The sheets in this section must give the following information:

① Availability of material - where.

② Price of this material as it is bought, i.e., price per sack of cement.

③ Conversion of purchase unit to use unit, i.e., volume of a sack,
or buckets per sack,
or any unit which may be needed for calculation in any of the operations.

④ Price per use unit for all operations
— i.e. pesos/shovel-ful.
pesos/bucket.
pesos/ m^3
etc.

MATERIALS

Tierra limo

Wall foundation blocks

Column foundation blocks

#3 rebar

#5 rebar

Cement

arena pura

granito

Grava

Revuelta

Highway mesh

Tying wire

Red oxide

Wall block -red

Column block -red

Wall block- white

Column block-white

Palms

1" plywood

burlap

1 x 4

Chicken wire

Wood strips

Pumice

Perlite

2 X 4

1 x 6

Glass

Putty

Hinges

Doorknobs

Bathroom fixtures

Kitchen sink

3/4" pipe

4" pipe

2" pipe

Pipe fittings

Pipe glue

Electrical conduit

#12 wire

Junction boxes

Switch boxes

Switches

Switch plates.

Outlets

Light fixtures

Connectors

Asphalt

Paint

Linseed oil

Paving bricks

PRECIOS DE:

M³ DE GRAVA TMA 3/4" ——— $ 135.00

M³ DE ARENA ——— $ 55.00

M³ DE REVUELTO ——— $ 55.00

M³ DE GRAVILLA PARA FABRICAR BLOCKS ——— $ [illegible]

M³ DE LIMO ——— $ 40.00

M³ DE PIEDRA PARA CIMENTACION ——— $ 85.00

M³ DE TERRAZO ——— $

VICTOR: TE AGRADECERE MUCHO LOS PRECIOS ARRIBA MENCIONADOS.

HECTOR VICTORIANO

Miércoles 3 de Marzo 1976

Grava 3/4. El metro $155. P
Camión de 4 Mt. 625. lleno. La Pura
Caja 575.

Grano Limpio
El metro Grano $150. P. Camión lle
Cuatro Metros $600. a los Caja
500. Sin Tablos.

Arena Lavada.
Arena El metro $65. P.
4 Mt. Arena. Cuesta $260. P.
La Pura Caja Sacale 240. P.

Revuelto
Revuelto El metro $65. P.
Camión de 4 Mt. la Cuesta $260. P.
La Pura Caja la Cuesta $240. P

Tierra Limo
El metro de tierra Limo $50. P.
Camión de 4 Mt. Sale 200. P.

ALAMBRON

PROCONSA.

1/4" 267.24/100 lbs

1.3 pesos/meter.

BLOCKS FOR PAVING

(bricks) US$40/1000 bricks.

BOLTS

$\frac{1}{2}$ x 8 ANCHOR BOLTS with NUTS $28.64 us /100

DOUTHITT.

5/8 FLAT WASHERS .75 us/lb.

BURLAP.

BURLAP

TEXTILES de BAJA CALIFORNIA. Calle Azueta 208

1/12 515 meters for 3862 50/xx

7.5 pesos/meter : 40" wide rolls

4.5/yd

4.91 pesos/m

CAL

CAL

PROCONSA 1/30 107.30/6 sacks

17.88 pesos/sacle

~~3x 0.016 m³/sacle = .48 m³~~

3x 0.016 m^3/sacle = .048 m^3/sacle

$\approx \frac{1}{20}$ m^3

PROCONSA 2/23 16.75 pesos/sacle.

MONTAÑO 5/25 $36.50/50lb sacle AMERICAN.

MONTAÑO 5/19 $18.50/sacle El Piñon

29.50 pesos / sack.

1 sack = .032 m^3.

922 pesos/m^3 of dry cement

CEMENT: TILES

Crest 50 16. 80.15 } Procorsa.

White cement 10 kg 21.15 }

@ 2.15

CHICKEN WIRE

PROCONSA.

6' x 100' roll = 464 55

.77 pesos/sq ft.

or 8.54 p/m²

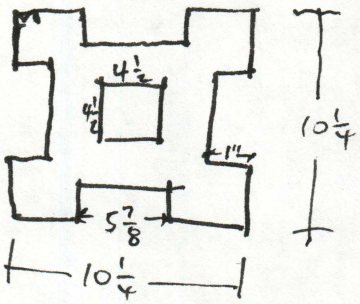
7 May 26 / 429.90 : Proconsa.

COLA

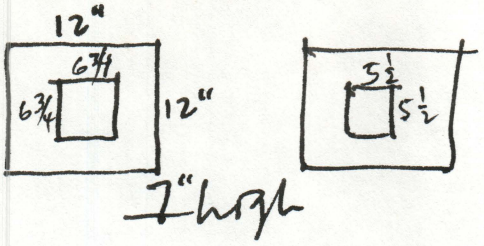
for whitewash —

30.00 /kilo : Impulsora.

COLUMN BLOCK (concrete).



5¾" tall.
-6" tall.



COLUMN FOUNDATION BLOCK

246 needed for:
arcade in bedrooms.
bathroom
5 houses + arcade according to limits

12.48 / each.

	AMT	%
GRAVA –	1	8%
ARENA –	.33	2.6%
CEMENTO –	1.35	10.8%
STEEL –	7.8 pesos.	62.5%
LABOR –	2 pesos	16%
	12.48 pesos	

CONCRETE (1 : 9)

Calculation next page

Revuelta	33.7 p/m³	of	mix	21%
Grava	33.7 p/m³	of	mix	21%
Cemento	92.2 p/m³	of	mix	58%
Total	159.6 p/m³	of	mix	1:9.

	%
Revuelta	21
Grava	21
Cemento	58

FILL 139.6 p/m³

SLAB CALCULATIONS

Volume cost of a 1:9 mix.

1 cement
3 gravel
6 revuelta
} most commonly used for slabs.

1 truckload of revuelta = 225.00 = 4m³ = 56.25/m³

gravel = 550.00 = 4m³ = 112.50/m³

cement = 1475/50 sacks

6 revuelta = .096 m³
3 grava = .048 m³ grava
1 cemento = .016 m³ ~~grava~~ cemento

1st cost estimate
9:1
$16.70/m³

Redimix
350 p/m³

10 ~~p~~ buckets = .16 m³

1 barrow = 0.096 m³

~~Walter~~
gravel 80p/m³
sand 50p/m³

Local yard
gravel 375/5 yds
revuelta 250/5 yds
cement 27/sack

revuelta	5.4
gravel	5.4
cement	14.75
	25.55 pesos
	.16 m³

= ~~212.9 pesos/m³~~
= 160 p/m³ concrete

CONCRETE (1:12)

140 p/m³ of mix.
no large grava.

Rewelta = 43% of cost = 60.2 p/m³ of mix

~~Grava~~

Cemento = 57% of cost = 79.8 p/m³ of mix

---

140 p/m³ TOTAL.

(Calculation next page)

Rewelta 56 p/m³
Cement 922 p/m³

.032 m³ ~~of~~ rewelta
.0026 ~~grava~~ cemento

FILL

$V = .03\ m^3$

$\frac{1}{6}$ bucket cement $\times .016\ m^3$/bucket

2.62 12.7

$.0026\ m^3$ cement / 3" x 5" x 3.1 meters

$.032 m^3$ revuelta. / 3" x 5" x 3.1 meters.

.0026
6 | .016
12
40

~~56~~ pesos/m^3 revuelta. $.087\ m^3$

29.5
~~26~~ pesos / $.032\ m^3$ cement

grava 115 p/m^3

sand ~~55~~ 55 p/m^3

85 p/m^3 $[.0026 m^3][\frac{29.5 p}{.032 m^3}] / V$ cement

~~.0465 m^3~~

2.54
3
7.62
37.70

2.54
5
37.70

.0287 cm

$[.032 m^3][\frac{56}{85 p/m^3}] / V$ revuelta.

.0026
26
156
52
.0676

.028 m^2

$\frac{2.1 p}{.0465 m^3}$ cement

79.9
59.7
139.6

$\frac{2.72 p}{.0465 m^3}$ revuelta

85
.032
170
255
2720

2.1
.0321 | .0676
64
36

139.6
~~103~~ p/m^3 of fill

4.8p / 3.1 centimeters of fill

2 cm / 9" of wall

9.6 / 3.1 x 9 x 2.54

ELECTRICAL CONDUIT, WIRE & FITTINGS

	each	
2x4 BOXES - DEEP	9.55.	ABEMSA.
2x4 BOXES - REGULAR	5.95	ABEMSA.
COVERS FOR 2x4 BOXES	2.00	ABEMSA.
#12 WIRE - 100 meters	223.35	ABEMSA.
OCTAGONAL BOXES	5.95. 8.50	ABEMSA. MONTAÑO
4x4 BOXES	6.60	ABEMSA.
WIRE NUTS	.40	ABEMSA.
TUBO 1/2"	1.99	ABEMSA.
ROLL OF TAPE	22.40	ABEMSA.
TUBO 3/4"	2.85	ABEMSA.
#12 WIRE 100 mts	225.00	ABEMSA.
WIRE NUTS	40/100	ABEMSA

	each.	ABEMSA. These prices do not include 19% discount.
OUTLET 222 C/T	7.05	
SWITCH 1230 C/T	7.80	
SWITCH 5212 C/T (2 switches in 1 single box)	18.25 (for double)	
SWITCH 1231 C/T single toggle – 3 way.	11.55	
SWITCH 1750 special – single sw.	8.65	
1751 special – single sw.	16.10	
~~PLATES.~~ PORCELAIN SOCKET.	8.40.	
SOCKET	6.80	

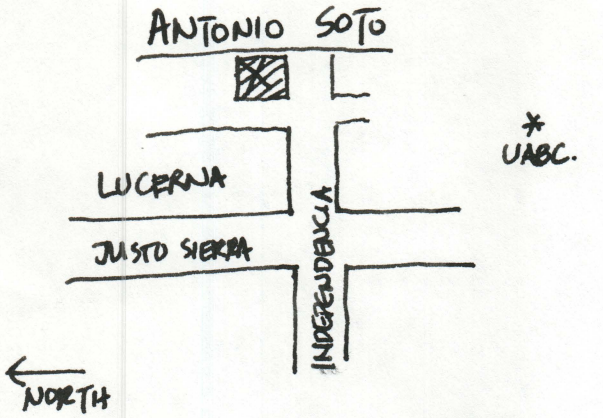
FOR MACARONI: (These houses will need smaller units)

	/meter.
PVC tube $1\frac{1}{4}$"	71.85/mt.
connector PVC $1\frac{1}{2}$"	7.00/each.
curve PVC $1\frac{1}{4}$"	15.50 /each.
couplers PVC $1\frac{1}{2}$"	5.00.
#4 wire	18.30 /meter.
#2 wire	26.60 /meter.
Circuit breaker 70 amp.	194.15.
circuit breaker 15/20 amp	102.95.

FLOUR

4p/kilo. LOCAL GROCERY

GRAVA



550 pesos/truckload

= 550 pesos/4 m^3

= 137.5 pesos/m^3

March 3 155 pesos/m^3

112.50 Sr. Becky knows where

ANTONIO SOTO.

~~GRAVILLA~~ GRANITO.

450 pesos / 4 m^3

= 112.5 pesos / m^3

Marble: 150 pesos / m^3

HARDWARE FOR WINDOWS & DOORS

DOORKNOB w. KEYED LOCK.	86.70	PROCONSA.
DOORKNOB/mortise LOCK (no key)	49.10	PROCONSA.
DOORKNOB NO LOCK	40.40	PROCONSA.
HINGES CYCSA #330 3"x3"	6.30/pair	PROCONSA.
HINGES $1\frac{1}{2}$"	1.10	PROCONSA.
SCREWS for HINGES 3/4" x #5	.20	PROCONSA.

HIGHWAY MESH

PROCONSA receipt # 281

8.3 $/p/m^2$

NAILS

8p /kilo ~ __ nails.

16p 13pesos/kilo

8p finishing. /kilo

Calexico Bldg Supply:

Common nails, #8, #16, 50 lb box: $30.00 U.S.

Finish nails #8 14.00 pesos/kilo : PROCONSA.

Clavo azul. 18 pesos/kilo

O-frames

Steel bought at C.A.S.A.

$\frac{1}{8} \times 1 \times 20'$ costs 22.60 each.

Each O-frame uses 3' of steel, so there are 6/piece, or they cost 3.76 each.

3.76 each.

ABCDE

PAINT

Montaño	ATLAS	1 quart	28.50
		1 gal.	87.50

U.S $2.80 /sack RYERSON'S CONCRETE, El Centro.

= 35 pesos /sack.

1 sack = 3 ft^3 ~ $\frac{1}{10}$ m^3

= 11.6 pesos / ft^3

= 414 pesos / m^3

PLATE GLASS

PLUMBING PIPE & FITTINGS

	PVC		GALV		ABS		COPPER	
CODO ½"	3.0	Montaño						
TEE ½"	3,0	Montaño						
TEE 1/2"			6.0	Montaño				
VALVE 1/2"			29.50	Montaño				
CONNECTOR	4.50	Montaño						
TUBO 4"/A					12.50	ROCABA.		

PLYWOOD

Calexico Bldg Supply, Calexico.

4'x8'
1" Plain MARINE PLYWOOD = U.S. $25.65 including tax.

Caoba (for doors) 1/4" x 4' x 8' 66.40 /sheet: PROCONSA

3/8" x 4' x 8" 60.00/sheet : MONTAÑO

PUTTY for windows.

REBAR

Corrugated. PROCONSA. by the piece

		PER FOOT	PER METER
1/4"			
3/8"	29.70/30'	.99 peso/ft	3.25 p/m ~~3.25~~ 3.60
1/2"	52.35/30'	1.75 p/ft	5.72 p/m
5/8"	83.00/30'	2.76 p/ft	9.05 p/m.
5/16"	20.~~60~~/30'	0.69 p/ft	2.26 p/m. ~~2.26~~ 2.50 p/m.

#5?

#2?

by the TON.

3/8"	26.9/30'	.90 peso/ft	2.94 p/m
1/2"	47.72/30'	1.59 p/ft	5.22 p/m.

RED OXIDE (Mexicano)

Best source has been TRES EMES.

@ 221.52/sack

Sack volume = ½ ft³

or, Price = 443,04/ft³ = 15817 pesos/m³

Need

1 bucket for 13m² of floor.

To make it:

2 buckets of red oxide
4 buckets of cement
4 buckets of tierra limo
10 buckets of stuff / 130 m² of floor.

Antonio Soto.

225 pesos / 4 m³ = 56.25 pesos/m³

March 3 : 65 pesos/m³

---

54 pesos/m³ Sr. Rodrigo knows where -

SALT

Molino de Sal "Estrella"

Tel. 2-86-18

Ulises Irigoyen No 24.72

1 peso/kilo.

110 kilos : 110 pesos.

SAND (ARENA PURA)

Antonio Soto.

225 pesos/4 m³ = 56.25 pesos/m³.

March 3 65 pesos/m³

STAPLES

STEEL TUBE

 3/4x20' 40.00 CASA.

TIERRA LIMO

Antonio Soto

150 pesos/4m^3 = 37.5 pesos/m^3

Avalos (Marmoleros 1409 Tel. 2-63-37)
35 pesos/m^3

U * PIECES

$25.65 per 4'x8' piece of 1" marine plywood.
Calexico Building Supply Co.

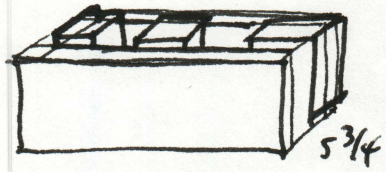
VOLCANO (PUMICE)

JOAQUIN FLORES

2300 pesos / 23 m^3

= 100 pesos / m^3

WALL BLOCK - CONCRETE



18 7/8

Each cell is $4\frac{7}{8} \times 2\frac{1}{2}$

Nibs come up 3/4", ~~tubes~~ slots 1" deep

3/4" at male end 1" at female end.

WALL BLOCK 1 - EARTH

WALL FOUNDATION BLOCK

~~Ha~~

5.7 pesos.

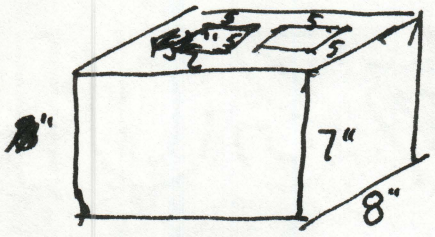
SAND

GRAVEL

CEMENT

STEEL

LABOR 1.0



Cells 5"x5"x7"

15½"

Total volume:

7"x8"x 15 ½"

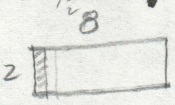
WIRE FOR TYING RE-BAR

WOOD/ BEAMS & FRAMES, + TRIM.

	NEW p/ft		USED p/ft	
2x6			3.0	Popular
			2.4	Rocasa
			3.4	Valle Mex
2x3			1.25	Rocasa
2x8	10	Tres Eres		
1x6	2.32	Proconsa		
1x4	1.6	Proconsa		
	1.0	ROCASA.		
1x12 SELECT	6.65	Montaño		
	4.65	Proconsa.		
	3.50	Rocasa.		
1x10	4-	Proconsa		
2x4 CLEAR.	4.03	Proconsa.		

WOOD STRIPS FOR VAULT

A 2×8 yields 12 or 13 wood strips, or each wood strip takes 2/3".

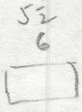


PROCONSA:

2×6×14' CLEAR: 88.20, or 6.30/foot.

$$\frac{6.30/\text{foot}}{5\frac{1}{2}''/2/3''} = 0.76 \text{ pesos/foot. or } 2.48 \text{ pesos/meter.}$$

(materials)



Labor cost for cutting wood strips out of 2K's:

For an order of 485.30, labor cost 25.80, or 5% of material cost, so total is 2.60 pesos/meter.

.79 pesos/pie

ROCASA .50 pesos/pie

METRIC CONVERSIONS.

.0254 meter/inch.

39.4 in/meter.

.305 m = 1 ft.

3.28 ft/m

$1 \text{ inch}^2 = \frac{1}{144} \text{ ft}^2 = 6.45 \text{ cm}^2 = .000645 \text{ m}^2$

$1 \text{ ft}^2 = 929 \text{ cm}^2$

$1 \text{ ft}^2 = .0929 \text{ m}^2$

$1 \text{ m}^2 = 11.1 \text{ ft}^2$

$.028 \text{ m}^3 = 1 \text{ ft}^3$

$1 \text{ m}^3 = 35.7 \text{ ft}^3$

MATERIALS ORDERS — OPERATION #2 - EXCAVATION.

CAL

$$\frac{375\,m^2 \times .008\,m^3/m^2}{\frac{1}{20}\,m^3/sacle} = 60 \text{ sacks.}$$

RE-BAR. #3. (18" pieces)

$$375\,m^2 \times .53\,cols/m^2 = \frac{199\,cols}{18\,cols/30'\,barilla.} = 11 \text{ rebars.}$$

$20\overline{)360}^{18}$

*

40 bars 20 → 2' pieces

20 → $1\frac{1}{3}$' pieces.

~~80~~

1270' #5

PROCONSA.	
20	5/8" re-bar.
11	3/8" re-bar.
60	sacks cal

135 bars.

Have 157 corner formed blocks Need 200

Have 140 wall. ~~blocks~~ formed blocks

$\frac{1}{20}$ ca unit
20,08 unit
20 | 36
20
160

780
40
640

Need 2/meter of perim · Need 780

1.04 m/m²

Need to make 640

Some with 16"@ re-bar $1\frac{1}{3}$

Some with 24"@ re-bar. 2'

375
1.04²
1480
3750
389.80

rebar 30' long.

300 with 2' of rebar =

~~15'+20'~~ =

15/rebar

390
2
780

$\frac{300}{15}$ = 20 bars for 2'

20 bars for $1\frac{1}{3}$'

40 bars.

340 with $1\frac{1}{3}$' ft

133
5
665

225
1,33 | 3000
266
340
266
140

22/rebar

19
22 | 340
22
120

Distance between re-bars

22
46
70
94
118
142
166
190
214
238
262
286
310
334
358
382
406
430
454
478
502
526
550

OPERATION #3 — CIMENTACION.

1 viaje - tierra Cano.

640

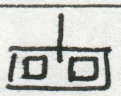
Col. found blocks. 189.

Wall found blocks

$\frac{11}{5.7}$ /meter. = 1.93/meter × 1.04 m/m² × 375m²

= 753 blocks.

Have 140 ⇒ need 613 in new production.

449 —  — manufactured as of morning of Sat Feb 28th

Rest will be 

613
449
164

$\frac{30'}{2'}$ = 15/rebar. prob 14.

need 164 pieces.

11.7 → 12 re-bars.

Cement order for operation 3.

$.002 m^3/m \times 375 m^2 \times 1.04 m/m^2$

$= .78 m^3$

$\frac{.78 m^3}{.032 m^3/bag} = 25 bags.$

375
.002
.750

1.04
.75
520
728
.780

.032 ⌐ .780

Rosuelta order for operation 3.

$.027 m^3/m \times 375 m^2 \times 1.04 m/m^2$

10.53 meters = 3 strings of $4M^2$

32 ⌐ ~~780~~

24.3
32 ⌐ 780
64
140
128
120

32
4
32 ⌐ 128
128
0

Red wall blocks needed for operation 3.

$2.43/m \times 375 m^2 \times 1.04 m/m^2$

$= 947.7$ blocks.

Figure out how many 1/2 blocks + how many full blocks.

375
.027
2625
750
10.125
1.04
40500
101250
10.5300

375
2.43
1125
1500
750
911.25
1.04
364500
364500
911250
947.7000

Sack = 1/2 ft³ 3/4

Red oxide used for floor

		EXCESS	Price of Excess
Cosio	3/4 sack .017 = 3/8 ft³ .0105	—	
Duran	.007m³ +	1/4 ft³ = .007m³	110.7 pesos
Reyes	.017m³ + 1/16 ft³ .002 = .019	.024m³ .005 m³	79 pesos
Rodriguez		.014 m³ .014 m³	221.4 pesos
Tapia		0	

1ft³ = .028 m³

ft³/m³ 35.7 ft³/m³

443.04 pesos/ft³

GLORIA'S NOTES

Duran = Duran + 1/2 sack
Rodriguez = Rodriguez + Macario
Tapia = Tapia.
Cosio = 3/4 sack.
Reyes = Cosio + 1/8 sack.

OPERATION #3

1st week. All cols erected + filled.

2nd week. Walls erected + filled to window level.

3rd week. Window decisions. Walls erected.

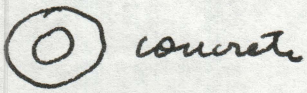
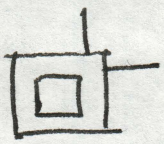
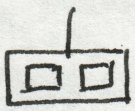
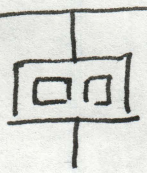
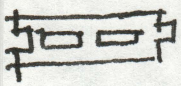
4th week. Walls finished + filled.

BLOCK MATERIALS ORDER.

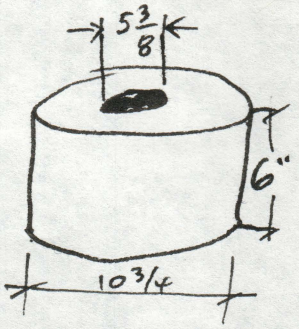
REBAR #5 20 pieces of 30' x $\frac{1}{2}$"

BLOCK INVENTORY FOR TRANSFER

1 March 76

		TOTAL.
 concrete		
 concrete		
		
		
		
		

Round ul block



FAMILIA _____

ARQUITECTO-CONSTRUCTOR

_____

_____

1. HERRAMIENTAS

Lista de herramientas recibidas

2 pallas

1 pico

1 flota de acero

1 hilo

1 nivel de hilo

1 nivel

1 martillo

1 cinta

Fecha _____

Firmas _____

_____

Herramientas communales recibidas

3 mangueras

2 carretillas

1 cincel para bloques

1 martillo de 3#

Fecha _____

Firmas _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

POTENTIAL SAVINGS.

1. Windows, ~~+ doors~~ → 22% save 10 pesos

2. ~~fill mix in slab.~~

3. Fill alternate wall cores with mud.

4. Slab thickness reduce to 3" save 5p.

5. Bottom wall course 6 pesos.

6. Doors. 34" → 28" 3 pesos.

7. 6 → 5 DOORS → 7 pesos

Get percentage of items assigned to yard which are not listed in our estimate – for example nails, staples, etc.