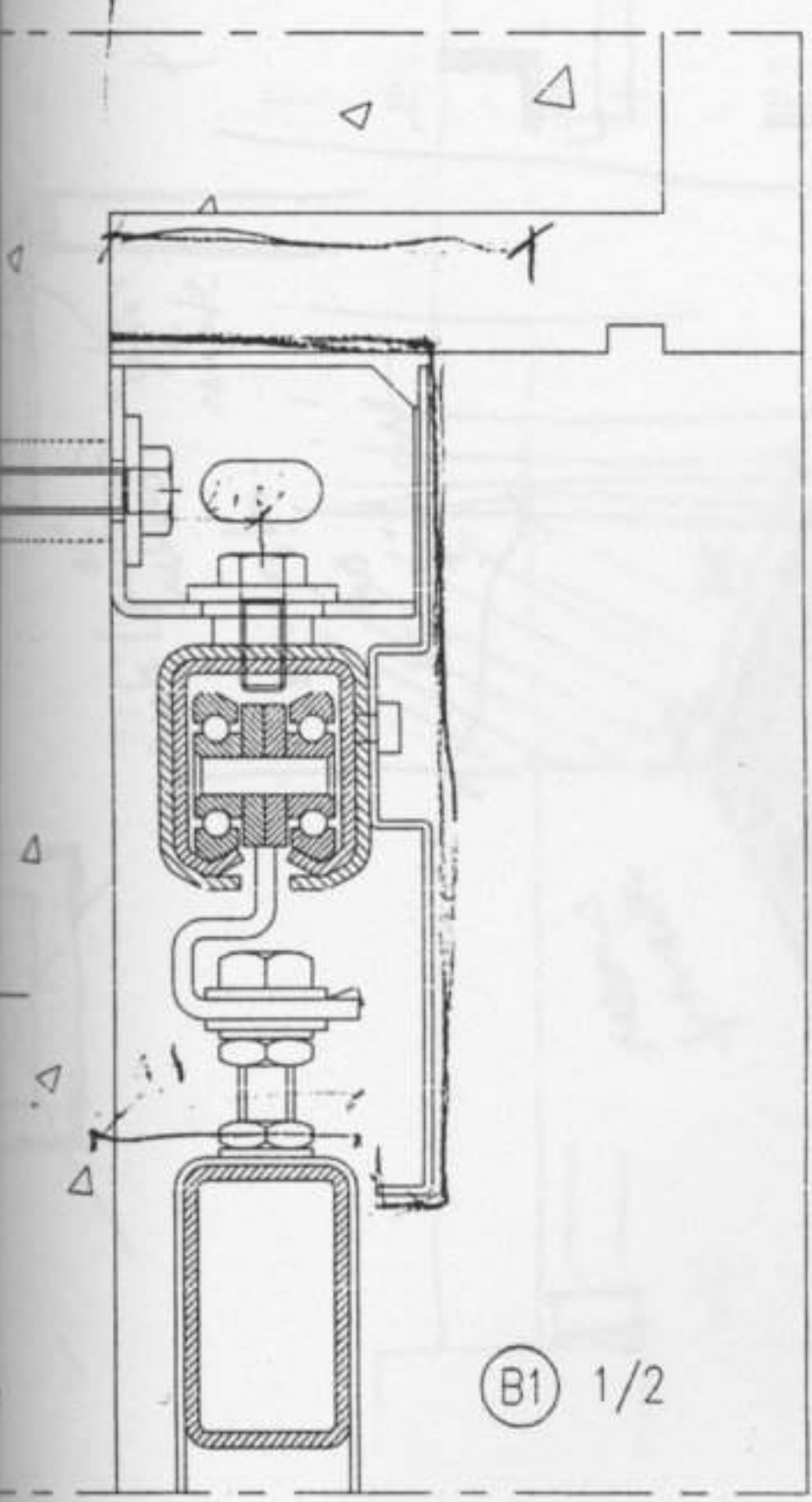


need da lansa suficiente
 vista pilara pl rematar corbe o pilar

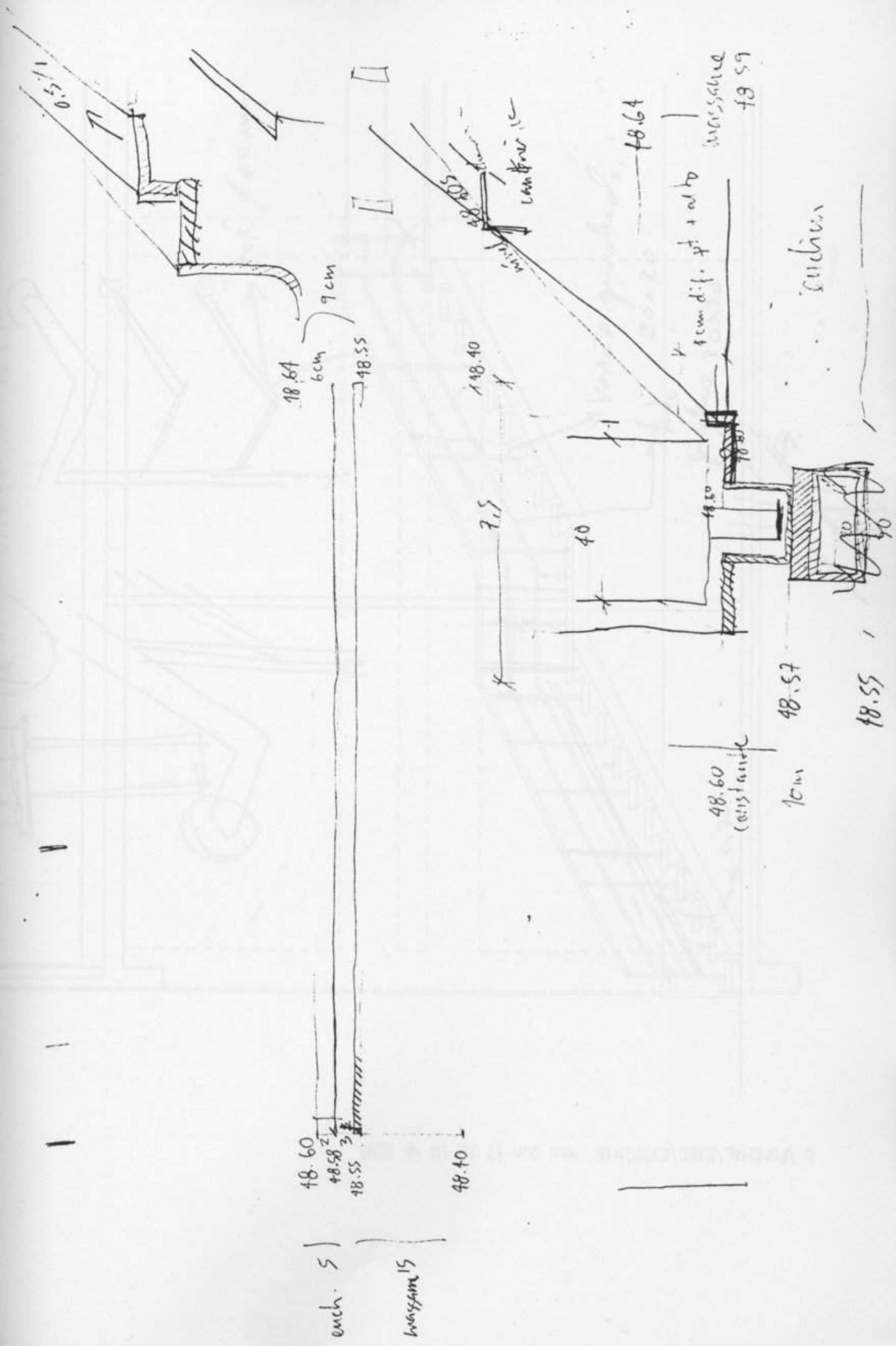


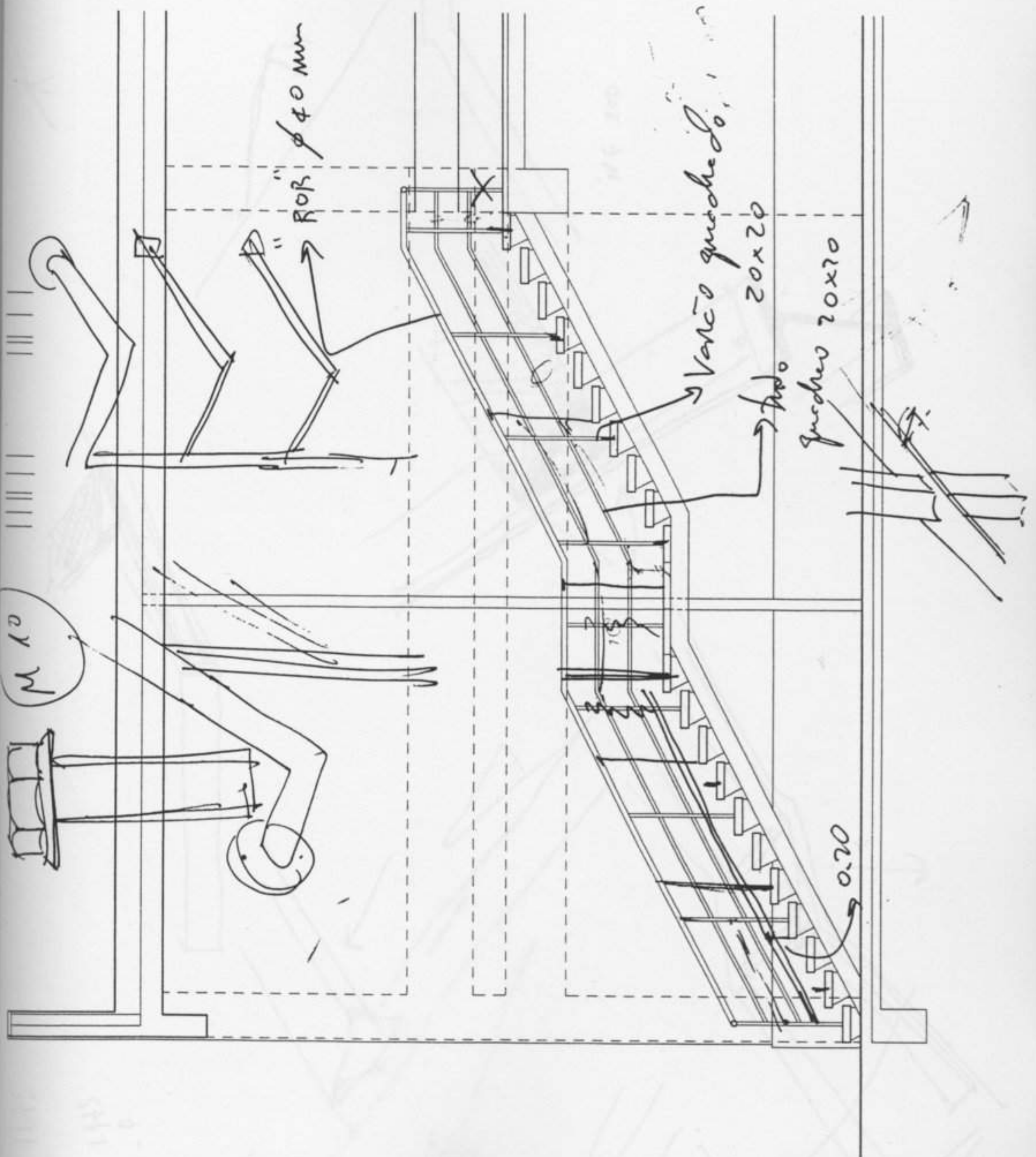
fixa cu lateral
 6278 1700 force 0

bei acsardas DIM - ental?



B1 1/2

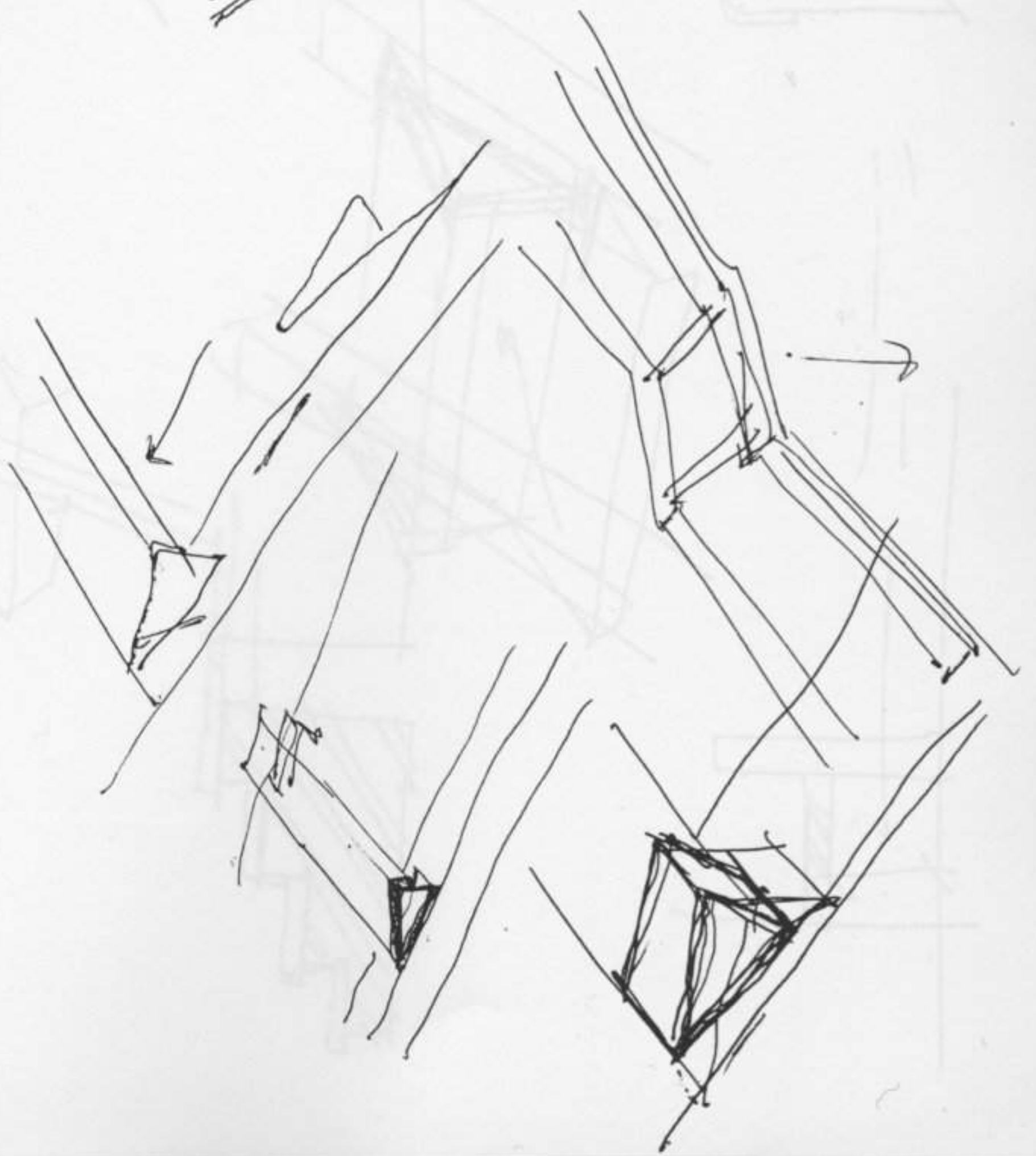
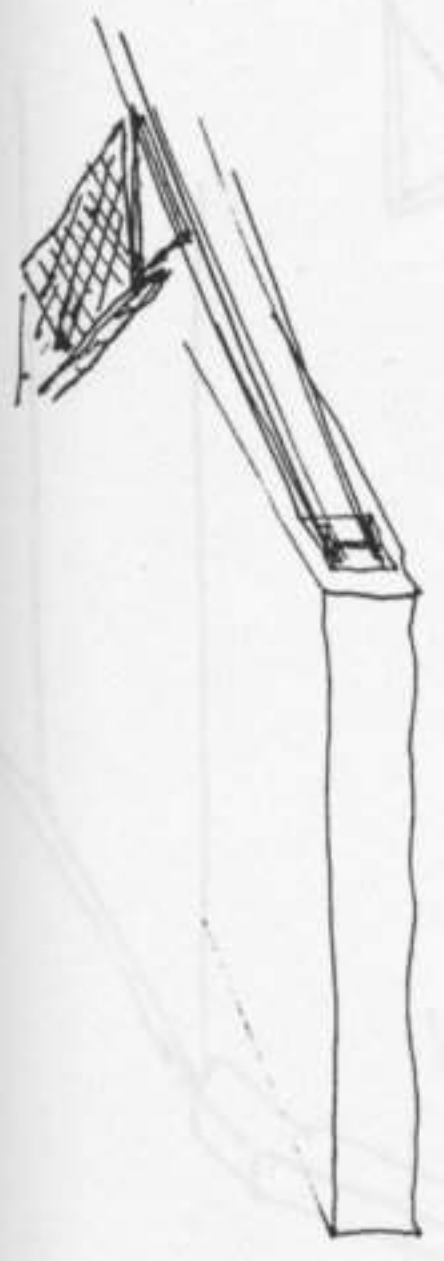
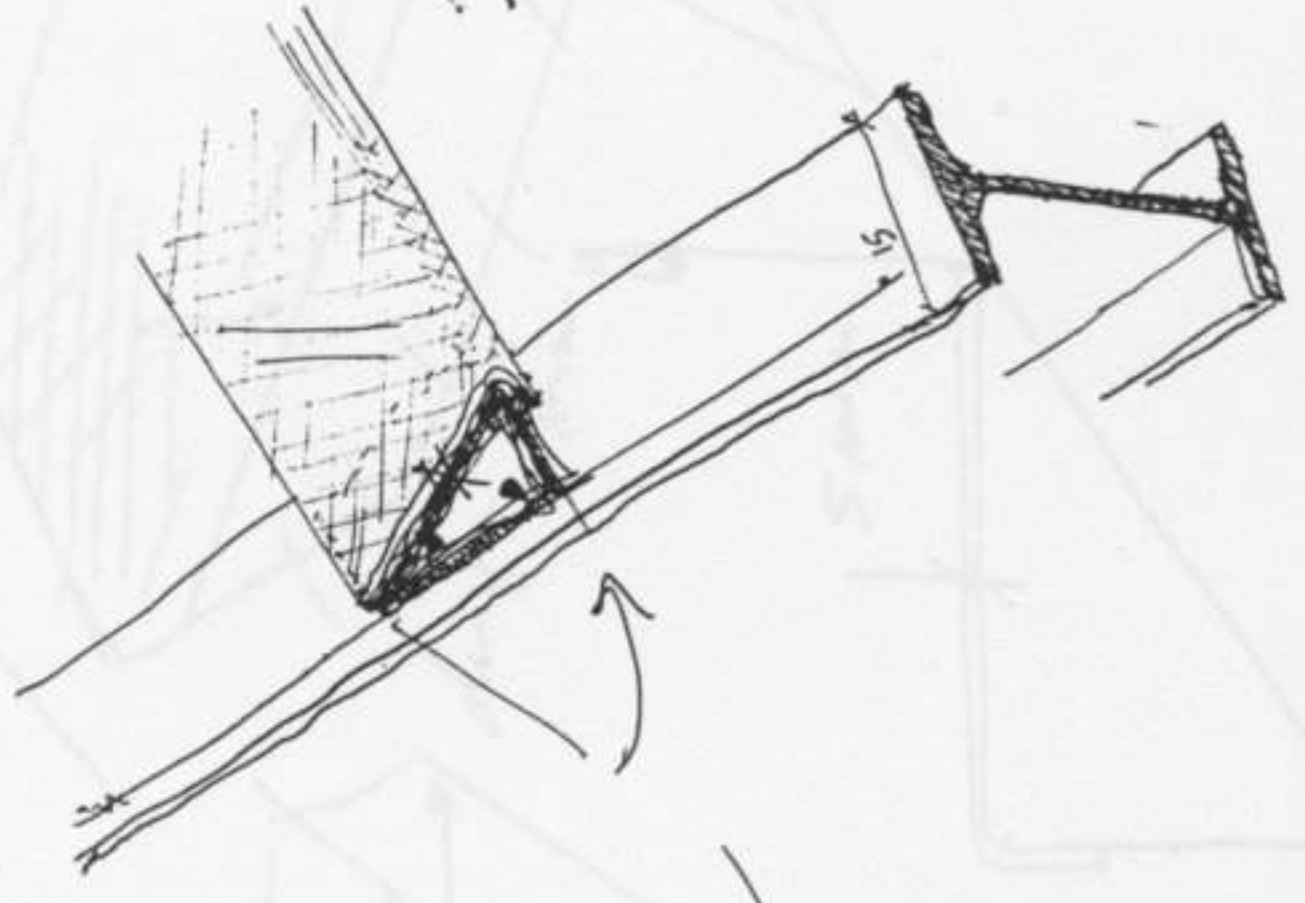




*



ME 300



1.675

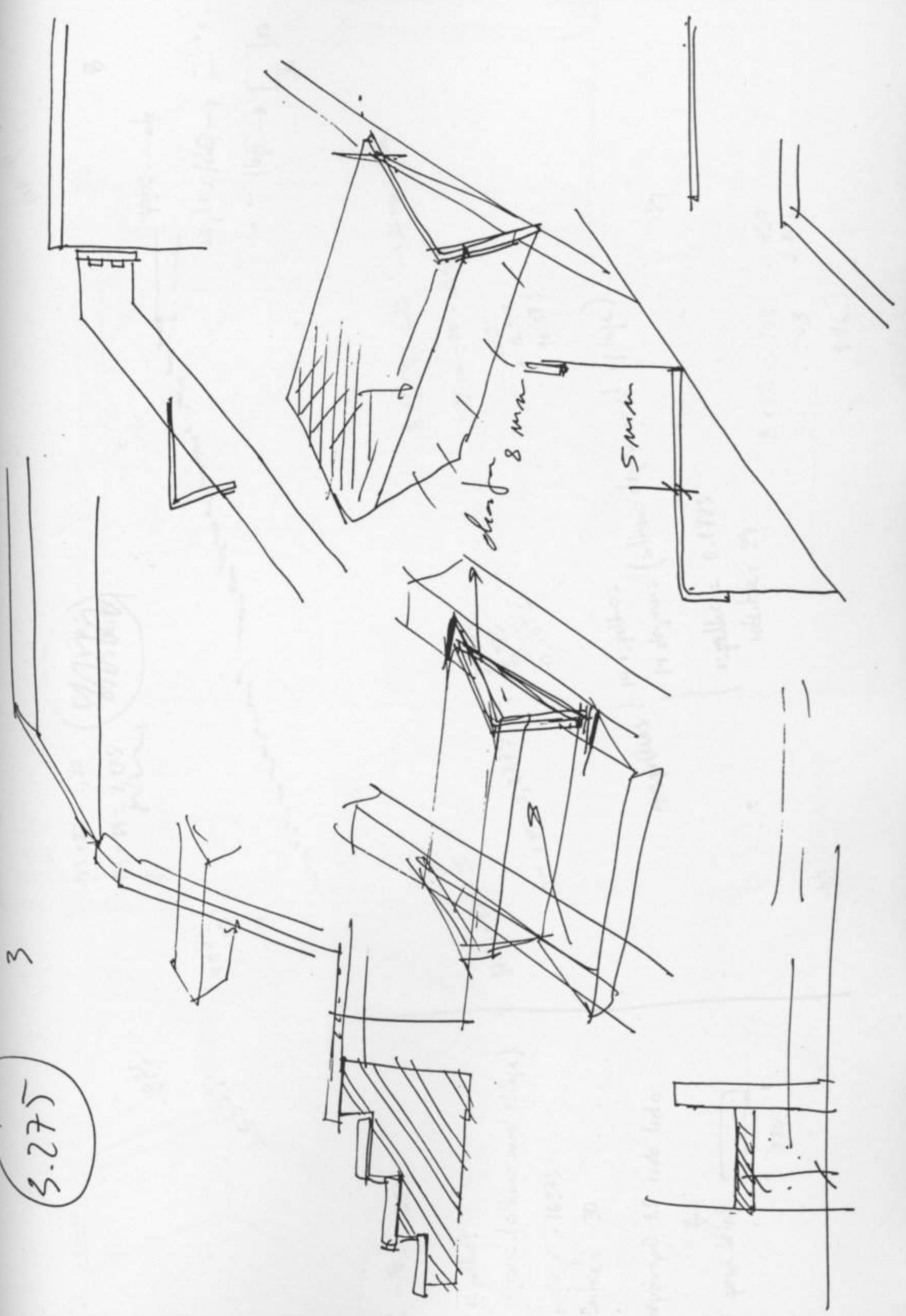
1.475

0

1.80

3

3.275



160

3.125

3.125 ÷ 20 = .16375

W.V. Vento

$.165 \times 20 = 3.30$

$.165 \times 19 = 3.135$

1975

3.275
 3.135
 0.14

repara mate



B

$3.125 \div 20 = .16375$

20 repallados

20 repallados (ultimo nivel el lapiz)

repallados = .16375

colante = .20

colaposegado 1,5 cede lado

↓

para lado



$16.25 \times 19 = 312.5$
 $25 \text{ cm} \div 20 = 0.125$

3.275
 3.275
 0.0025

16.25
 $+ 0.125$
 16.375

19 repallados
19 repallados (ultimo repallado nivel el lapiz)

repallados = 0.1725

colante = .29

$8 \times 25 = 200$

$200 = 1.93$

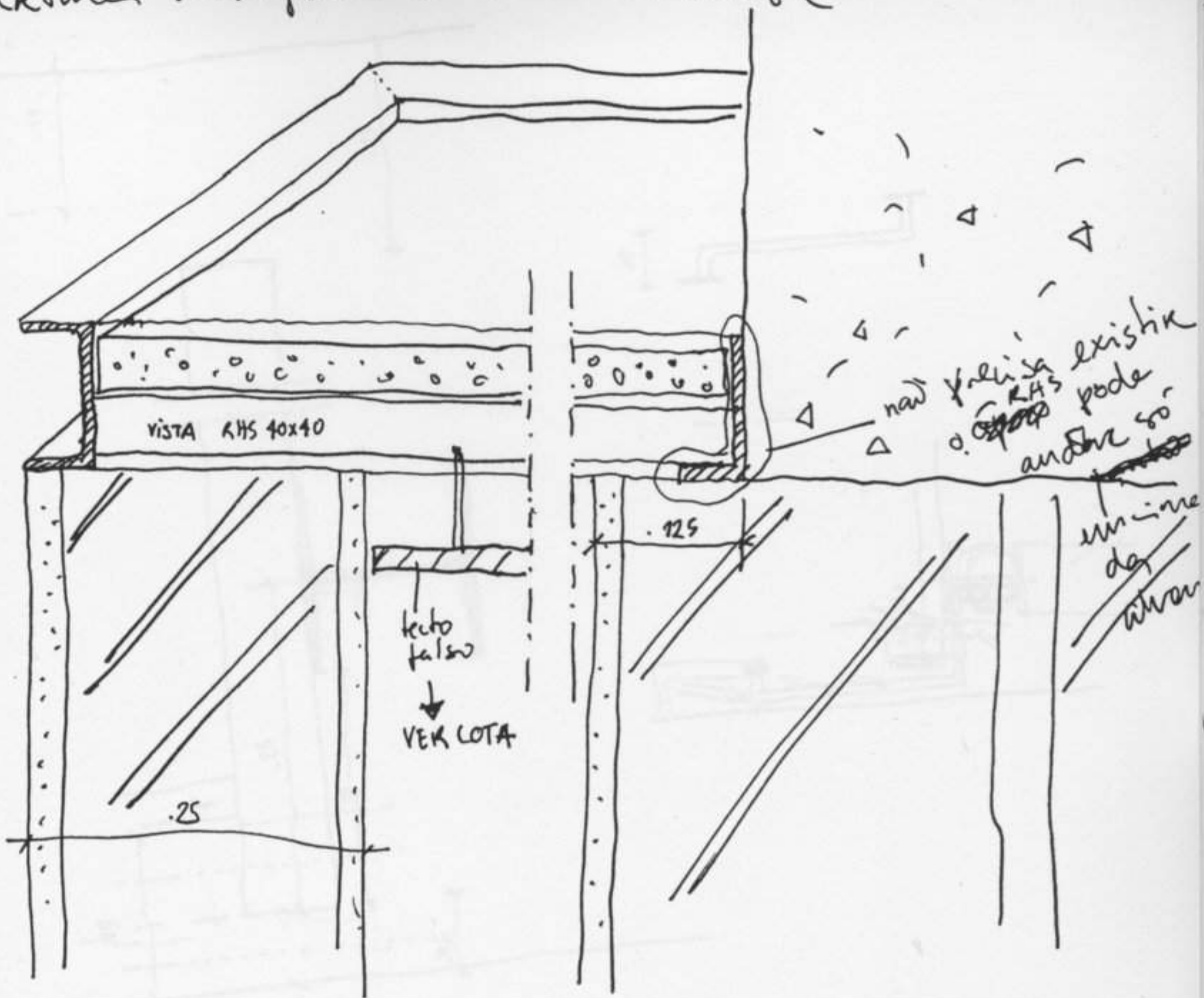
1.16

29

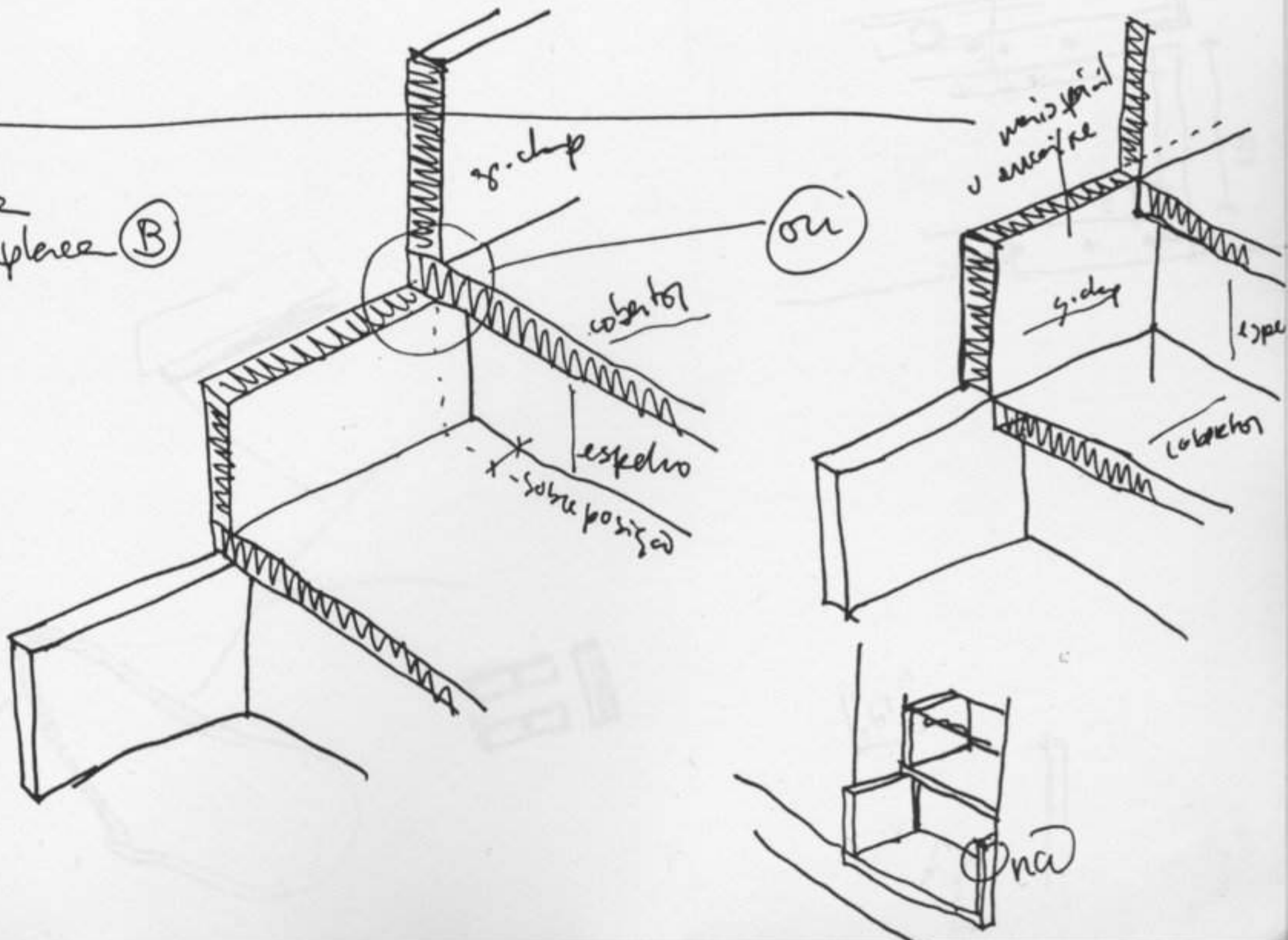
150

- 1.16

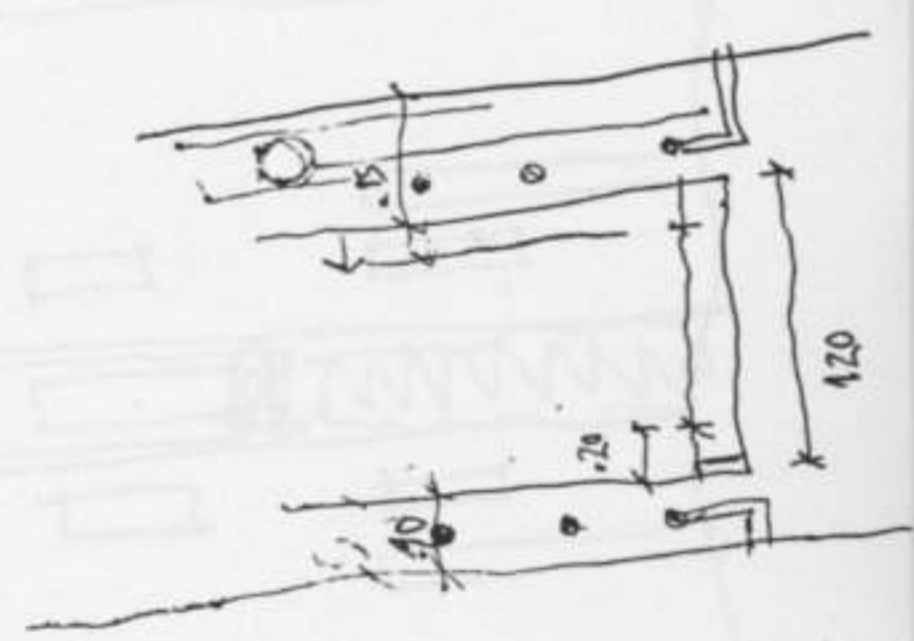
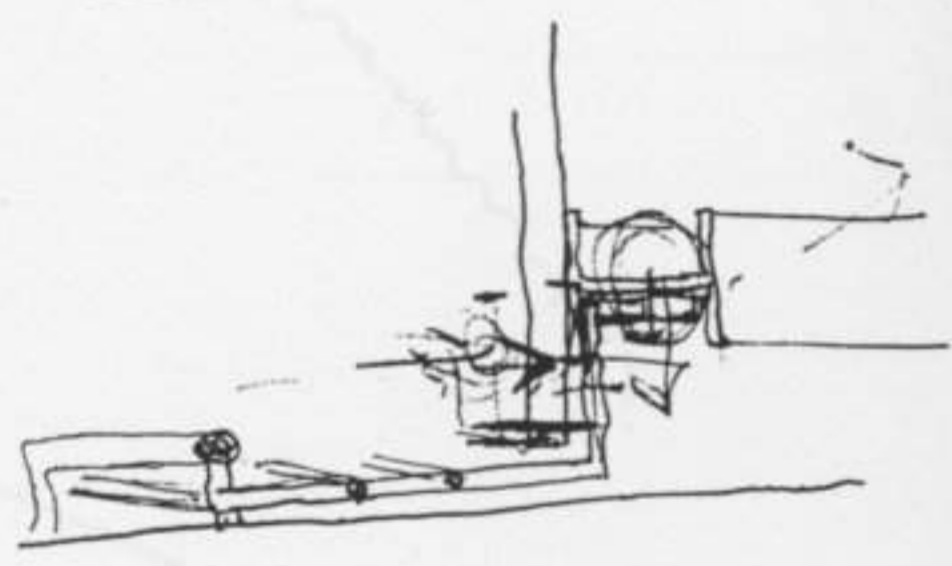
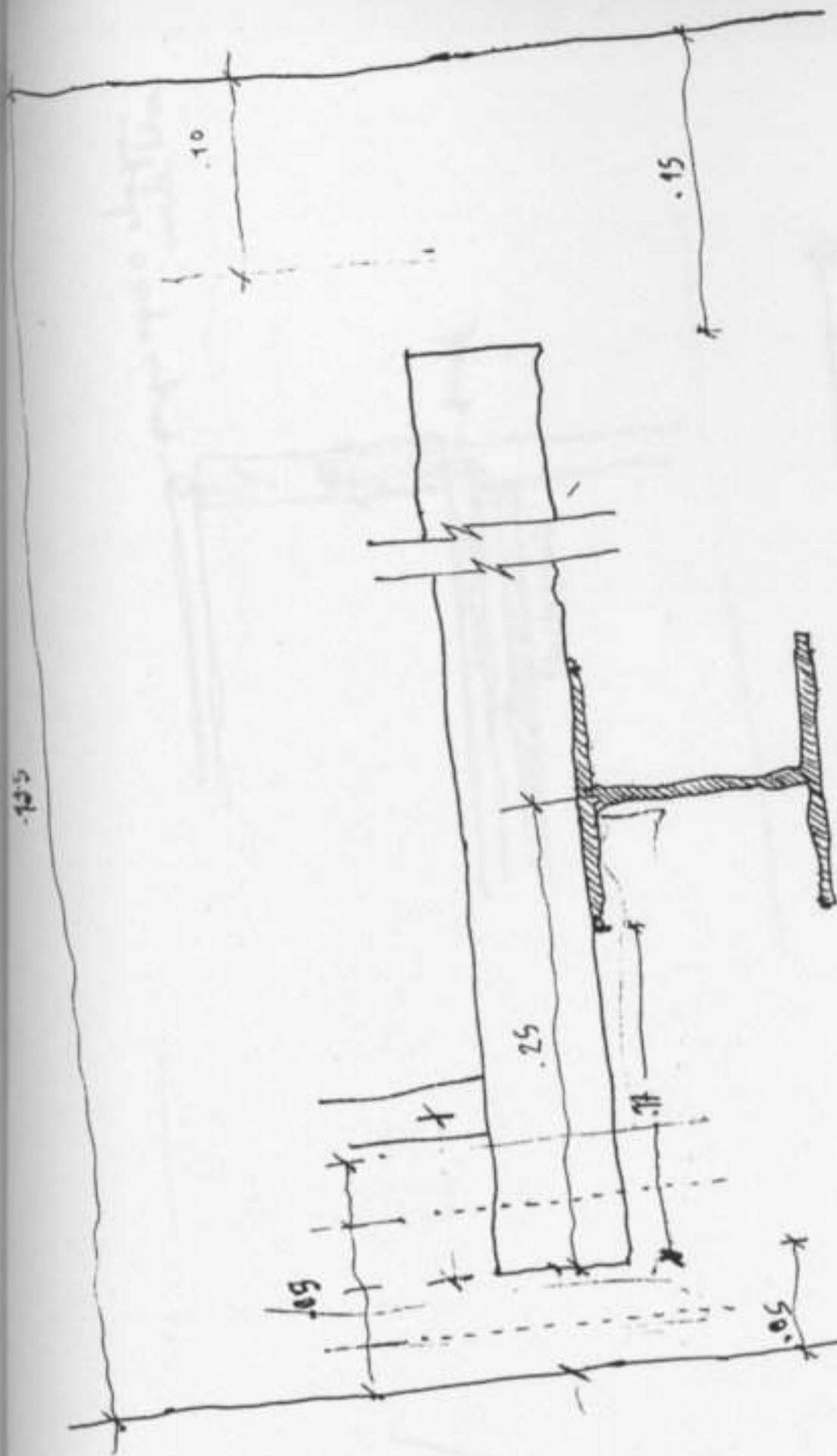
cobertura mar. placa -> interior



Escada mar. placa (B)



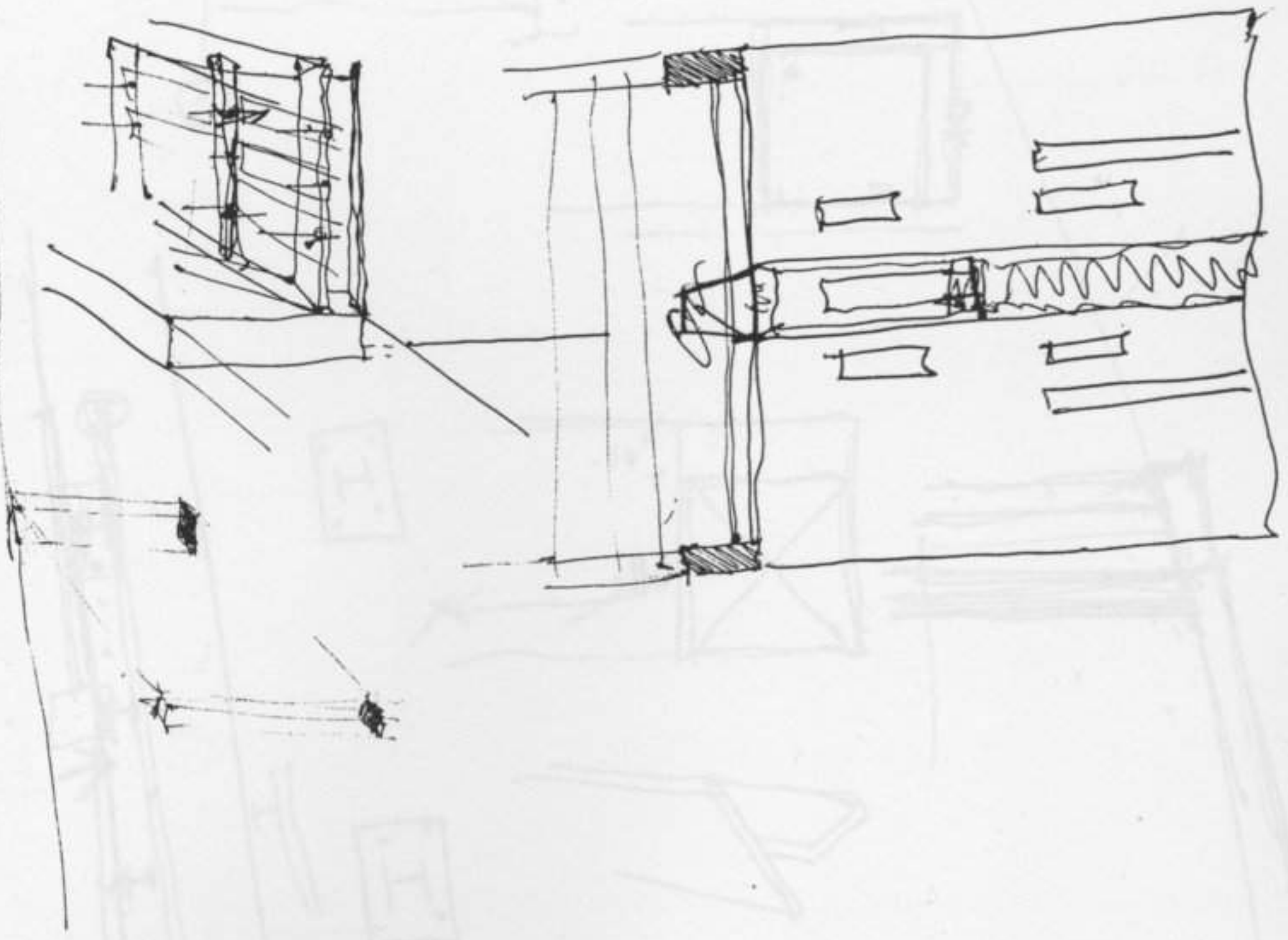
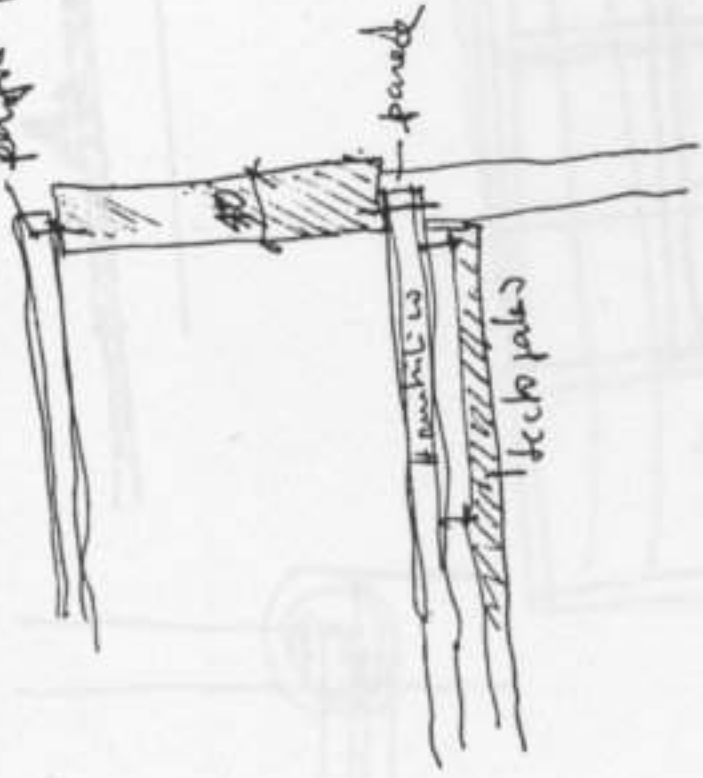
132

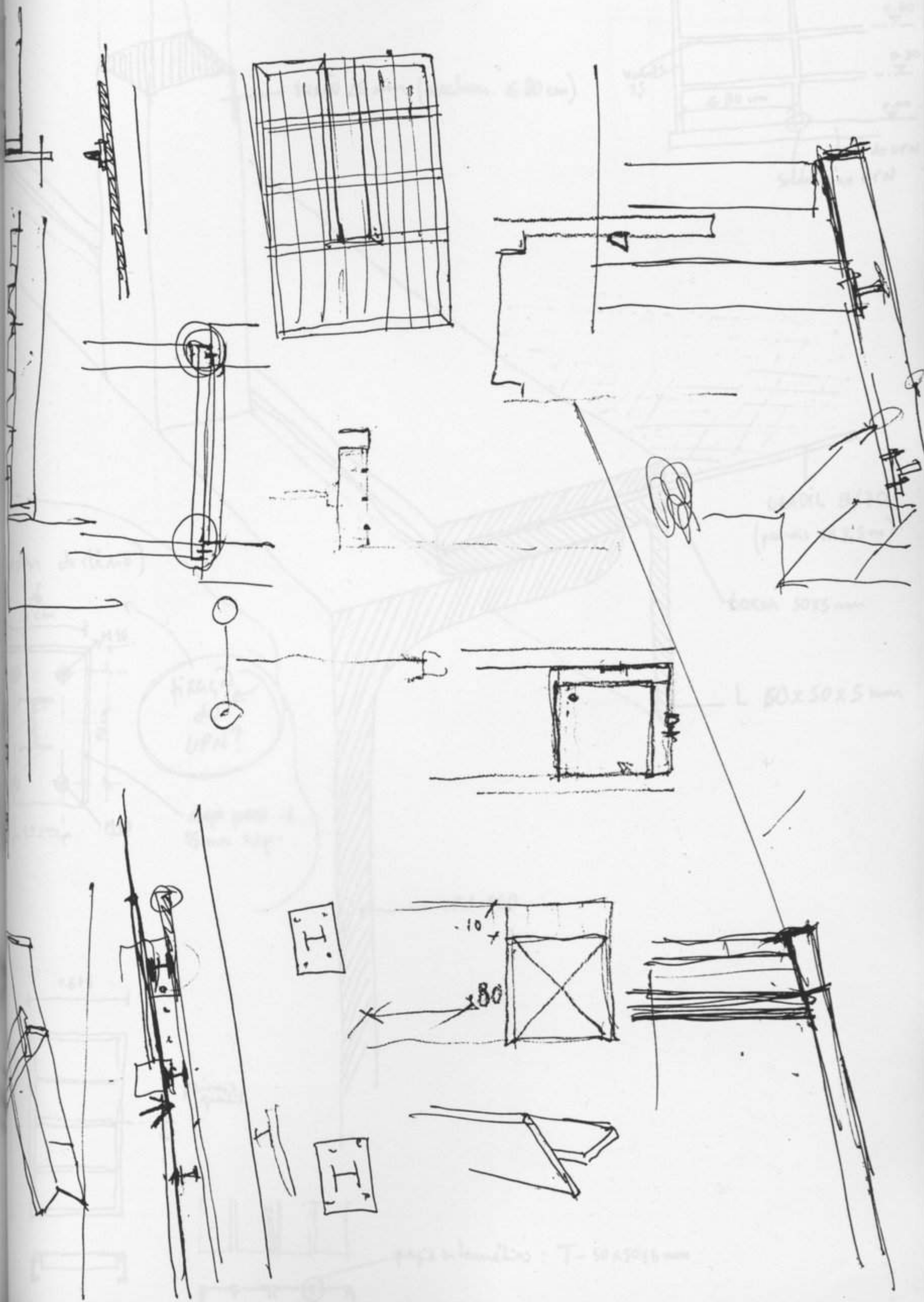


parts list



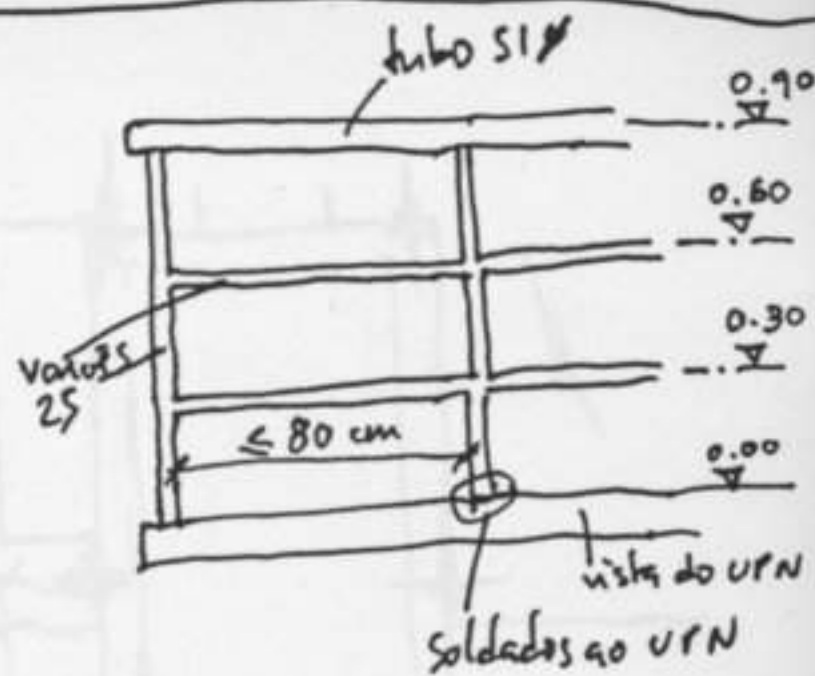
partis apertio charta
materia



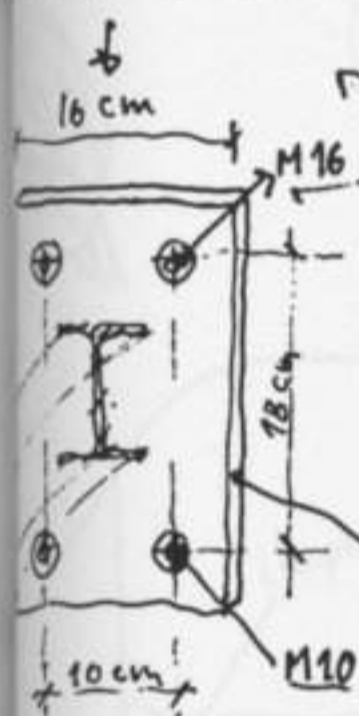




VARÃO 25 mm (apastam. ≤ 80 cm)



radar de flâmio)



fixação do UPN?

chapa fereco v/ 15 mm esp.

GRADIL 8/70
(painéis 1x3,5 m)

Barra 50x5 mm

L 50x50x5 mm

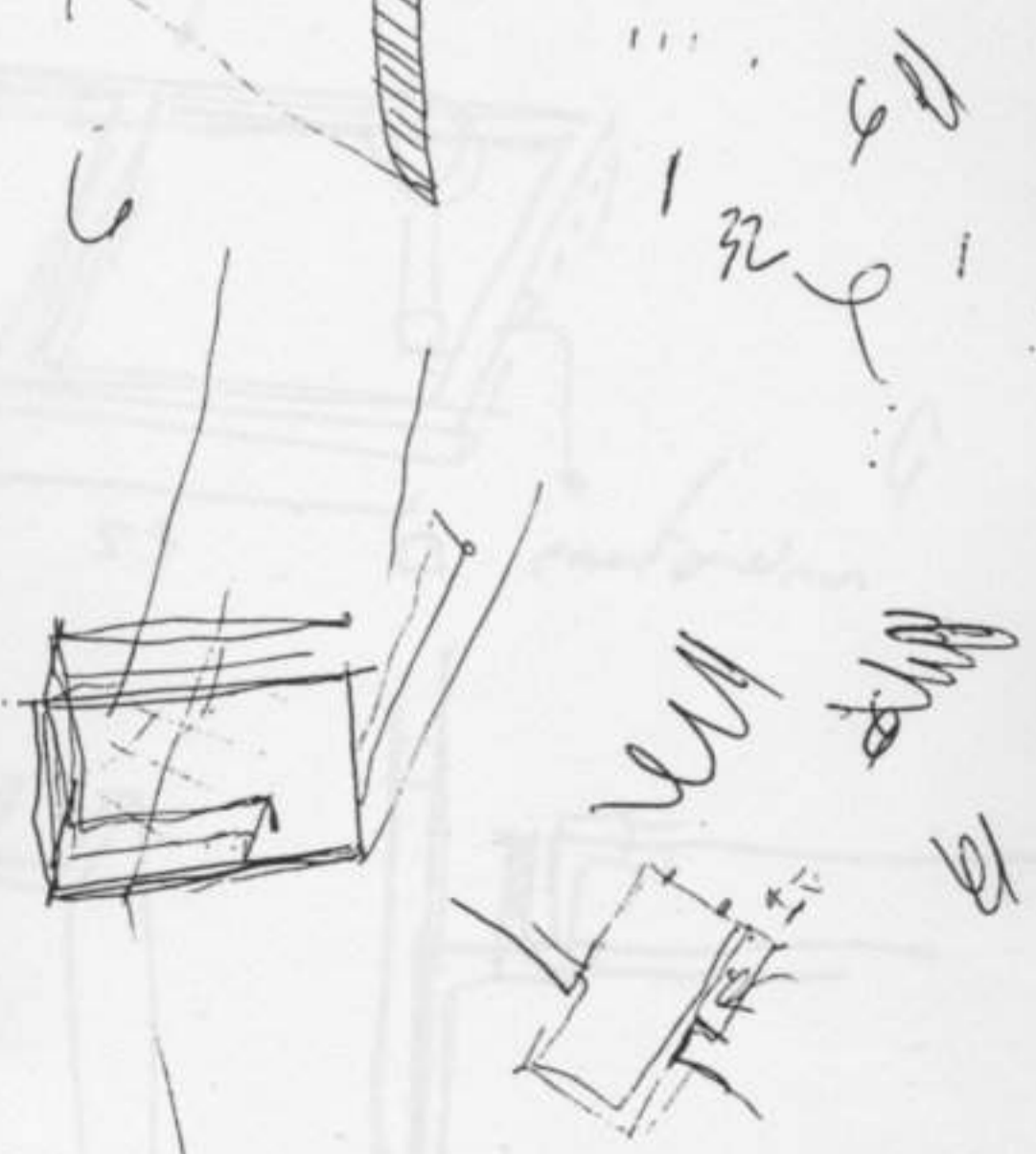
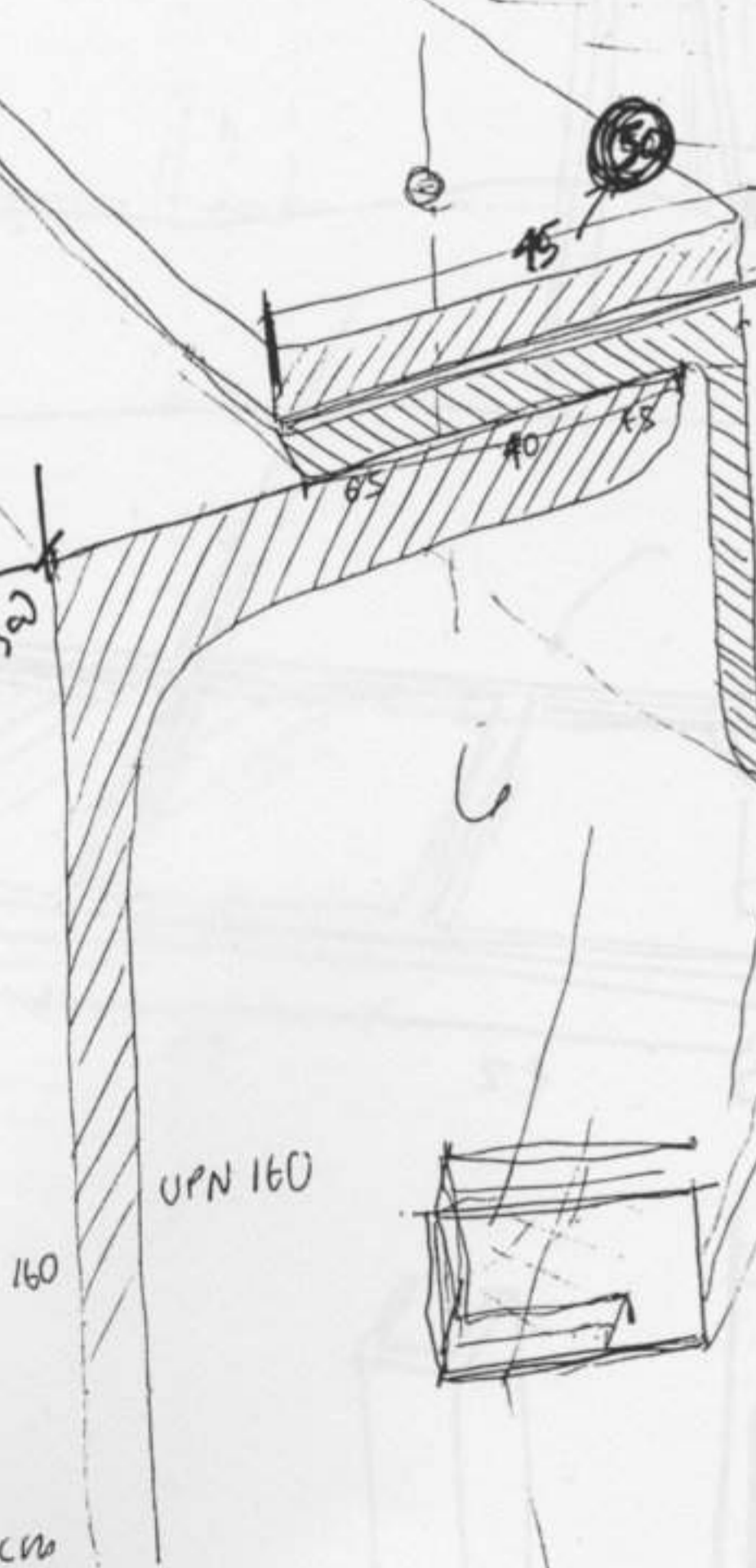
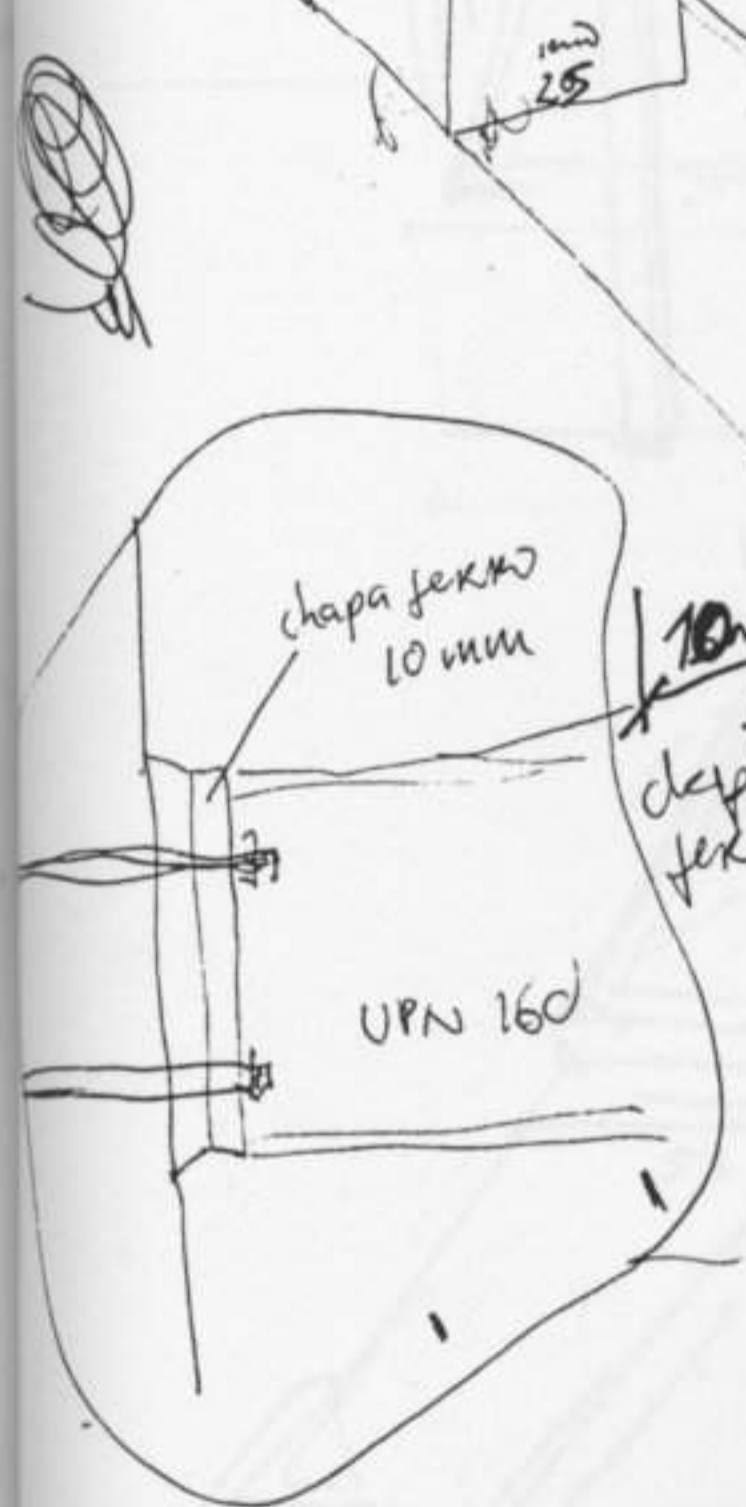
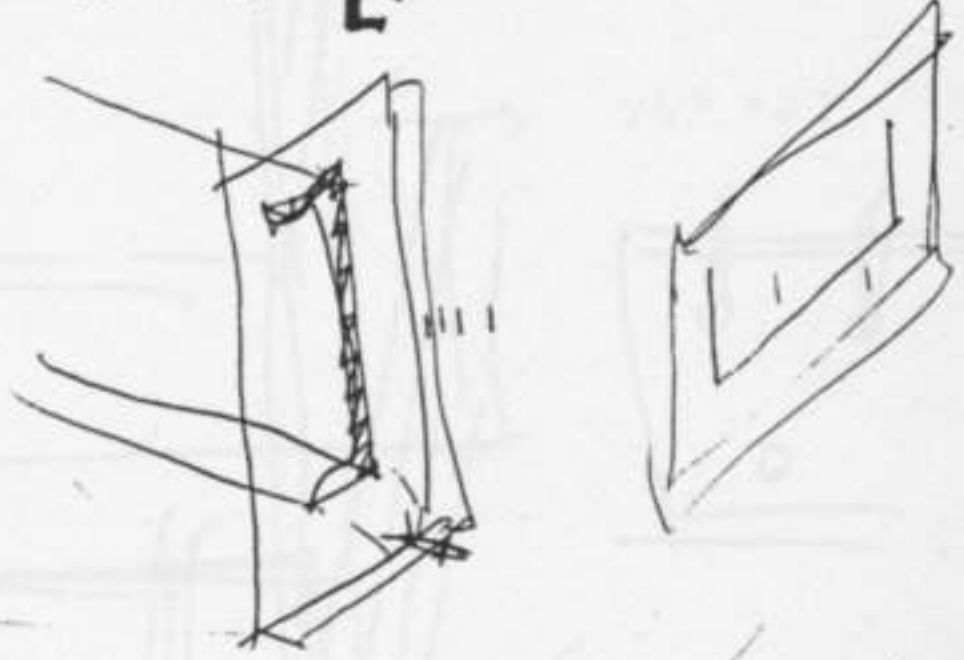
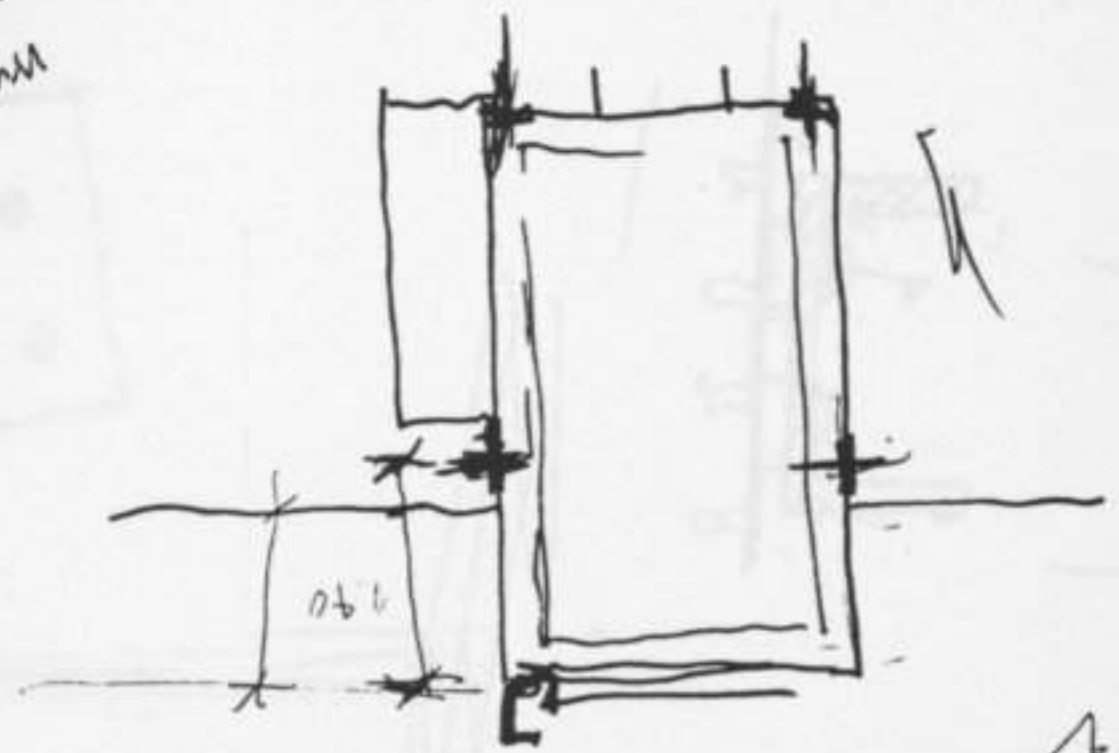
UPN 160

1.675

2 painéis gradil

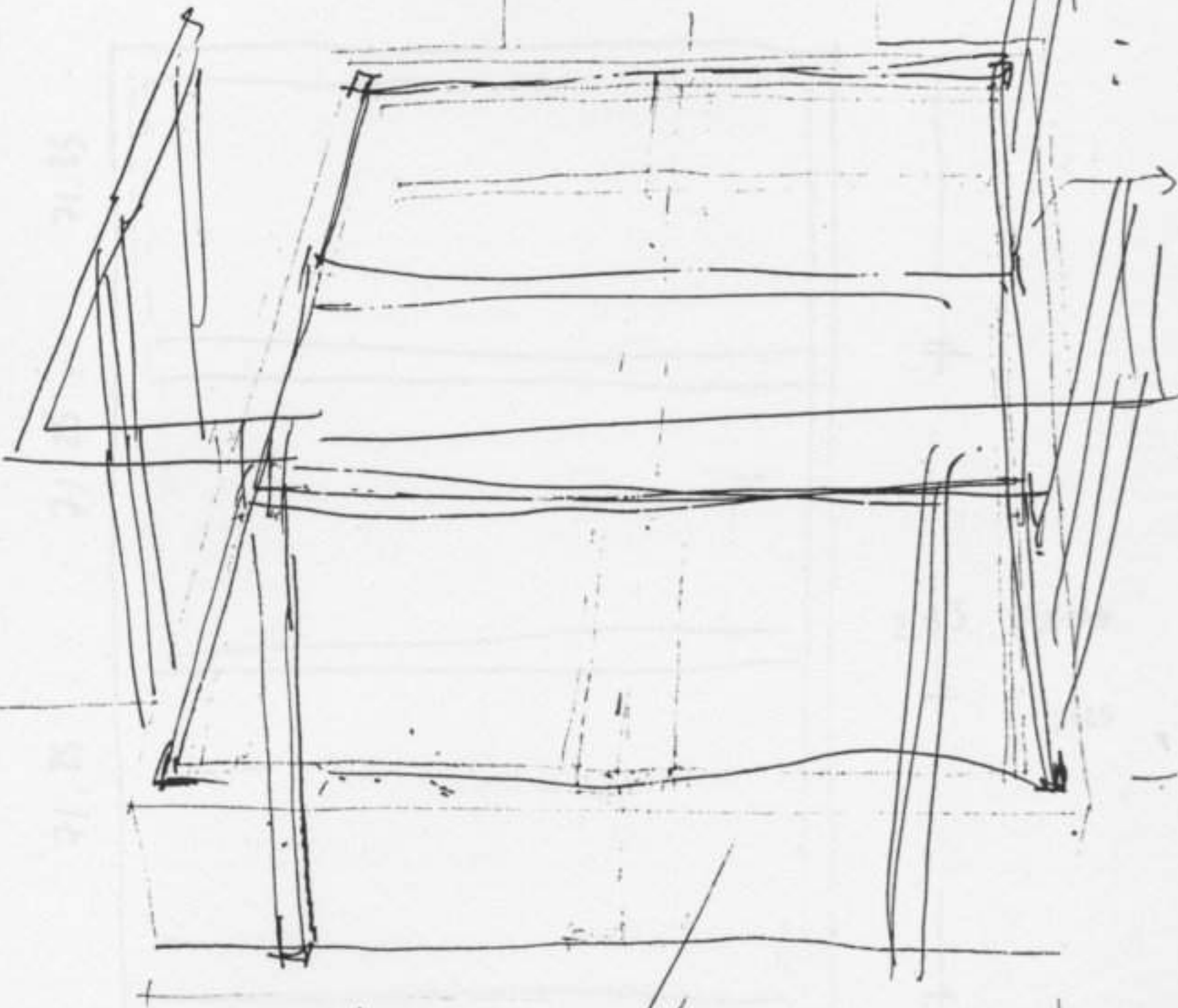
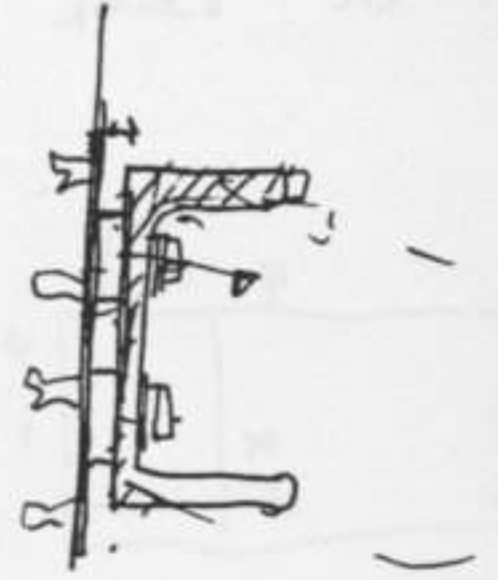
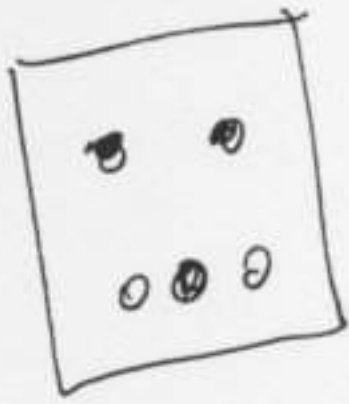
perfis intermediários: T-50x50x6 mm

L 50x50x5 mm
T 50x50x6 mm

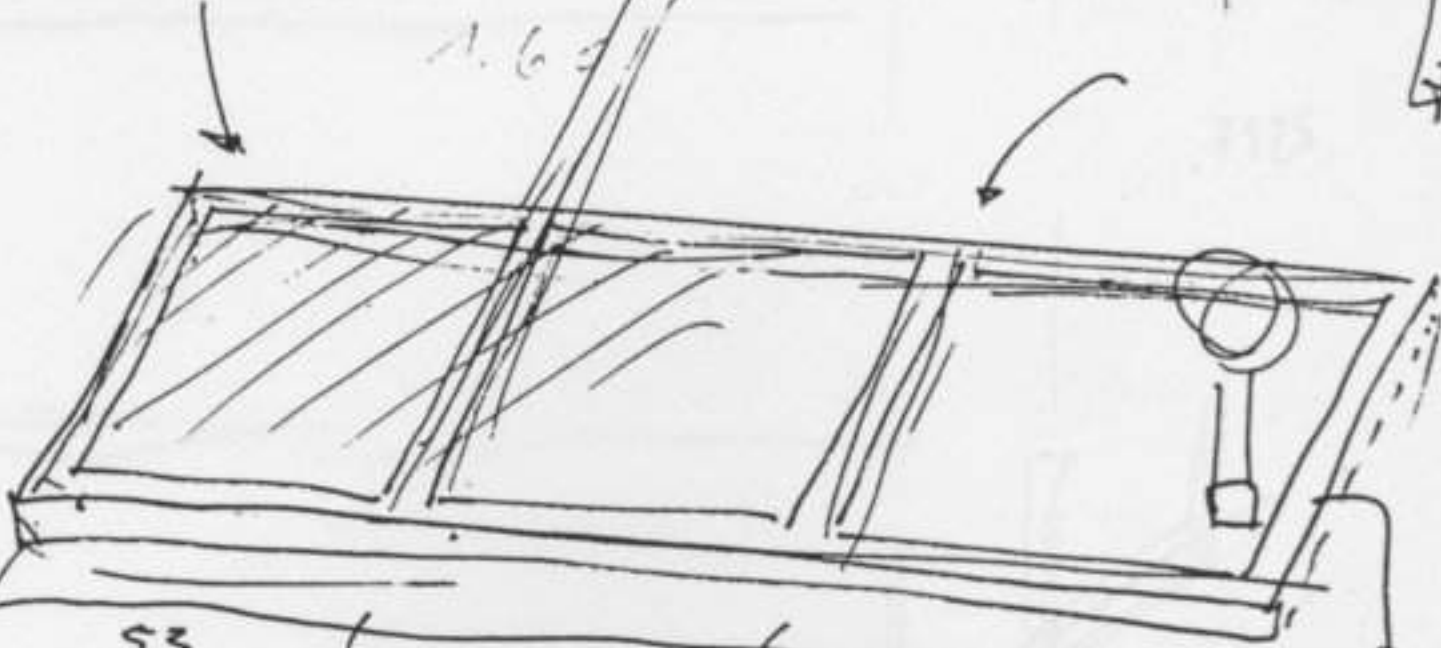
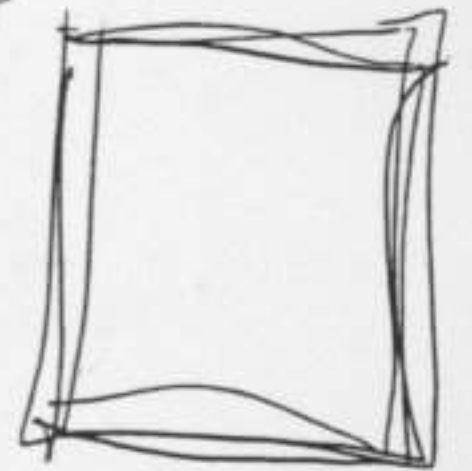
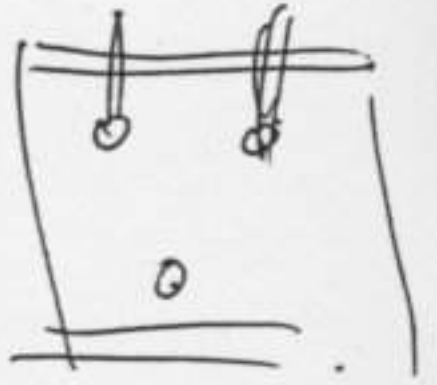


73.75
68.75

5 cm
3



111? 100

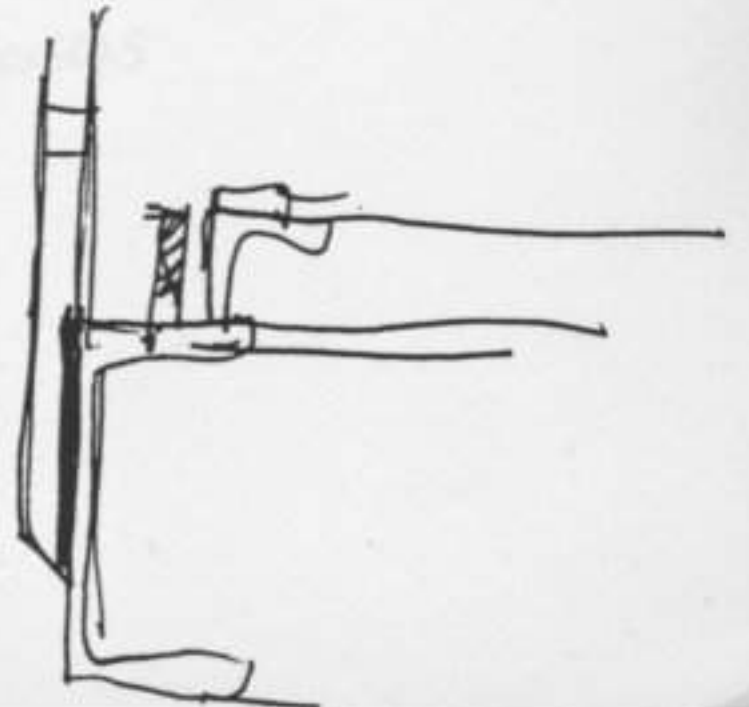
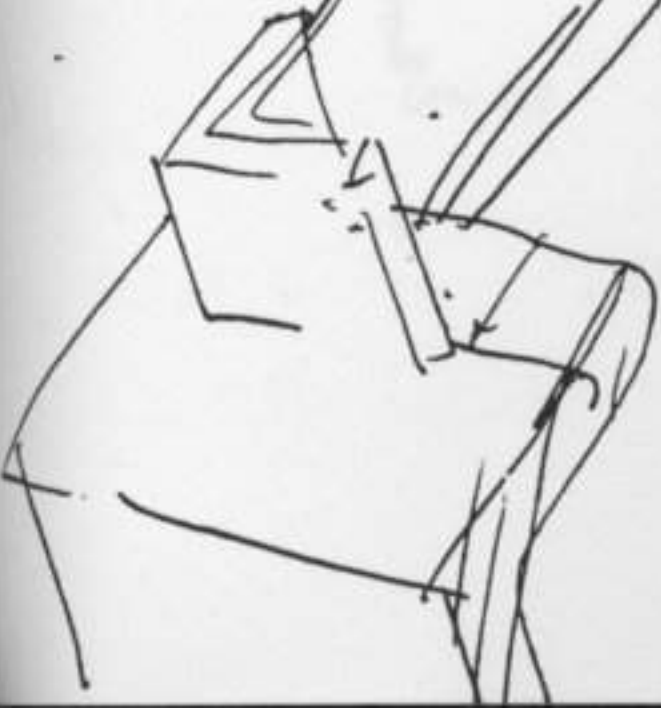


53

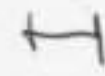
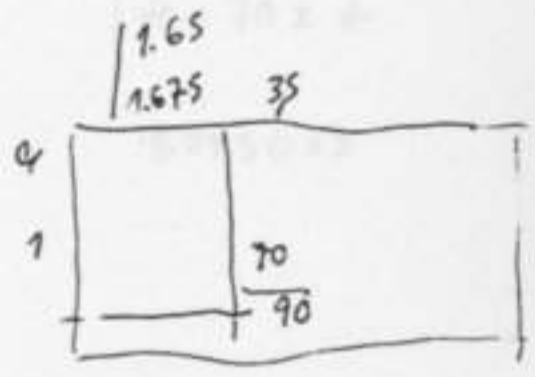
53

53

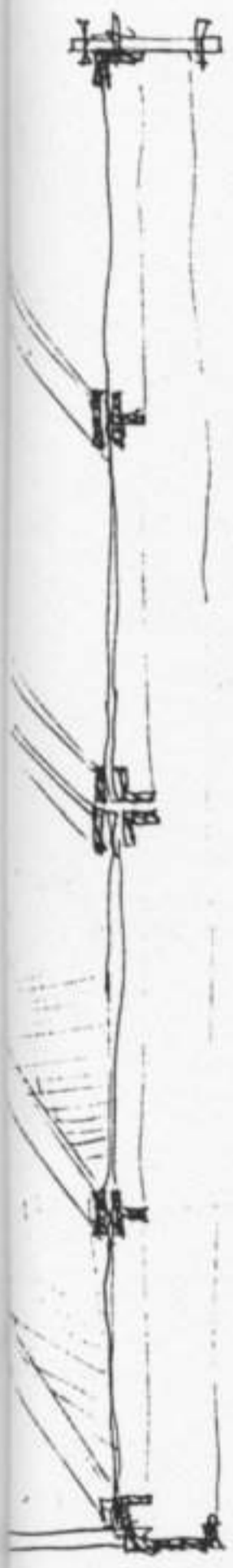
contour



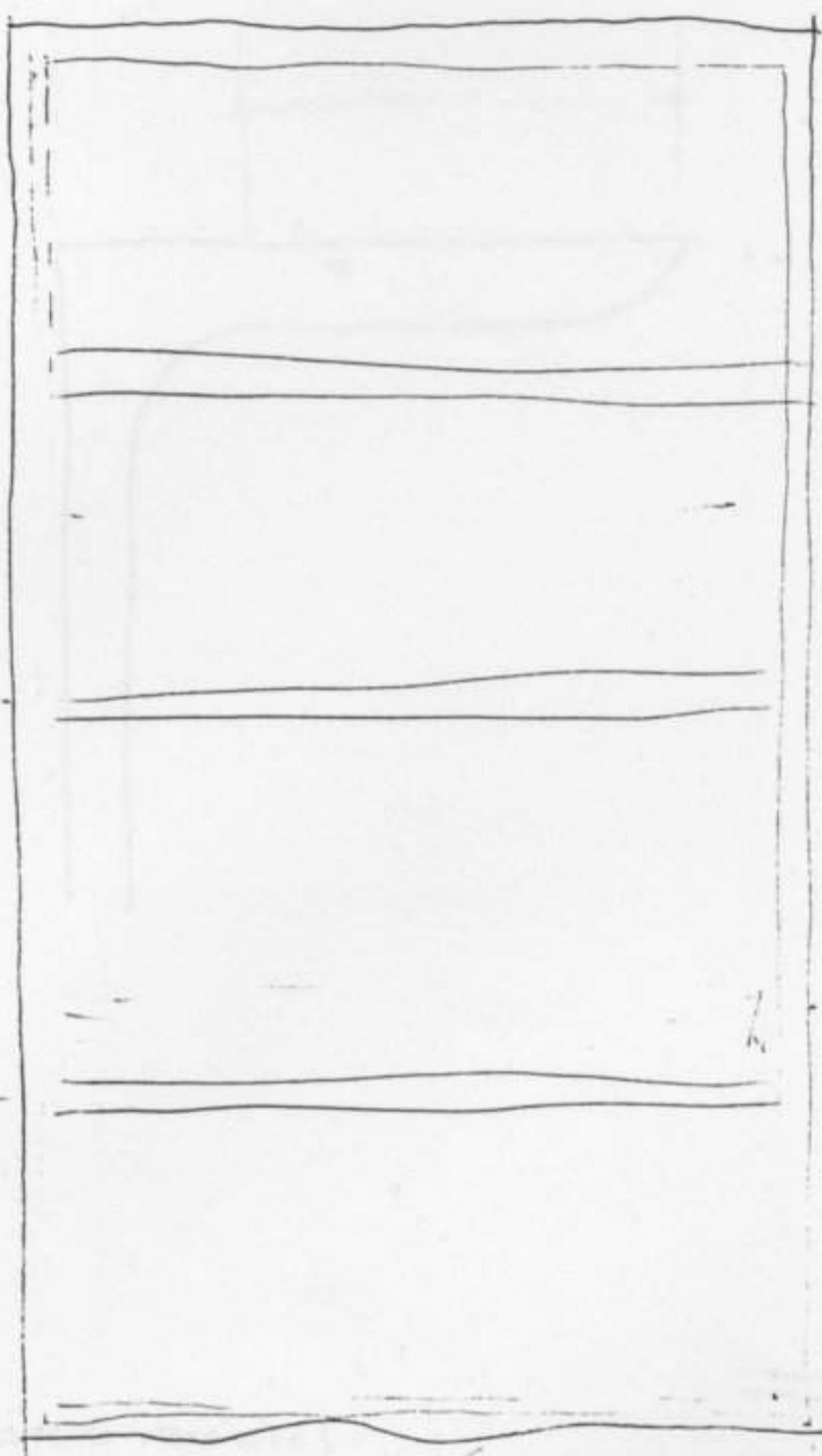
gradit 8/70
 joineis 1x3,5



1.675



71.25
 52.14
 71.25
 52.14
 71.25
 52.14
 71.25



2.85 (2.85)
 1.425

71.25

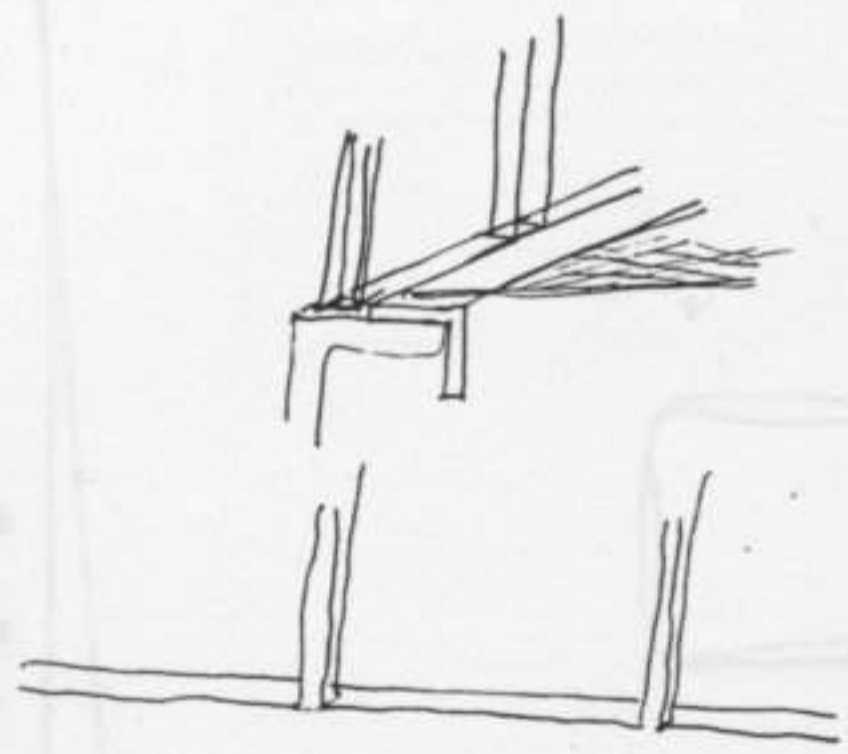
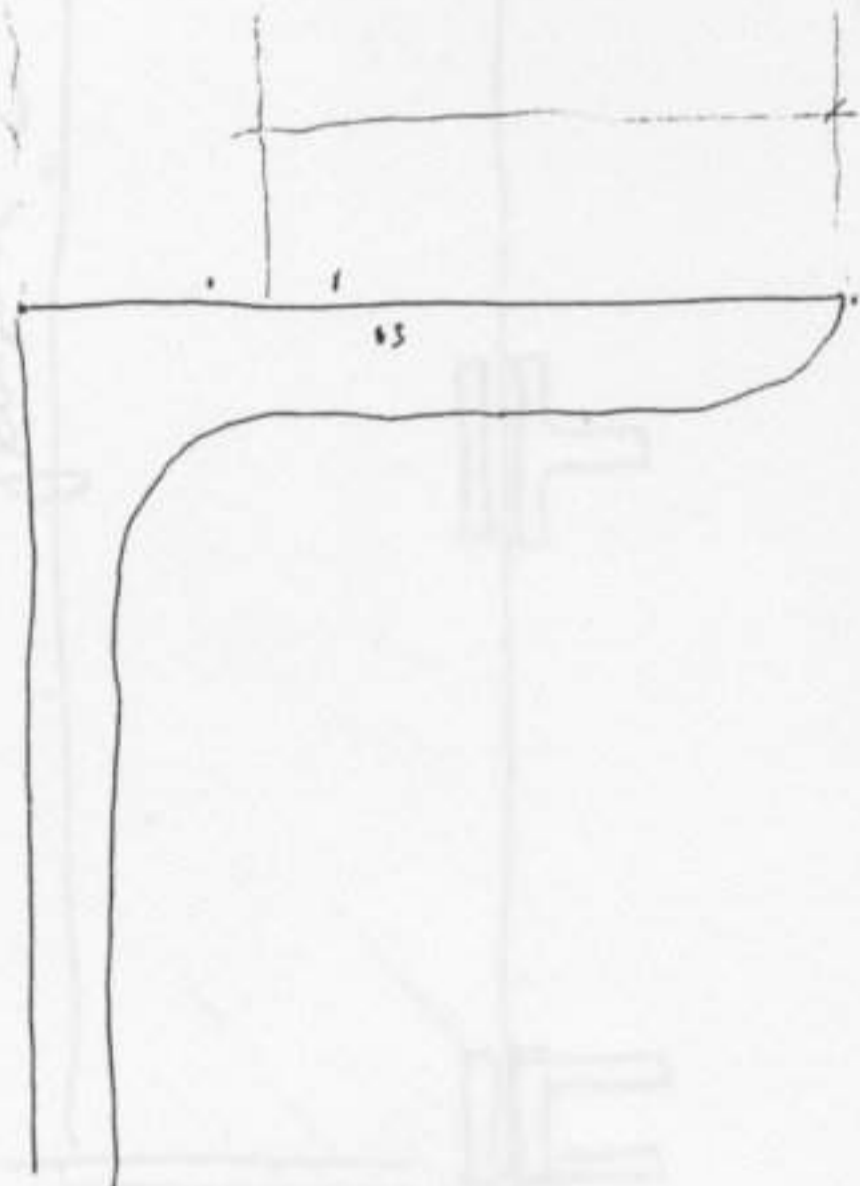


83.75 83.75

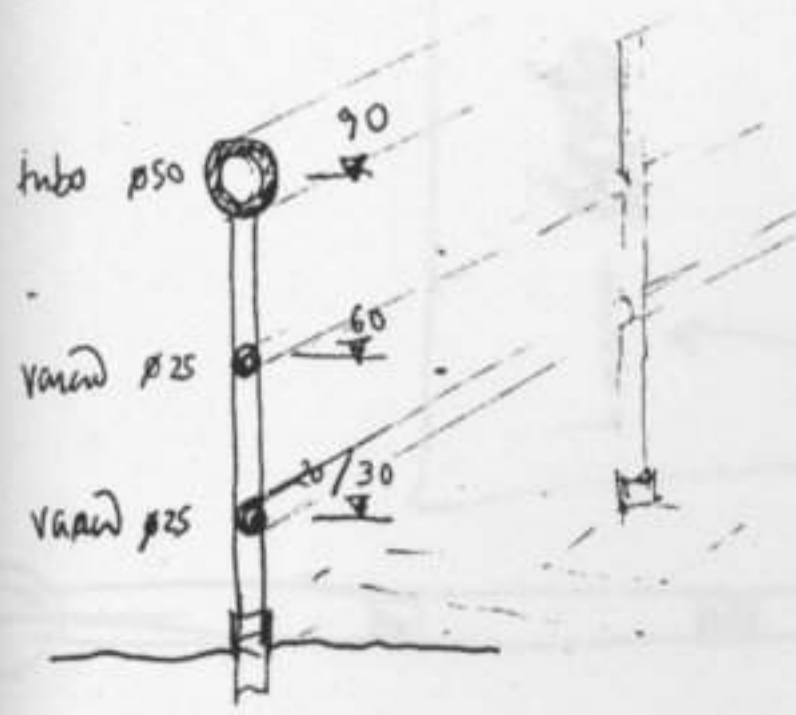
VPN 160 (160x65)

	80x80x9		
T	70x70x8	L	60x60x6
	60x60x7		65x65x7
			70x70x7

50x50x6 50x50x5



GUARDAS METÁLICAS



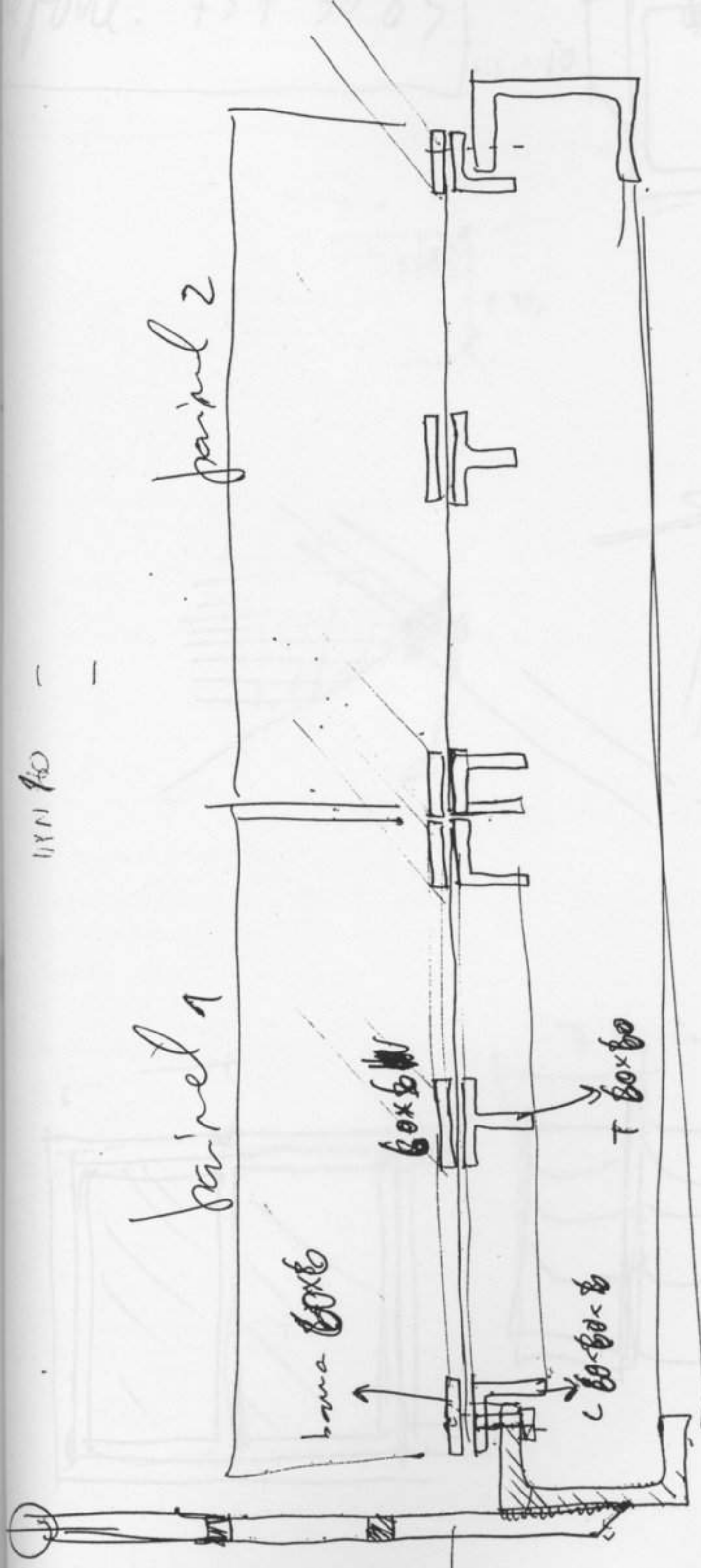
tubo aço (DIN 2448)

Ø ext = 51 mm ; esp = 2,6 mm

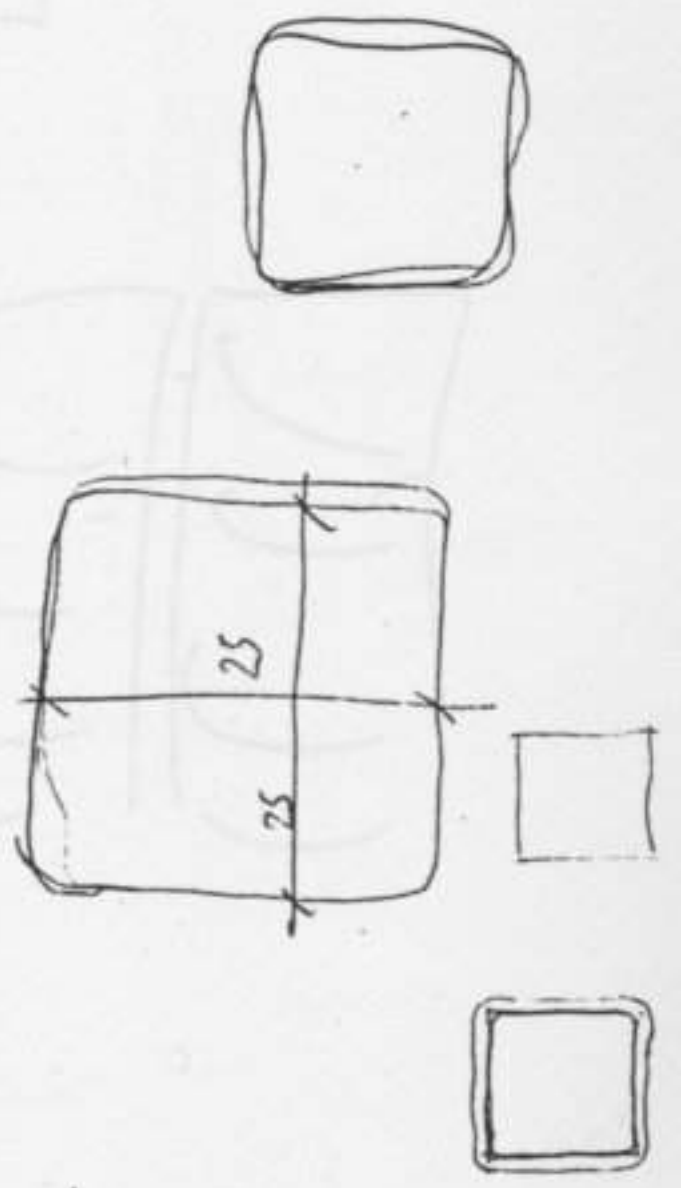
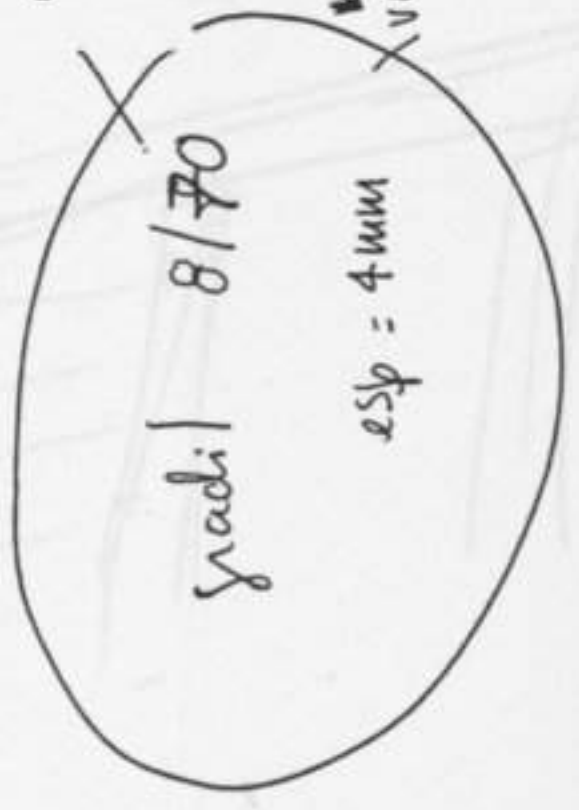
11/11/10

pariel 2

pariel 1



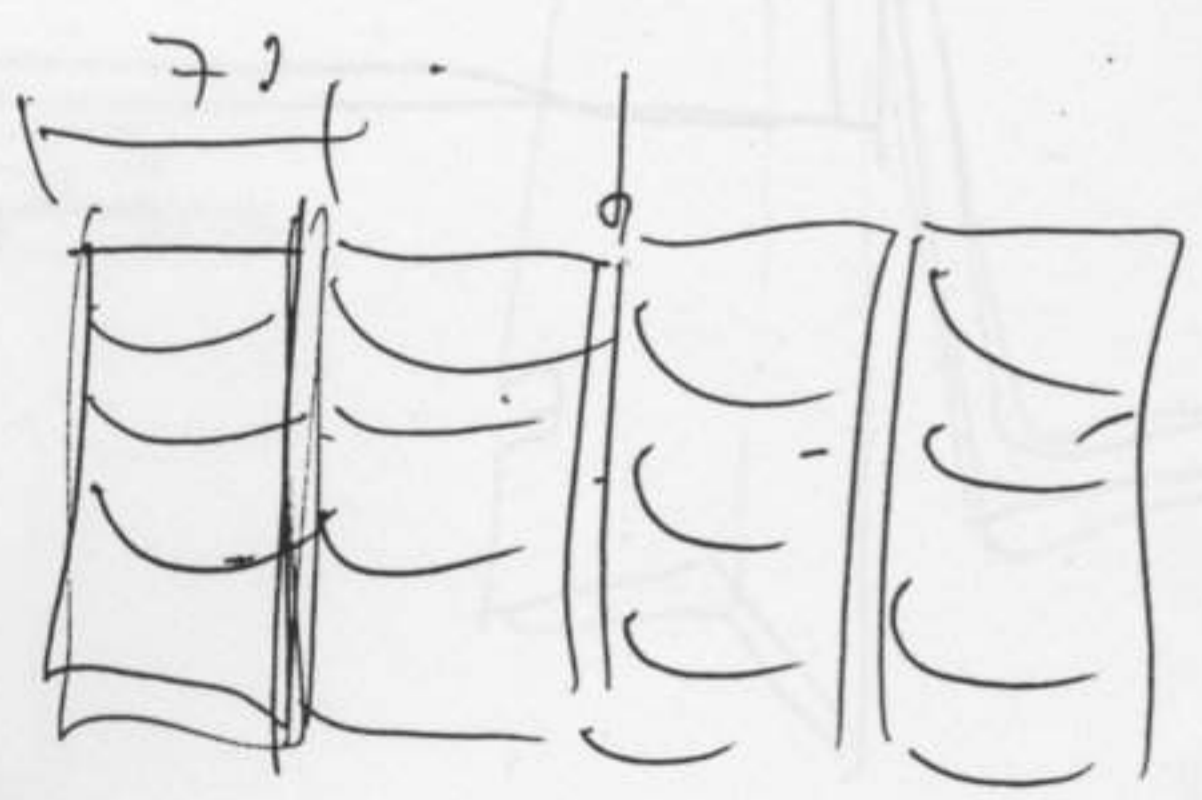
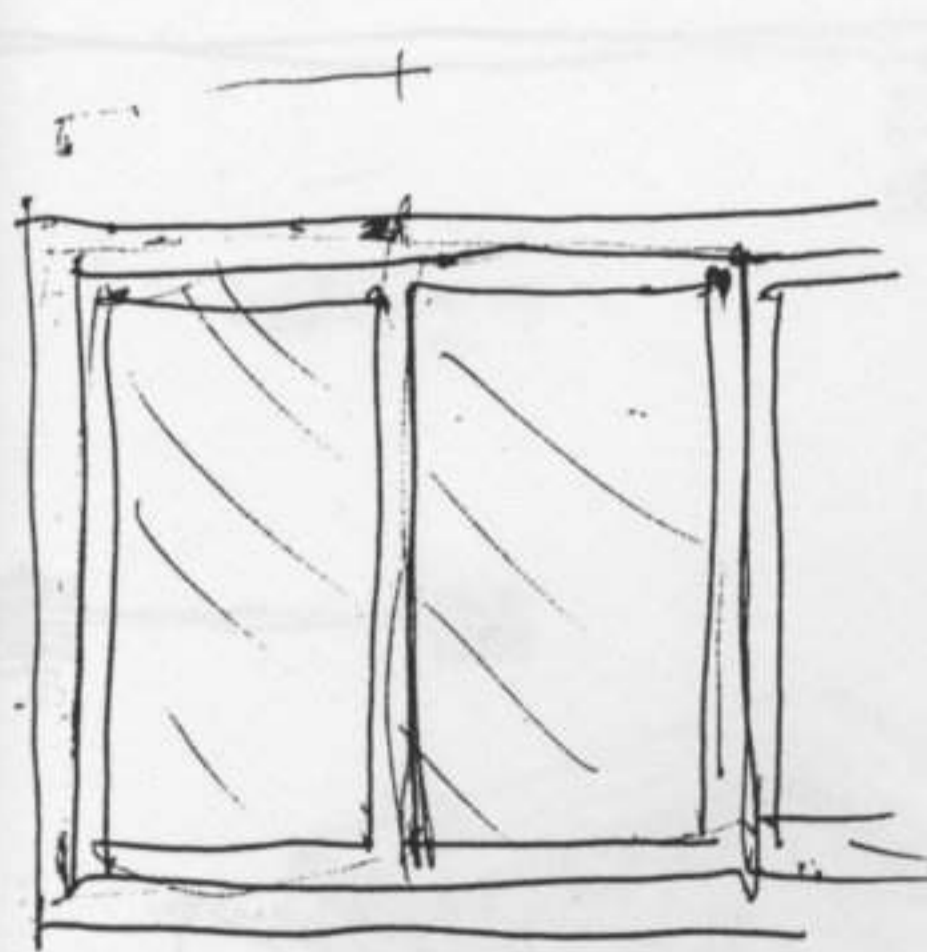
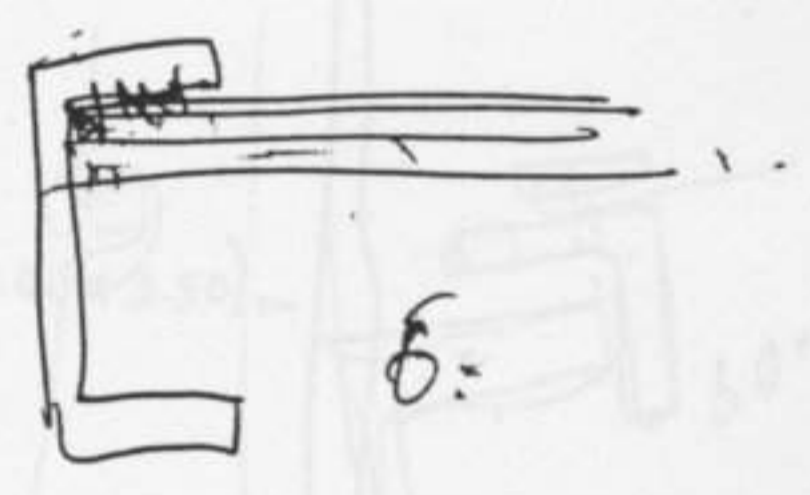
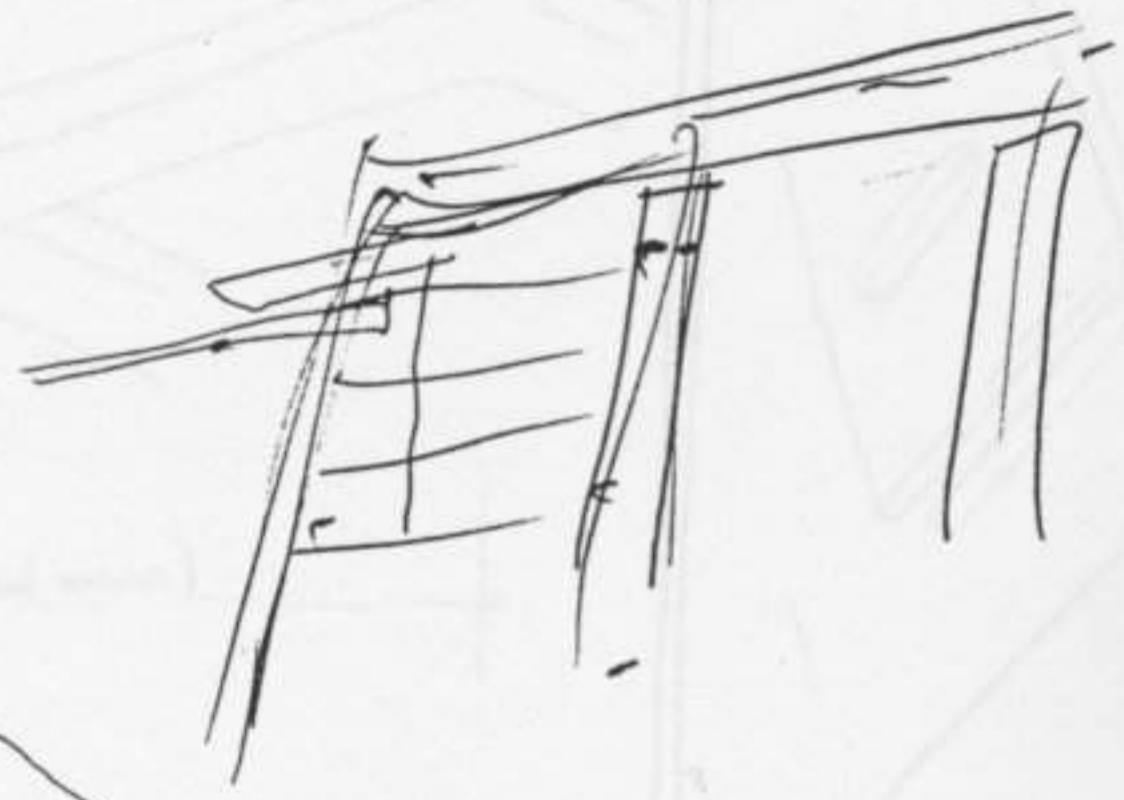
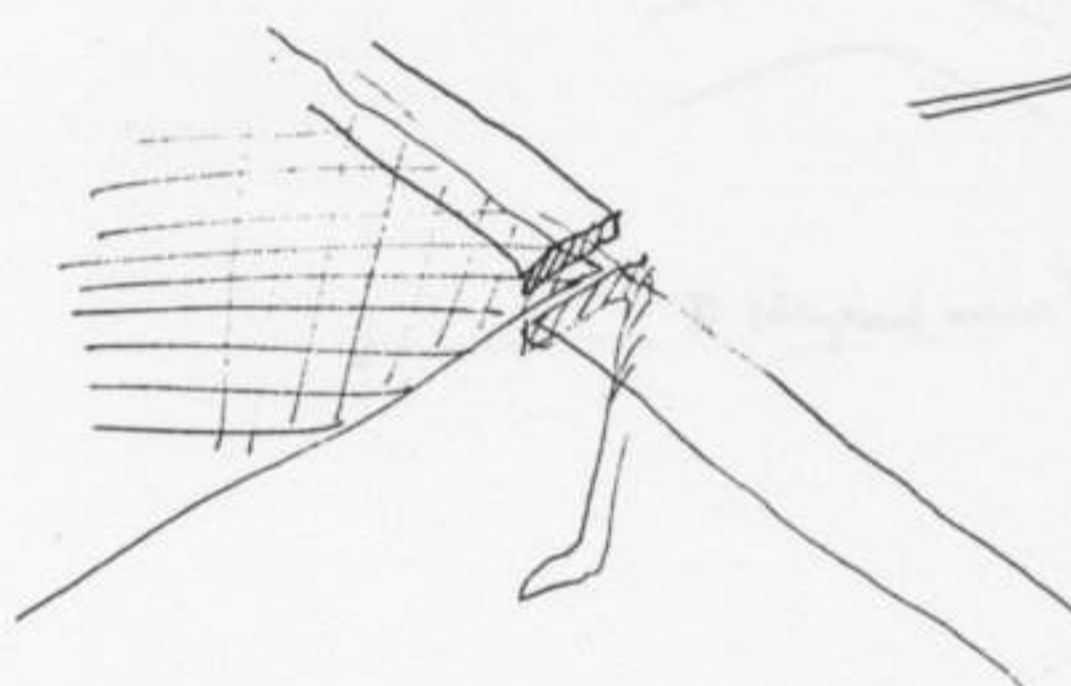
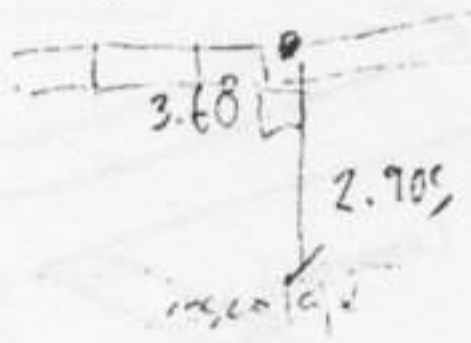
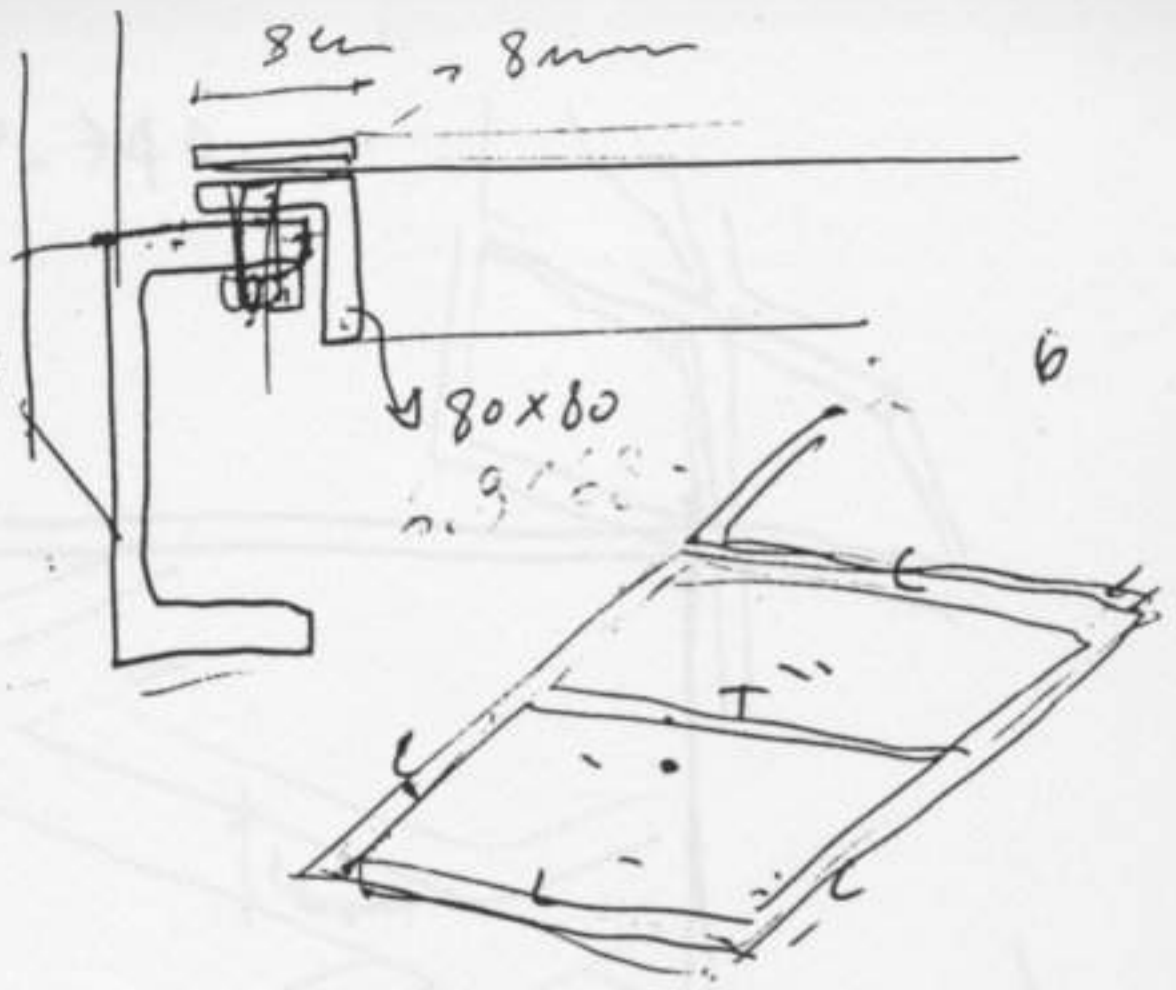
em paineis 1x3,5m



Verzinkt. □

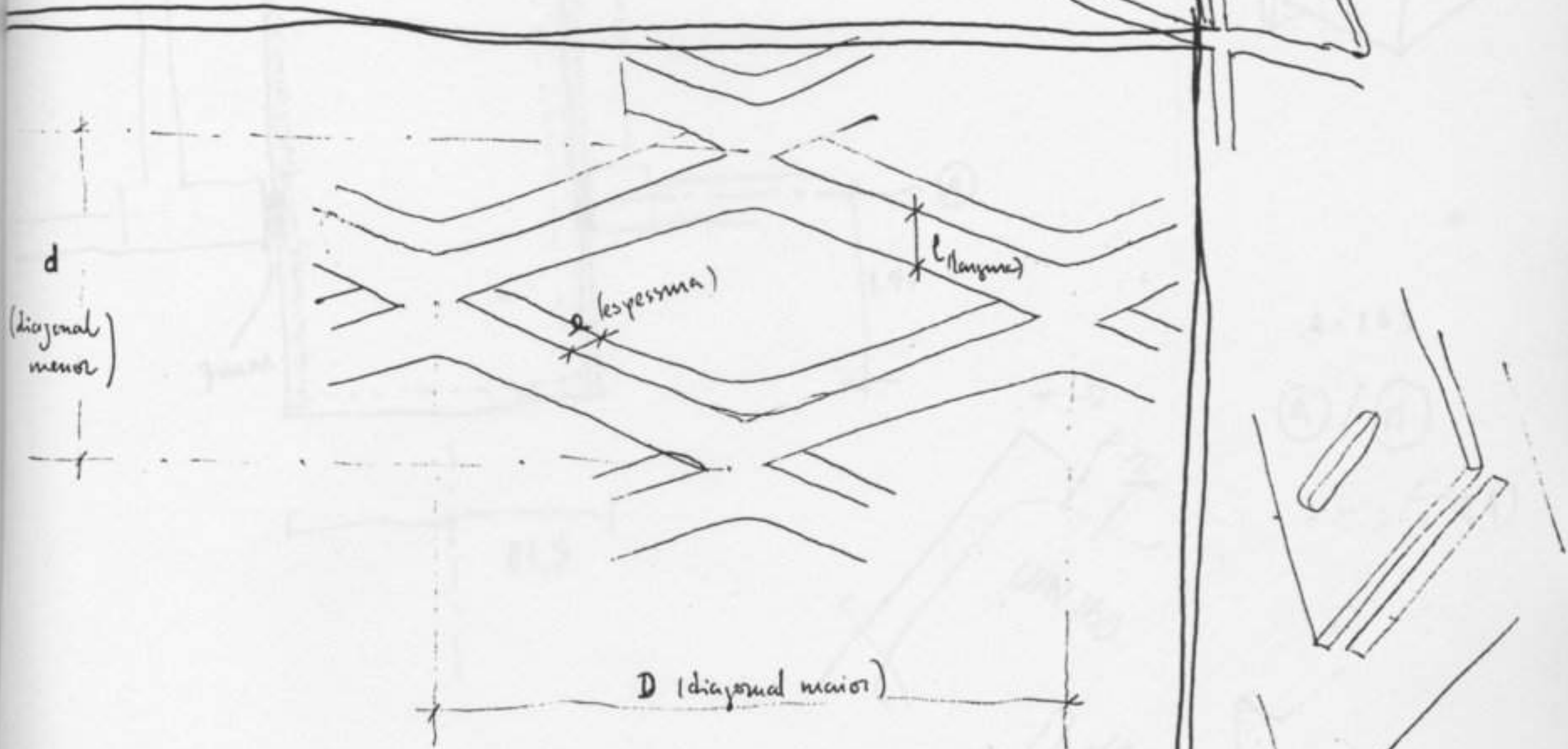
20

☺ + Mário
telefone: 757 3083



8/70

$0.685 \times 4 = 2.740.$

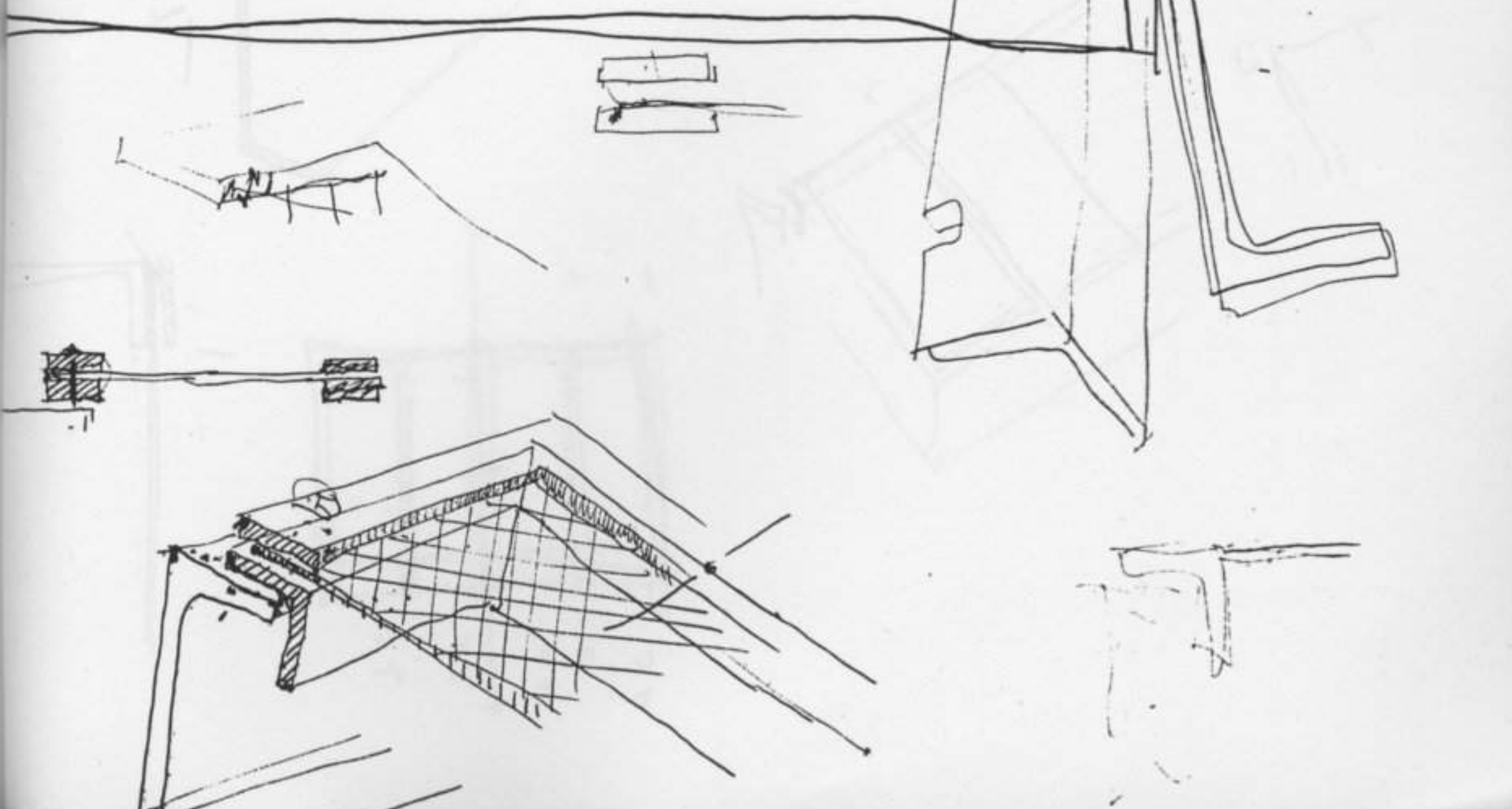


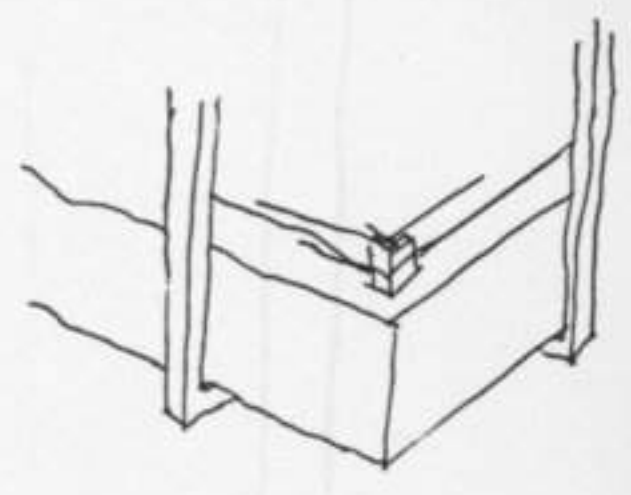
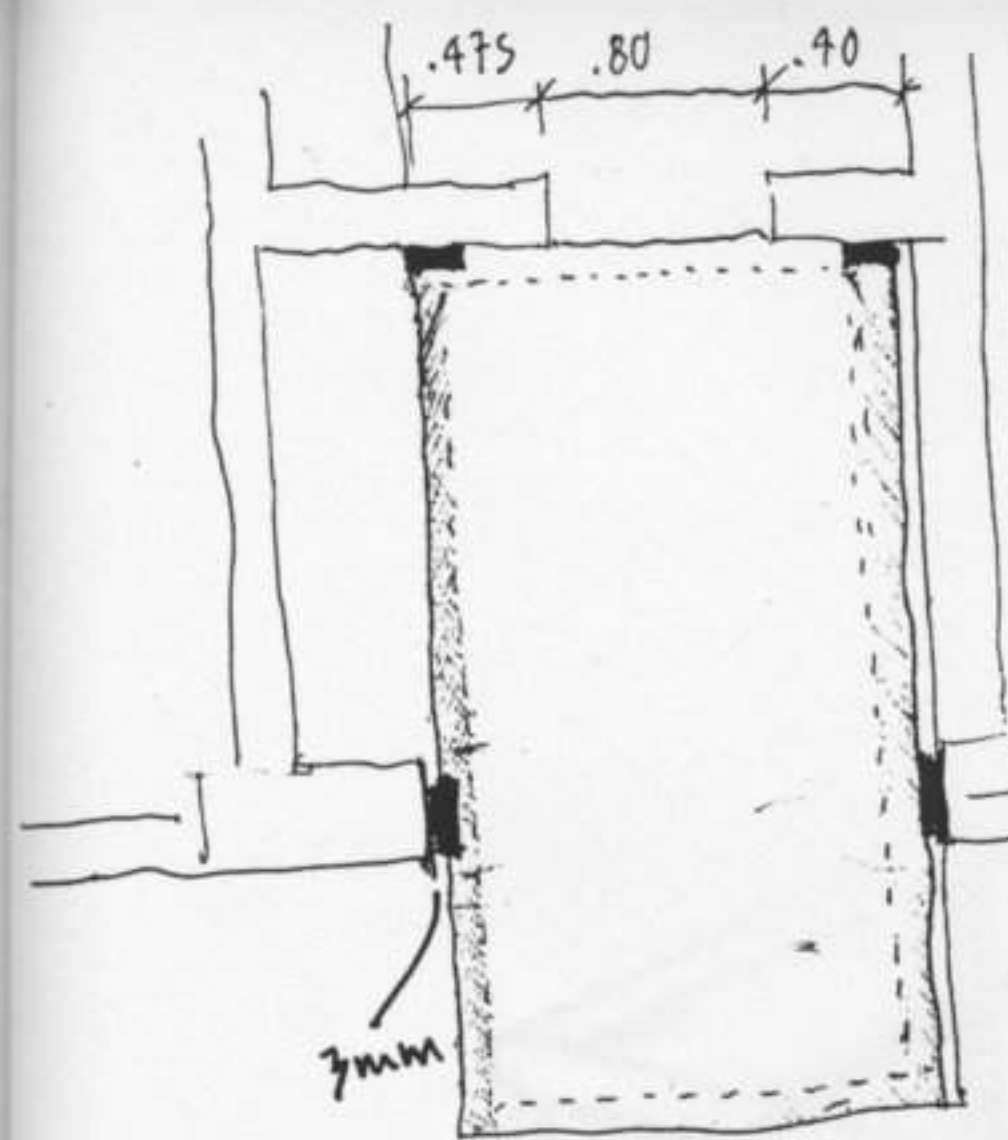
ALGUMES, FONTECA E CABRALHO

GRADIL (8/70) — $D=58$ $d=26$ $e=4$ $l=7$ (DIM 1.00 x 3.50) m

GRADIL 8/80 — $D=54$ $d=26$ $e=4$ $l=8$

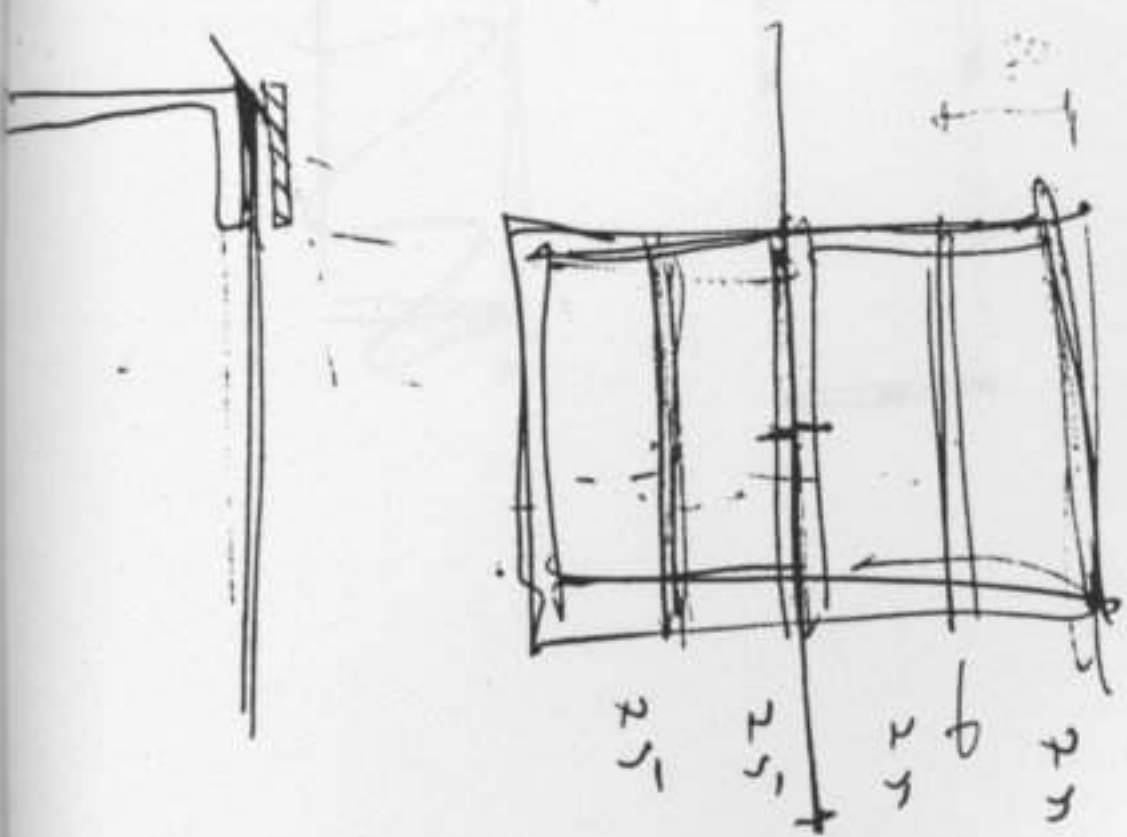
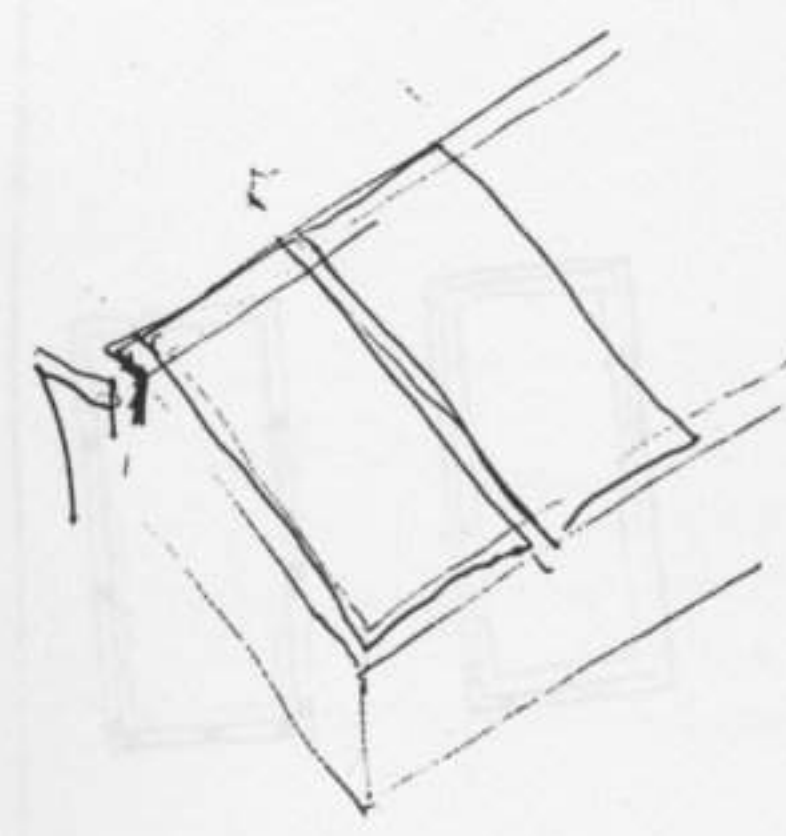
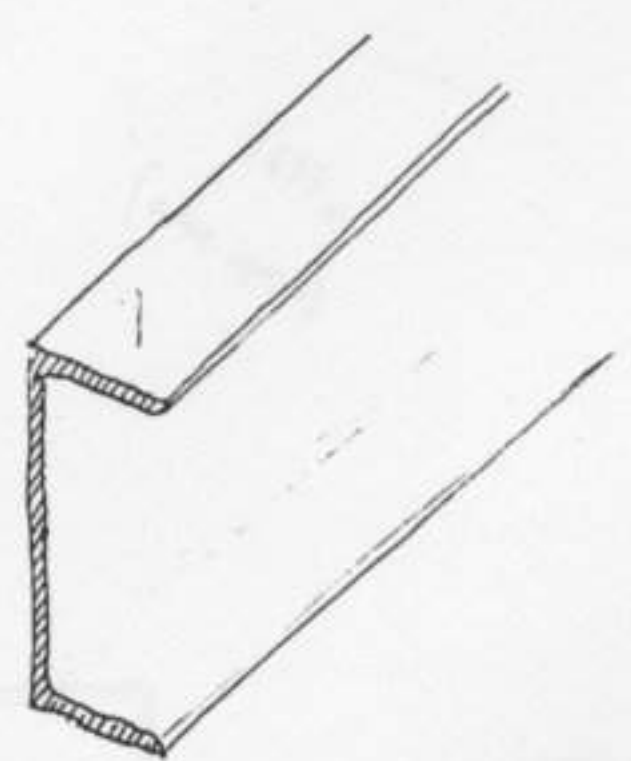
80x80x8

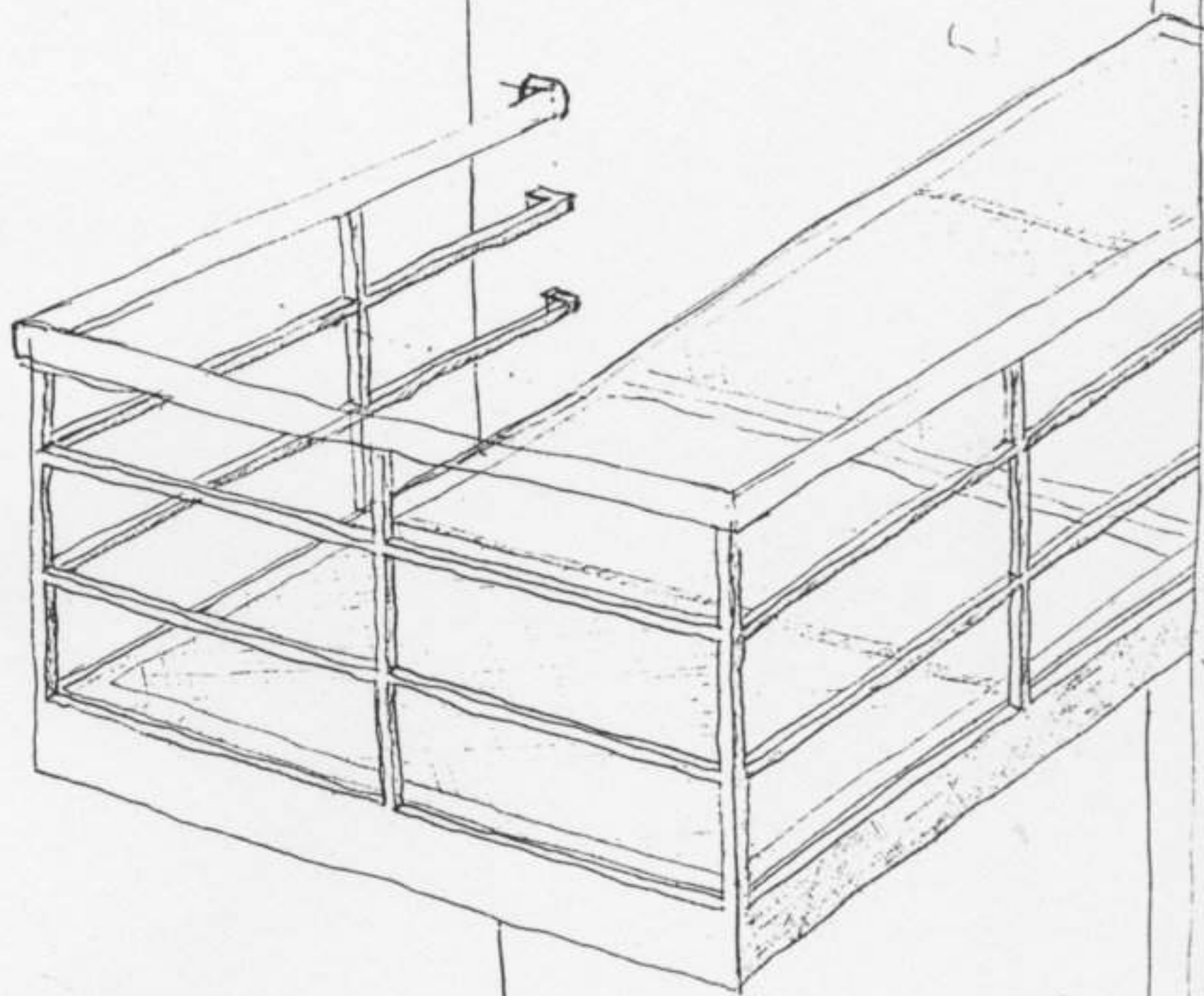




4.105
 (A) / (H)
 2.875 (3) 2.4

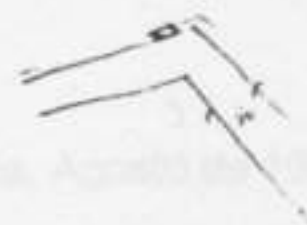
2.875 x 1.675





1.675 m
(entre apoios)

1.90 m
(no eixo do pilar)



FACULDADE DE ARQUITECTURA
05951
(Centro de Documentação)

Maria João Reduto dos Reis

Lisboa, Agosto de 1998

