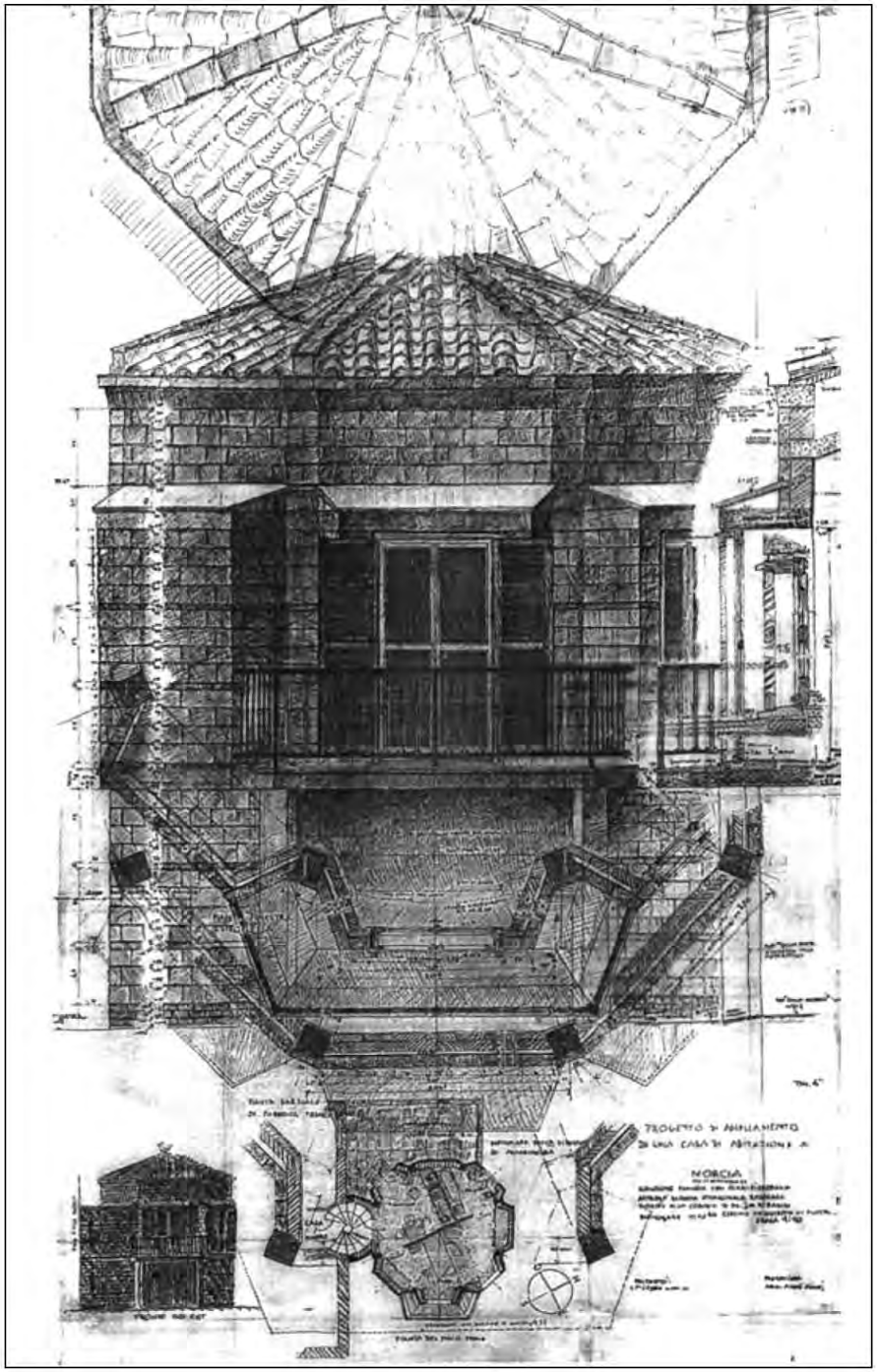
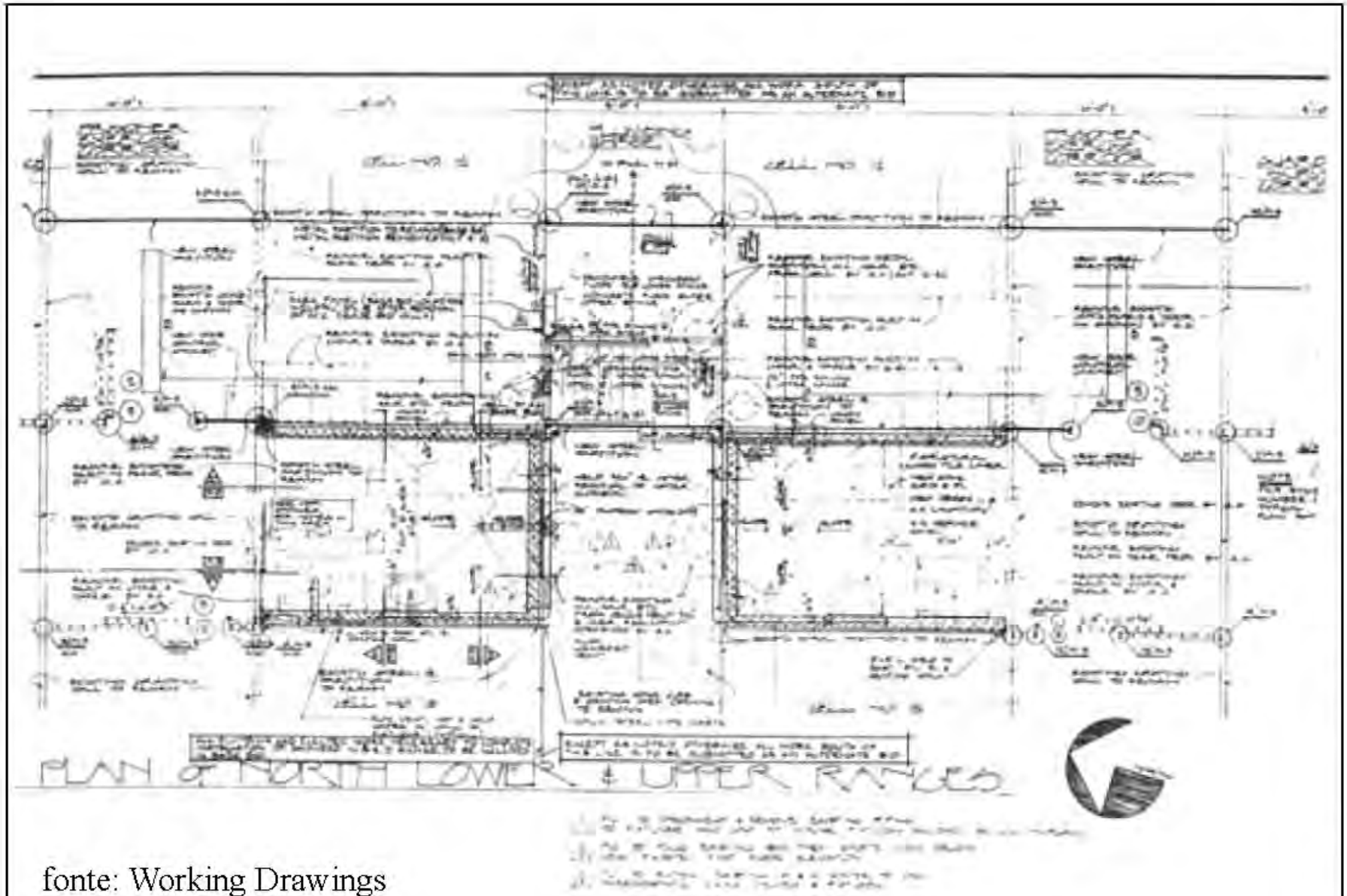
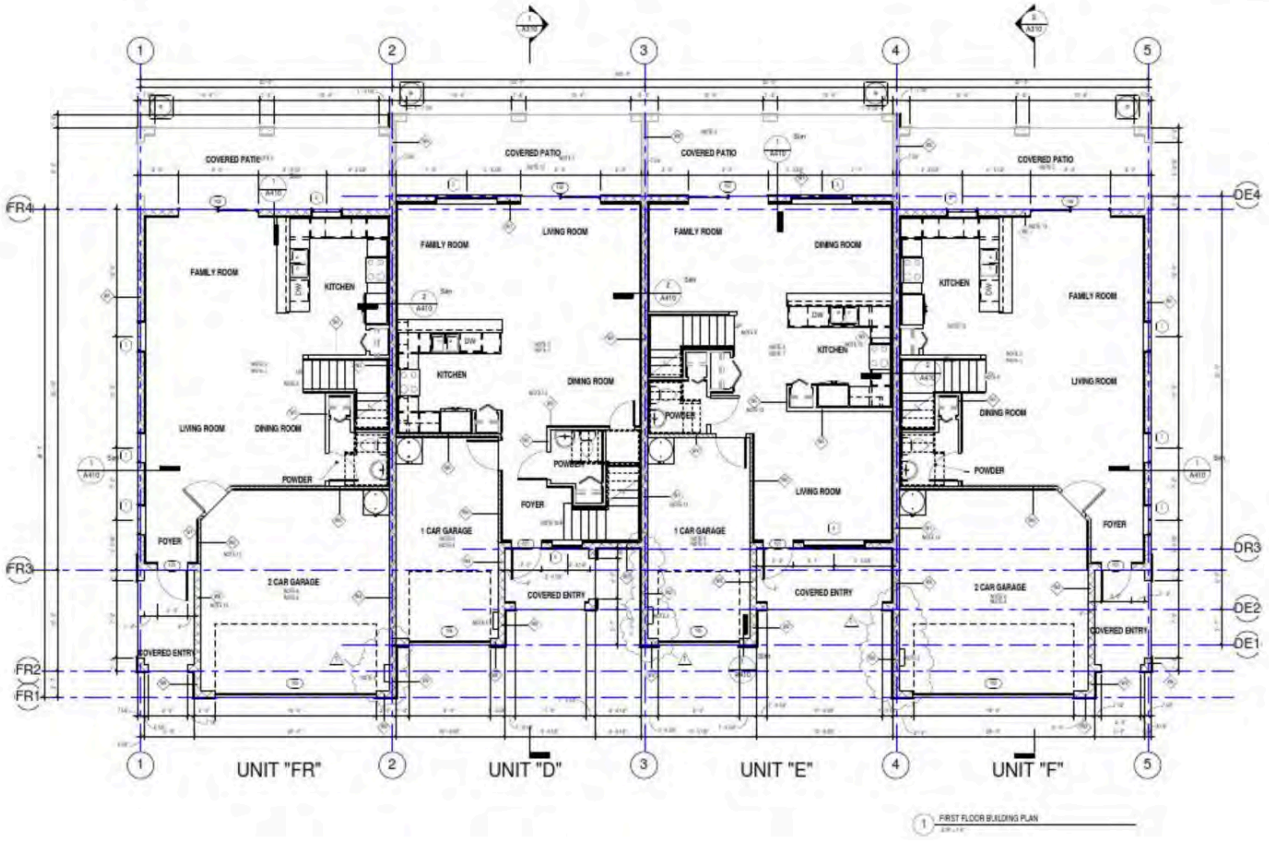


Mario Ridolfi, Casa Lina



fonte: Working Drawings

CONTEMPORARY PROFESIONAL DRAWINGS FOR BUILDING
– AN EXAMPLE –



1 FIRST FLOOR BUILDING PLAN

W1 2 HOUR RATED EXTERIOR C.M.U. WALL

W2 2 HOUR RATED EXTERIOR C.M.U. WALL

W3 2 HOUR RATED C.M.U. DEMISING WALL***

W4 2 HOUR RATED C.M.U. DEMISING WALL AT GARAGE

W5 TYPICAL INTERIOR WALL

W6 1 HOUR RATED NON LOAD BEARING WALL AT GARAGE U.L. NO. U457

W7 EXTERIOR WOOD FRAMED WALL

P1 WOOD FRAMED FURRING

NOTES:

Wall Type Legend

SITE PLAN NOTES

BUILDING SHELL PLAN NOTES

PRIME DESIGN ASSOCIATES
ARCHITECTURE · PLANNING · DESIGN
A A 26002234
4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8798
FAX: 954.392.8748

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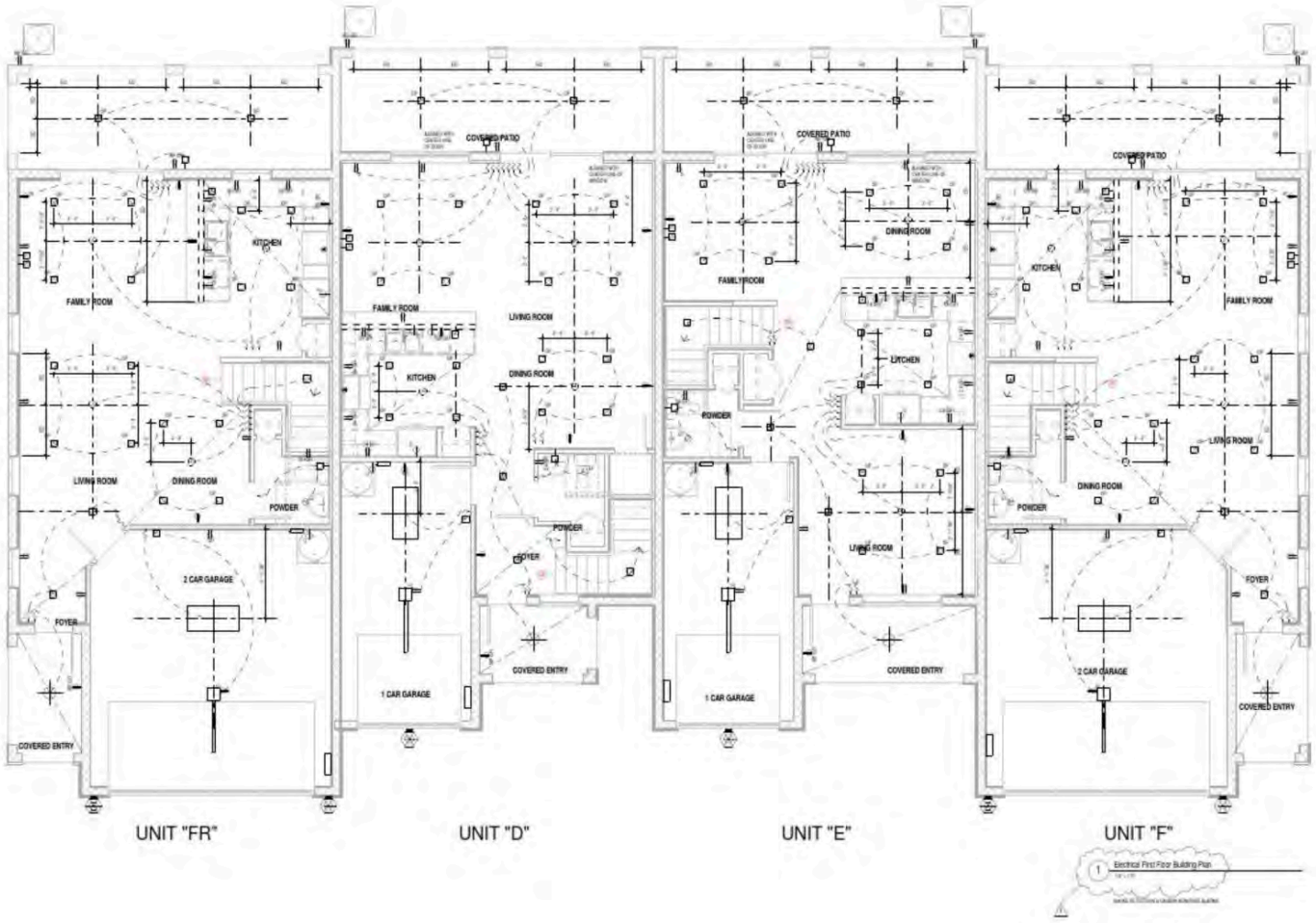
MAYER S. ABBO, ARCHITECT

Portofino Meadows
FOUR UNIT BUILDING

First Floor Building Plan

A101



1 Electrical First Floor Building Plan

ELECTRICAL NOTES

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION

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ASSOCIATES
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A A 26002234

4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8788
FAX: 954.392.8748

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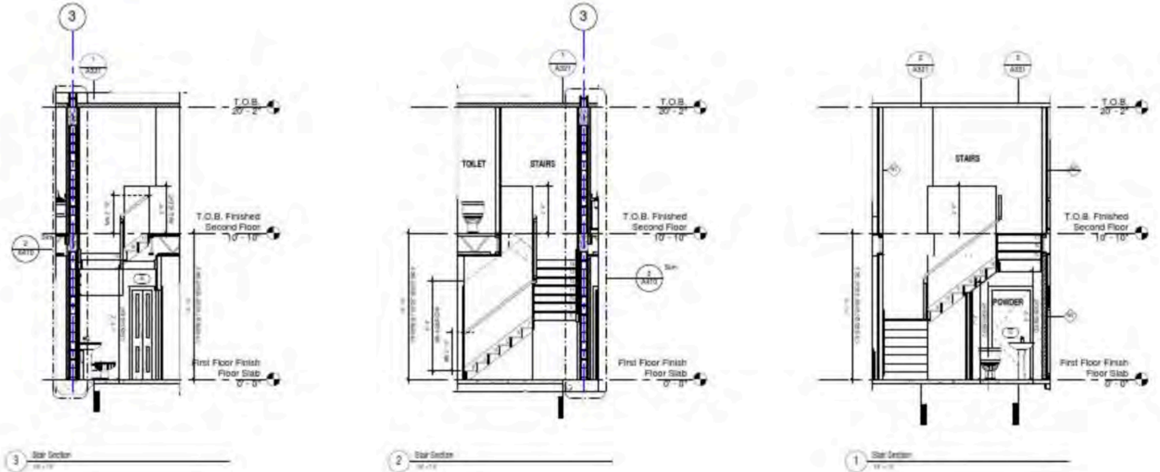
Portofino Meadows
FOUR UNIT BUILDING

No.	Revision Schedule	Date

First Floor Building Electrical Plan

E-1.1

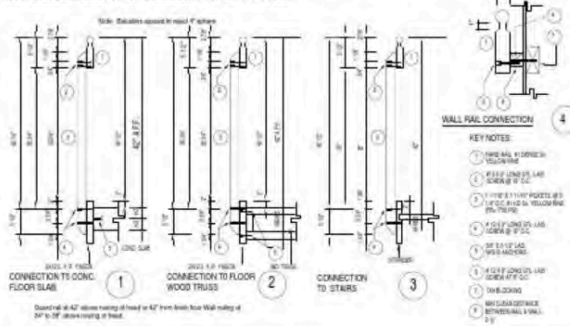


3 Stair Section

2 Stair Section

1 Stair Section

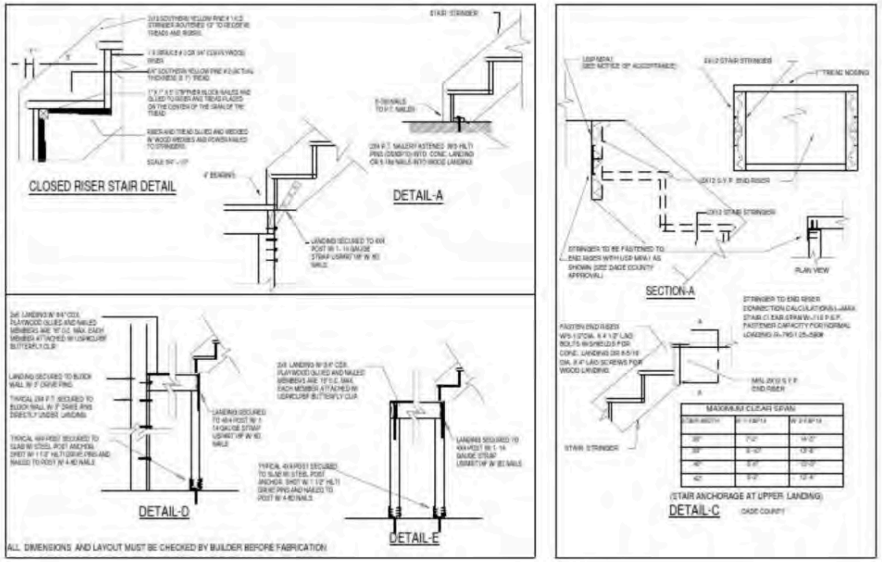
RAILINGS SHALL BE CAPABLE OF SAFELY SUBSTAINING A HORIZONTAL LOAD OF 50 PLF AND A NON-CONCURRENT HORIZONTAL LOAD OF 200 LBS AT ANY POINT PER PANEL



ALL DIMENSIONS AND LAYOUT MUST BE CHECKED BY BUILDER BEFORE FABRICATION

NOTE: STAIR MANUFACTURER TO PROVIDE FINAL SHOP DRAWINGS AND CALCULATIONS WHICH SUPERCEDE THESE DETAILS IN THE EVENT OF ANY DISCREPENCIES. ALL HANDRAILS SHALL COMPLY WITH FBC-RESIDENTIAL SECTION R311.7.7

5 RAILING TYPICAL DETAILS



MAXIMUM CLEAR SPAN		
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

(STAIR ANCHORAGE AT UPPER LANDING)

DETAIL-C DADE COUNTY

ALL DIMENSIONS AND LAYOUT MUST BE CHECKED BY BUILDER BEFORE FABRICATION

4 STAIR DETAILS

STAIR CONSTRUCTION NOTES

[illegible]

PRIME DESIGN
A S S O C I A T E S
ARCHITECTURE · PLANNING · DESIGN

A A 26002234

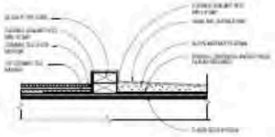
4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8788
FAX: 954.392.8748

SEAL
MAYER S. ABBO, ARCHITECT

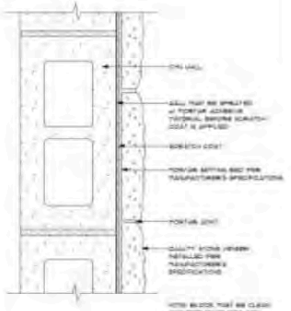
Portofino Meadows
FOUR UNIT BUILDING

Stair Sections and Details

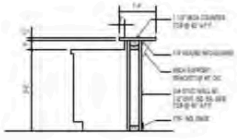
A321



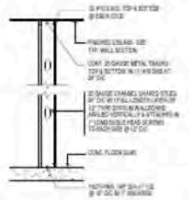
12 SHOWER PAN DETAIL



9 CMU WALL- STONE VENEER FINISH



5 TYP COUNTER SECTION

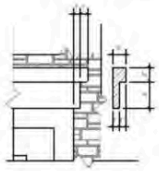


1 INTERIOR PARTITION

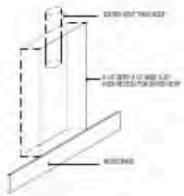
6 Base Molding Profile Detail

2 ATTIC ACCESS SECTION

10 Window Head Molding Profile Detail

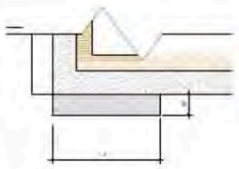


7 Molding Profile Detail

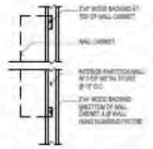


3 DRYER VENT RECESS

11 Cornice Molding Profile Detail



8 Window Trim Molding Profile Detail



4 WOOD BACKING DETAIL

PRIME DESIGN
ASSOCIATES
ARCHITECTURE · PLANNING · DESIGN

A A 26002234

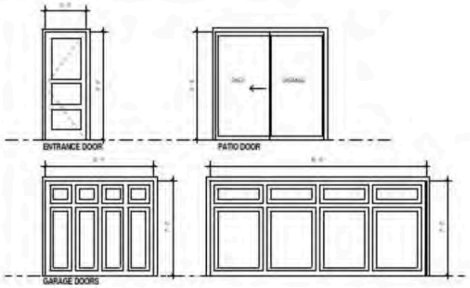
4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8788
FAX: 954.392.8748

SEAL
MAYER S. ABBO, ARCHITECT

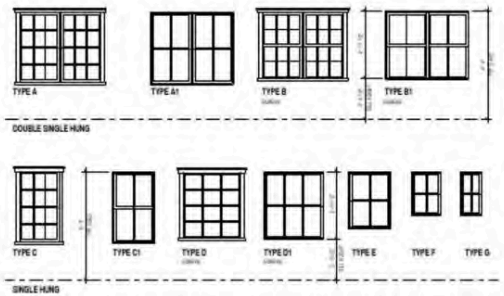
Portofino Meadows
FOUR UNIT BUILDING

Architecture Details

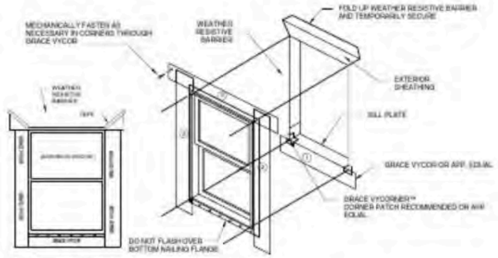
A420



EXTERIOR DOOR LEGEND



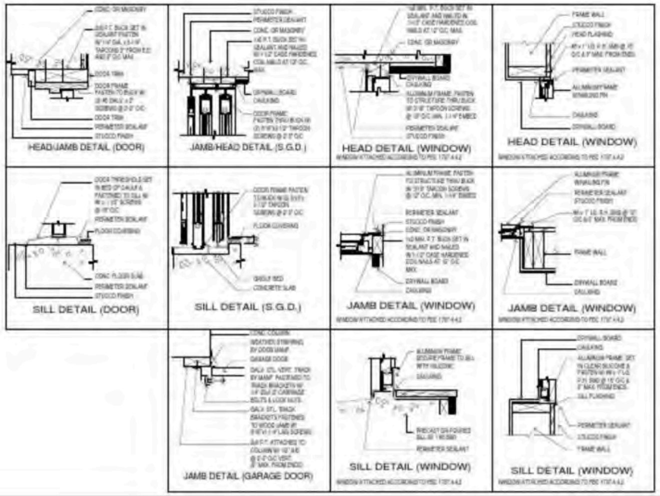
WINDOW LEGEND



WINDOW FLASHING DETAIL
N.T.S.

Exterior Door Schedule												
		Door			Dimensions			Frame				
#	Operation	Style	Material	Finish	Width	Height	Thickness	Material	Finish	Fire Rating	Comments	Design Pressure
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]	SLIDING DOOR	PATIO DOOR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	OVERHEAD	GARAGE DOOR	[illegible]	PAINTED	[illegible]	[illegible]		N/A				
[illegible]	OVERHEAD	GARAGE DOOR	[illegible]	PAINTED	[illegible]	[illegible]		N/A				

Window Schedule										
Mark	Window Type Mark	Window Type	Model	Window Size		Egress	Material	Finish	Comments	Design Pressure
				Width	Height					
[illegible]	[illegible]	Single Hung	[illegible]	[illegible]	[illegible]	No	[illegible]	[illegible]		
[illegible]	[illegible]	Single Hung	[illegible]	[illegible]	[illegible]	No	[illegible]	[illegible]		
[illegible]	[illegible]	Double Single Hung	[illegible]	[illegible]	[illegible]	No	[illegible]	[illegible]		
[illegible]	[illegible]	Double Single Hung	[illegible]	[illegible]	[illegible]	No	[illegible]	[illegible]		
[illegible]	[illegible]	Double Single Hung	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]		
[illegible]	[illegible]	Single Hung	[illegible]	[illegible]	[illegible]	No	[illegible]	[illegible]		
[illegible]	[illegible]	Single Hung	[illegible]	[illegible]	[illegible]	No	[illegible]	[illegible]		
[illegible]	[illegible]	Single Hung	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]		
[illegible]	[illegible]	Single Hung	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]		
[illegible]	[illegible]	Double Single Hung	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]		
[illegible]	[illegible]	Single Hung	[illegible]	[illegible]	[illegible]	No	[illegible]	[illegible]		
[illegible]		[illegible]		[illegible]	[illegible]	No	[illegible]			



EMERGENCY ESCAPE & RESCUE OPENING NOTES

OPENING NOTES

PRIME DESIGN
ASSOCIATES
ARCHITECTURE / PLANNING / DESIGN

A A 26002234

4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8788
FAX: 954.392.8748

SEAL
MAYER S. ABBO, ARCHITECT

Portofino Meadows
FOUR UNIT BUILDING

Door & Window Schedules

A500

Unit "FH" Door Schedule												
		Door			Dimensions			Frame				
Type Mark	Operation	Style	Material	Finish	Width	Height	Thickness	Material	Finish	Fire Rating	Comments	Design Pressure
[illegible]	Sgl. Swing	HC Panel			[illegible]	[illegible]	2"					
[illegible]	Sgl. Swing	SC Flush			[illegible]	[illegible]	2"			[illegible]		
[illegible]	Sgl. Bifold	HC Panel			[illegible]	[illegible]	1 1/2"					
[illegible]	Sgl. Bifold	HC Panel			[illegible]	[illegible]	1 1/2"					
[illegible]	Dbl. Bifold	HC Panel			[illegible]	[illegible]	1 1/2"					
[illegible]	Dbl. Bifold	HC Panel			[illegible]	[illegible]	1 1/2"					
[illegible]	Sgl. Swing	HC Panel			[illegible]	[illegible]	2"					
[illegible]	DBL. SWING	ENTRANCE DOOR	WOOD	PAINTED	[illegible]	[illegible]	2"	METAL	PAINTED		[illegible]	
[illegible]	SLIDING DOOR	[illegible]	ALUM./GLASS	ESP	[illegible]	[illegible]	2"	ALUMINUM	ESP			
[illegible]	OVERHEAD	GARAGE DOOR	METAL	PAINTED	[illegible]	[illegible]		N/A				

FLOOR PLAN KEY NOTES

NOT ALL NOTES MAY APPLY

NOTE 1:

NOTE 2:

NOTE 3:

NOTE 4:

NOTE 5:

NOTE 6:

NOTE 7:

NOTE 8:

NOTE 9:

NOTE 10:

NOTE 11:

NOTE 12:

NOTE 13:

NOTE 14:

PRIME DESIGN
ASSOCIATES
ARCHITECTURE · PLANNING · DESIGN

AA 26002234

4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8788
FAX: 954.392.8748

SEAL

MAYER S. ABBO, ARCHITECT

Portofino Meadows

ABBREVIATIONS

[illegible]

SYMBOLS

Room name
101
100 SF

[illegible]

ZONING & CODE INFORMATION

APPLICABLE CODES:

BUILDING CODE:	2010 FLORIDA BUILDING CODE (FBC 2010) R101.2 Scope. The provisions of the Florida Building Code, Residential shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures.
FIRE/LIFE SAFETY CODE:	FLORIDA FIRE PREVENTION CODE, LATEST EDITION; NFPA-101, LATEST EDITION
ACCESSIBILITY CODE:	FLORIDA ACCESSIBILITY CODE (AS APPLICABLE), LATEST EDITION
MECHANICAL CODE:	FLORIDA BUILDING CODE, LATEST EDITION
PLUMBING CODE:	FLORIDA BUILDING CODE, LATEST EDITION

AND ALL OTHER RULES, REGULATIONS, AND CODES HAVING JURISDICTION

BUILDING DESCRIPTION:

TOWN HOME BUILDING: FOUR (4) UNIT, TWO (2) STORY TOWN HOME BUILDING, FEE SIMPLE OWNERSHIP.

OCCUPANCY CLASSIFICATION:

R-3 TO COMPLY WITH FBC 101.2

TYPE OF CONSTRUCTION:

TYPE V B PER FBC 602.5 / UNPROTECTED (PER FBC 903.2.11.3.1 & NFPA1 11.2.2.2(1))

BUILDING CRITERIA:

ALLOWABLE HEIGHT AND BUILDING AREAS PER FBC TABLE 503:

ALLOWABLE BUILDING HEIGHT:	40'-0"
ACTUAL BUILDING HEIGHT (ROOF RIDGE):	30'-2" (HIGHEST ROOF RIDGE)
MEAN ROOF HEIGHT	APP. 25'-0"
MAXIMUM NUMBER OF STORIES:	2
ACTUAL NUMBER OF STORIES:	2
ALLOWABLE FLOOR AREA PER STORY:	7,000 S.F.

SPRINKLERED:	NO
FIRE DISTRICT:	NO
MEZZANINE:	NO
HIGH RISE:	NO

MINIMUM FIRE RESISTANCE RATINGS PER FBC CHAPTERS 6 - 7 TABLES 601, 602, 705.8, 706.4, SECTION 706.4.1 (TOWNHOUSE FIRE SEPARATION):

Type V construction is that type of construction in which the structural elements, exterior walls and interior walls are of any materials permitted by FBC.

STRUCTURAL ELEMENT	FIRE RESISTANCE	DESIGN NO.
WALLS:		
EXTERIOR WALLS		
LOAD BEARING WALLS	1	
TOWN HOME SEPARATION	2 HOUR	[illegible]
NON LOAD BEARING WALLS	0	
INTERIOR WALLS		
LOAD BEARING WALLS	0	
NON LOAD BEARING WALLS	0	
FLOOR CONSTRUCTION	0	
ROOF & ROOF CEILING	0	
STRUCTURAL FRAME	0	
COLUMNS (SUPPORTING ROOFS ONLY)	0	

MAXIMUM AREA OF EXTERIOR WALL OPENINGS (PROTECTED):

FIRE SEPARATION DISTANCE BETWEEN BUILDINGS PER FBC TABLE 705.8 (UNPROTECTED, NONSPRINKLERED):

10'-0" TO 15'-0" / 15%
15'-0" TO 20'-0" / 25%
20'-0" TO 25'-0" AND ABOVE / 45%
25'-0" TO 30'-0" / 70%
30'-0" OR GREATER / NO LIMIT

BUILDING FRONT AND BACK HAS 30'-0" OR GREATER SEPARATION AND BUILDING SIDES HAVE 20'-0" TO 25'-0" (OR GREATER) SPERATION.

BUILDING MATERIALS:
ALL EXTERIOR CLADDING MATERIALS INCLUDING WINDOWS AND DOORS ARE REQUIRED TO BE APPROVED. APPROVAL FORMS MUST BE SUBMITTED WITH THE PERMIT APPLICATIONS.

SUBMITTALS:

THE FOLLOWING ITEMS ARE DESIGN BUILD AND SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER FOR APPROVAL AND THEN SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO THE COMENCEMENT OF WORK.

1. ROOF TRUSSES WITH FLORIDA ENGINEER'S SEAL

THE FOLLOWING ITEMS REQUIRE VALID AND CURRENT PRODUCT APPROVALS AND SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER FOR APPROVAL AND THEN SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.

1. ALL ROOFING COMPONENTS, ROOFING SYSTEMS & ROOFING ASSEMBLIES
2. EXTERIOR WINDOWS, DOORS AND STOREFRONTS.
3. EXTERIOR DOORS

MEANS OF EGRESS:

PER FBC SECTION R311 (MEANS OF EGRESS) AND FBC310 (EMERGENCY ESCAPE AND RESCUE OPENINGS)

	REQUIRED	PROVIDED
NUMBER OF EXITS:	1 EXIT (PRIMARY)	1 PRIMARY EXIT 1 SECONDARY EXIT
TRAVEL DISTANCE TO EXIT MAXIMUM ALLOWED:	NR	
DEAD END CORRIDOR:	NR	
CORRIDOR WIDTH:	36"	3'-6" - 5'-0"
STAIR WIDTH:	36"	3'-2"
EGRESS DOORS:	32" WIDE OPNG. MIN.	32"

Area Calculations (Units)

Number	Name	Area	Area Type
UNIT D	First Floor AC	758 SF	Building Common Area
UNIT D	Second Floor AC	917 SF	Building Common Area
Building Common Area		1676 SF	
UNIT D	Optional Covered Patio	200 SF	Exterior Area
UNIT D	Covered Entry	54 SF	Exterior Area
UNIT D	1 Car Garage	223 SF	Exterior Area
Exterior Area		477 SF	
UNIT D		2153 SF	
UNIT E	First Floor AC	758 SF	Building Common Area
UNIT E	Second Floor AC	918 SF	Building Common Area
Building Common Area		1676 SF	
UNIT E	Optional Covered Patio	200 SF	Exterior Area
UNIT E	Covered Entry	83 SF	Exterior Area
UNIT E	1 Car Garage	223 SF	Exterior Area
Exterior Area		506 SF	
UNIT E		2183 SF	
UNIT F	First Floor AC	758 SF	Building Common Area
UNIT F	Second Floor AC	1145 SF	Building Common Area
Building Common Area		1903 SF	
UNIT F	2 Car Garage	395 SF	Exterior Area
UNIT F	Optional Covered Patio	203 SF	Exterior Area
UNIT F	Covered Entry	57 SF	Exterior Area
Exterior Area		655 SF	
UNIT F		2558 SF	
UNIT FR	First Floor AC	758 SF	Building Common Area
UNIT FR	Second Floor AC	1145 SF	Building Common Area
Building Common Area		1903 SF	
UNIT FR	Optional Covered Patio	203 SF	Exterior Area
UNIT FR	2 Car Garage	395 SF	Exterior Area
UNIT FR	Covered Entry	57 SF	Exterior Area
Exterior Area		655 SF	
UNIT FR		2558 SF	
Grand total		9452 SF	

Area Calculations (Building Per Story)

Number	Name	Area	Area Type
UNIT D	First Floor AC	758 SF	Building Common Area
UNIT D	Optional Covered Patio	200 SF	Exterior Area
UNIT D	Covered Entry	54 SF	Exterior Area
UNIT D	1 Car Garage	223 SF	Exterior Area
UNIT E	First Floor AC	758 SF	Building Common Area
UNIT E	Optional Covered Patio	200 SF	Exterior Area
UNIT E	Covered Entry	83 SF	Exterior Area
UNIT E	1 Car Garage	223 SF	Exterior Area
UNIT F	First Floor AC	758 SF	Building Common Area
UNIT F	2 Car Garage	395 SF	Exterior Area
UNIT F	Optional Covered Patio	203 SF	Exterior Area
UNIT F	Covered Entry	57 SF	Exterior Area
UNIT FR	First Floor AC	758 SF	Building Common Area
UNIT FR	Optional Covered Patio	203 SF	Exterior Area
UNIT FR	2 Car Garage	395 SF	Exterior Area
UNIT FR	Covered Entry	57 SF	Exterior Area
First Floor Finish Floor Slab: 16		5327 SF	
UNIT D	Second Floor AC	917 SF	Building Common Area
UNIT E	Second Floor AC	918 SF	Building Common Area
UNIT F	Second Floor AC	1145 SF	Building Common Area
UNIT FR	Second Floor AC	1145 SF	Building Common Area
T.O.B. Finished Second Floor: 4		4124 SF	
Grand total		9452 SF	

DRAWING LIST :

Sheet Number	Sheet Name	Revision No.	Current Revision Date
[illegible]	[illegible]		[illegible]

PROJECT TEAM

OWNER:

PRIME HOMES AT PORTOFINO MEADOWS LLC
4651 SHERIDAN STREET, SUITE 480
HOLLYWOOD FLORIDA, 33021
TEL: 954.392.8788 FAX: 954.241.7479

GENERAL CONTRACTOR:

PRIME HOMEBUILDERS
4651 SHERIDAN STREET, SUITE 480
HOLLYWOOD FLORIDA, 33021
TEL: 954.392.8788 FAX: 954.241.7479
EDWARD ABBO. [illegible]

ARCHITECT:

PRIME DESIGN ASSOCIATES, LLC
4651 SHERIDAN ST., SUITE 480
HOLLYWOOD FL 33021
TEL: 954.392.8788 EXT. 209
FAX: 954.392.8748
EMAIL: [illegible]

STRUCTURAL ENGINEER:

ASE Engineering Services, Inc.
Mason Xie, P.E., Ph.D
13244 E Colonial Drive Suite 202
Orlando, Florida 32817
Tel: 407-677-5565
Fax: 407-730-2399
Email: [illegible]
Website: www.asecorp.com

CIVIL ENGINEER:

MSCW INC.
4750 NEW BROAD STREET
ORLANDO FL 32814
TEL: 407-422-3330
[illegible]

PRIME DESIGN
ASSOCIATES
ARCHITECTURE · PLANNING · DESIGN

A A 26002234

4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8788
FAX: 954.392.8748

SEAL
MAYER S. ABBO, ARCHITECT

Portofino Meadows
FOUR UNIT BUILDING

[illegible]

Cover Sheet

[illegible]

A001

01 00 00 GENERAL REQUIREMENTS

1. Builder shall coordinate all the work of all trades.

2. Builder shall review drawings in their entirety before starting work. The builder shall accept full responsibility for any errors or omissions not reported immediately in written to the Architect. Back charges will not be accepted.

3. **Do not scale drawings.** Contractor shall rely on written dimensions as given. The contractor shall notify the Architect for clarification if needed. All Dimensions shall be filed verify by contractor with all and coordinated with all of the work of all trades. If any discrepancies are found, the contractor shall notify the Architect, in written, for clarification before the commencement or resumption of work.

4. Abbreviations throughout the plans are those in common use. Notify the Architect of any abbreviation in question.

5. The specifications and all consultants drawings are supplemental to the architectural drawings. It shall be the contractor's responsibility to coordinate with the architectural drawings before the installation of any of the consultants work, and to bring any discrepancies or conflicts to the Architect's attention in written for clarification. Improperly installed work shall be corrected by the contractor at his expense and at no cost to the Architect, the Architect's consultants or the owner.

6. Submit minimum three (3) copies of shop drawings as required below. Shop drawings shall be submitted for all equipment and materials which must be interfaced and coordinated with other trades, whether detailed or not.

7. These plans, as drawn and noted, comply with the Building Envelope Energy requirements of the Florida Model Energy Code. The contractor shall familiarize himself with the governing code in its entirety and build in accordance with all provisions of this code which may not be specifically addressed on the plans and notes.

8. The contractor is responsible for adequate Bracing of structural or non- structural members during construction.

9. The contractor shall in the work of all trades, perform any and all cutting and patching necessary to complete the work and shall protect the existing building from damage caused by the work. The contractor shall repair and restore the existing construction to its original condition to the satisfaction of the owner and the Architect.

10. The contractor shall not disrupt existing services, operations, or utilities without obtaining owner's prior approval and instructions in each case.

11. Coordinate demolition and construction to remain, as as to provide the best possible joint or underlying surface for the new work.

12. The contractor shall visit the job site and shall verify all new and existing conditions, heights and dimensions at the job site for comparison with drawings and specifications prior to start and continuously during construction. The contractor is solely responsible for the verification of all elevations, conditions, and dimensions. If any discrepancies, inconsistencies, or omissions are found, the Architect shall be notified in written for clarification.

13. The general contractor shall coordinate and verify with all sub-contractors the size and location of all piping, ductwork trenches, sleeves, special bolting for equipment conduits, etc.

14. The general contractor shall be responsibility for all means and methods for demolition. The contractor shall inform the Architect of any conditions that would affects the structural integrity of the building prior to proceeding with demolition.

15. Job site measurements are the full responsibility of the contractor and sub-contractor, and must be taken for all items by all sub-contractors prior to fabrication.

16. General contractor is responsible for installing solid blocking behind all shelving, cabinets, etc. or equipment requiring backing.

17. The Architect shall not have control or charge of, and shall not be responsible for construction means, techniques, sequences or procedures, or safety precautions and programs in connection with the work, all of which shall be the sole responsibility of the general contractor.

18. The general contractor shall keep the premises and surrounding area free of accumulation of waste material or rubbish caused by operations under the contract. At completion of work, the contractor shall remove from and about the project waste materials, rubbish, the contractor's tools, construction equipment, machinery and surplus materials. The general contractor shall clean and polish all glass, wax tile floors, vacuum carpets, and leave other spaces broom clean. 1

19. Termite protection shall be provided by registered termicides, including soil applied pesticides, baiting systems, and pesticides applied to wood, or other approved methods of termite protection labeled for use as a preventative treatment to new construction. Upon completion of the application of the termite protective treatment, a Certificate of Compliance shall be issued to the building department by the licensed pest control company that contains the following statement: "The building has received a complete treatment for the prevention of subterranean termites. Treatment is in accordance with rules and laws established by the Florida Department of Agriculture and Consumer Services."

20. In order to provide for inspection for termite infestation, clearance between exterior wall coverings and final earth grade on the exterior of a building shall not be less than 6 inches.

01 30 00 ADMINISTRATIVE REQUIREMENTS

01 31 00 Project Management and Coordination

1. REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
2. Date.
3. Name of Contractor.
4. Name of Architect and Construction Manager.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

C. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven (7) working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Architect's actions on submittals.
f. Incomplete RFIs or RFIs with numerous errors.

01 33 00 Submittal Procedures

1. SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Submittals Schedule: Comply with requirements in Division 01 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

C. Processing Time: Allow enough time for submittal review, including time for resubmit, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmitted submittals.
1. Initial Review: Allow fourteen (14) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow fourteen (14) days for review of each resubmittal.

D. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block. Along with the following information:
a. Project name.
b. Date.
c. Name and address of supplier.
d. Name of manufacturer.
e. Submittal number or other unique identifier, including revision identifier.
f. Drawing number and detail references, as appropriate.
g. Location(s) where product is to be installed, as appropriate.

E. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

F. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

2. CONTRACTOR'S USE OF ARCHITECT'S CAD FILES

A. General: At Contractor's written request, copies of Architect's CAD files will be provided to Contractor for Contractor's use in connection with Project, subject to the following conditions:
1. All requests for use of cad files must be presented to the architect through the general contractor. Requests from sub-contractors, manufacturers, suppliers, etc. will not be accepted.
2. Cad files will not be issued to any party for the purpose of bidding and will only be issued to parties under contract for this project.

3. EXECUTION

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

C. Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an review or action stamp and will mark stamp appropriately to indicate action taken.

D. Architect's review of submittal does not exempt the Contractor from complying with the requirements of the Contract Documents, the Florida Building Code, and all codes rules and regulations having jurisdiction.

E. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.

F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

01 40 00 QUALITY REQUIREMENTS

01 43 00 Quality Assurance

1. CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

01 71 00 Examination and Preparation

1. EXECUTION

01 73 29 Cutting and Patching

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

C. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

2. MATERIALS

A. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

3. EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

4. PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

01 74 19 Construction Waste Management and Disposal

1. DISPOSAL OF WASTE

A. Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
1. Except as otherwise specified, do not allow waste materials that are to be disposed to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

03 00 00 CONCRETE

1. See structural drawings for concrete notes and specifications.
2. Structural members of plain and reinforced concrete, including prestressed concrete, shall be constructed in accordance with the provisions of the F.B.C. Chapter 19 and ACI 318. Structural concrete slabs cast on stay in place, no composite steel form deck shall comply with F.B.C. Chapter 19 and ACI 318. The design of composite concrete on stay-in-place forms shall comply with ANSI/ASCE 3.

04 00 00 MASONRY

1. GENERAL

A. Structural design shall be in accordance with chapters 1 and 3 of A.C.I. 530-2/ A.S.C.E. 5-92/T.M.S. 402-92, via building code requirements for engineered brick masonry and the commentary on building code requirements for masonry structures.

B. Construction shall be in accordance with A.C.I. 530.1-92/A.S.C.E. 6-92/T.M.S. 602- 92, specifications for masonry structures and the commentary on specifications for masonry structures.

C. Concrete masonry units shall conform to one of the following standards: ASTM C55, ASTM C73, ASTM C90 AND ASTM C744.

D. Masonry directly above chases or recesses wider that 12" shall be supported on lintels. The design for lintels shall be in accordance with FBC 2104.1 A minimum end bearing shall be 4" (f'm = 1500 PSI)

E. Masonry shall not be supported on wood girders or other form of wood construction, exceptions as provided for in FBC 2104.1.6.

F. Secondhand masonry units shall not be reused unless the units conform to the requirements for new units. The units shall be whole sound material and be free from cracks and other defects that would interfere with the proper laying or use. All old mortar shall be cleaned from the units before reuse.

2. MORTAR

A. Mortar for use in masonry construction shall comply with ASTM C270 and shall be type M.

B. Grout for use in masonry construction shall comply with ASTM C476.

C. Vertical cells for masonry to be grouted, shall have vertical alignment sufficient to maintain a clear, unobstructed continuous cell.

D. Portland cement mortars for installing ceramic wall and floor tile shall comply with ANSI A108.1 and FBC 2103.8.

3. CONCRETE FILL

A. Cells, lintels, and bond beams indicated to be filled shall be filled w/ 3000 PSI PEA gravel concrete.

B. The mix design shall be approved by the engineer.

C. All concrete shall be of fluid consistency, which means that the consistency shall be as fluid as possible for pouring without segregation of the constituent parts.

D. The use of admixtures shall not be permitted without written consent of the Engineer.

4. VERTICAL REINFORCING:

A. ASTM A615 92b per reinforcing section (GRADE 60).

B. When a foundation dowel does not line up with a vertical core, it shall not be sloped more that one horizontal in six vertical alignment, even though it is in an adjacent cell to the vertical wall reinforcing.

C. Vertical reinforcing steel shall have a minimum clearance of one-half inch from the masonry.

D. Vertical reinforcing shall be as located on the plans and as indicated in the column schedule.

E. Vertical reinforcing each side of any opening, if required, shall be continuous to the tie beam. Precast lintels shall have openings to allow reinforcing bars to continue uninterrupted.

5. HORIZONTAL REINFORCING:

A. Horizontal reinforcing shall be provided as shown in the Beam Schedule.

B. Cleanouts openings shall be provided at the bottom of grouted cells at each lift over 4'-0" high. Cleanouts shall be sealed after cleaning and inspection, and before grouting.

C. Joint reinforcement, anchors, wall ties and accessories, except those of stainless steel (ASTM A167, Type 304) Shall be protected from corrosion by galvanizing as follows, metal accessories for use in exterior wall construction shall be hot dipped galvanized after fabrication with minimum coating of 1.50 ounces per Sq. Ft. in accordance with ASTM a 153. Metal accessories for use in interior wall construction shall be mill galvanized with a minimum coating of 0.1 ounce per Sq. Ft. in accordance with ASTM a 641 or ASTM A525, CLASS G-60.

05 00 00 METALS

1. Structural steel shall conform to the AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" 1989 edition. Materials shall conform to the applicable ASTM specifications: shapes, plates , plates A-36 shapes, plates A-36 bolts - A 307 92b tubular - A500-90a Grade B (42 KSI)
2. Welded Construction shall conform to the AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE". Electrodes for field and shop welds shall be A.W.S. A5.1 E70XX.
3. Contractor is responsible for verifying the dissimilar metals are always protected from each other to prevent galvanic action.
4. Contractor is responsible for verifying with the bearing schedules that the correct metal GA is used.

06 00 00 WOOD, PLASTICS, AND COMPOSITES

1. ROUGH CARPENTRY:

A. The truss layout shown on these drawings is schematic in nature. However the supporting superstructure has been design under the assumption that the framing scheme shown, will closely parallel final truss designers layout.

B. This framing scheme (direction of trusses, also G.T. bearing points, etc.) can be modified only after obtaining permission from the prime professional of record who must review proposed changes and authorize structural revisions accordingly.

C. Final signed and sealed engineered truss design must be submitted to this office to review. Truss designers must provide all truss connections as part of the design.

D. Truss manufacturer shall submit three (3) copies of shop drawings and engineering calculations signed and sealed by a Florida registered engineer, of their roof truss design for approval including two (2) copies for the architects review prior to fabrication.

E. Trusses to be designed to carry loads of attic AHU and misc. equipment Coordinate locations and equipment loads with builder prior to fabrication and indicate on trusses drawings.

F. Architect/Engineer accepts no responsibility for structural beams, columns, and footing until review of approved shop truss drawings, signed and sealed by Florida registered Engineer.

G. All interior load bearing partitions to be constructed with clips, top and bottom at each studs, as specified by engineering plans and as per Florida Building Code.

H. Structural wood and timber framing shall conform to the "TIMBER CONSTRUCTION MANUAL" as published by the American Institute of Timber Construction.

I. All wood in contact with masonry or concrete shall be pressure treated or have an approved moisture vapor barrier between the concrete or other cementitious materials and the wood as per code.

J. Builder shall be responsible for providing adequate bracing and bridging used during erection of trusses to prevent collapse or damage.

K. Headers for framed openings greater than 6'-0" must be engineered and stamped by the truss manufacturer (unless noted otherwise).

L. All headers over doors and windows to be (2) or (3) 2X12'S unless otherwise noted. (For wood frame construction depending on all wall thickness).

M. Dimensional lumber shall be southern pine No 2 or better or shall provide allowable stress values of 1200 PSI in bending for a single member uses 90 PSI in horizontal shear and shall have a modules elasticity of 1800 KSI or better, as determinate by and approved lumber grading agency.

N. Non-bearing interior partitions may be constructed of 25 GA CEE Channel type at 24" O/C with matching tracks top and bottom with 1/2" gypsum drywall each side. Attach drywall with 1" long bugle head drywall screws at 12" O/C max.

O. Metal lath over sheathing shall be 3/8" V-groove or dimpled. Ceilings and soffits shall be high rib type. Fasten to substrate at 6" O/C as follows:
1. Concrete: 1/2" Stub nails
2. Wood framing roofing: Roofing nails 4d 11/2" long, 1/4" head.
3. Sheathing: 14 Gauge Staples 1" LEG, 7/16" Crown
4. Metal Framing: Self taping screws #12 x 1/2" washer head shall not be used for soffits or ceilings

P. Pneumatic fasteners system to be HILTI-COIL nail program type to be CRF 112G 1-1/2" long and 120" diameter U.N.O. or equal to fastener.

Q. When wood posts are not in a fire rated wall, fire rated post as follows: Wrap post on all sides from base of post to underside of bearing with one (1) layer of 5/8" type "X" gypsum wall board. This will provide a one hour rating for the post.

R. Provide 1x2 P.T. fire stop horizontal at ceiling and wall intersections or 8'-0" O/C vertical max. and all other locations.

S. All wood to concrete connections shall be separated by a moisture barrier or incorporate pressure treated wood.

2. FINISH CARPENTRY:

1. Cabinet supplier to provide shop drawings to the Architect and the general contractor prior to fabrication.

07 00 00 THERMAL AND MOISTURE PROTECTION

The following specifications shall govern with modifications as specified herein: AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE) HANDBOOK OF FUNDAMENTALS.

1. Install flashing and sheet metal in compliance with "ARCHITECTURAL SHEET METAL MANUAL" by SMACNA.
2. Back paint flashing with bituminous paint, where expected to be in contact with cementitious materia or dissimilar metal.
3. Provide and install flashing at all roof to wall connections, projections of wood beams through exterior walls, exterior openings, and elsewhere required to provide watertight weatherproof performance.
4. Roof valley flashing shall be galvanized metal or approved equal and shall extend at least 11" from the center line each way and shall have the flow line formed as part of the flashing. Sections of flashing shall have an end lap of not less than 4". When a metal roof system is specified, valley flashing shall be of the same metal.
5. Provide and install insulation with an insulation-only R value in roof ceiling as shown on drawings and/or energy calcs.
6. Provide insulation against all exterior walls as shown on plans.
7. Provide sealant and caulking meeting applicable specifications where shown on the drawings and elsewhere as required to provide a positive barrier against moisture and passage of air.
8. Flashing shall be provided as necessary to prevent the entrance of water at openings in or projections throughout veneered walls. Flashing shall be provided at intersections of veneered walls of different materials unless such materials provide a self-flashing joint, and at other points subject to entrance of water. Caulking shall be provided where such flashing is determined by the building officials to be impractical. (FBC 1503.2)
9. Flashing shall be installed in such a manner as to prevent moisture entering the wall through the joints in the coping, through moisture permeable material, at intersections with the roof plane or at parapet wall penetrations. (FBC 1503.2)
10. Flashing shall be installed at:
    1. Wall and roof intersection.
    2. At gutters.
    3. Wherever there is a change in roof slope or direction.
    4. Around roof openings.
11. Where flashing is of metal, the metal shall be corrosion- resistant with a thickness of not less than 0.019 inch (26 GAGE)(0.551 MM) Galvanized sheet). (FBC 1503.2)
12. Protection against decay and termites: Condensing lines and roof down spouts shall discharge at least 1 foot away from the structure side wall, whether by underground piping, tail extensions, or splash blocks. Gutters with down spouts are required on all buildings with eaves of less than 6" horizontal projection except for gable and rakes or on a roof above another roof. Irrigation/ sprinkler systems and risers for spray head shall not be installed within one (1) foot of the building side wall. (FBC 1503.7)

Mold Mitigation

The General Contractor shall take measures to:

a. Deliver a continuous water tight building envelope which will provide a solid to water entry.
b. Provide necessary site work to move water away from the building during construction.
c. Complete and seal the building envelope prior to installing wall board and any finish material.
d. Establish procedures to provide deliver and store materials so as to prevent water damage. All materials shall be inspected for water damage prior to accepting delivery.
e. Take reasonable steps to maintain effective dry-in conditions during the"controlled" phase of construction.
f. Ensure that all surfaces are dry and unexposed to sources of humidity prior to covering them with finish materials.
g. Establish protocol for dealing with any large and unexpected water intrusion into completed portions of the building.

pd
PRIME DESIGN
ASSOCIATES
ARCHITECTURE · PLANNING · DESIGN

A A 26002234

4651 SHERIDAN ST. SUITE 480
HOLLYWOOD FLORIDA, 33021
VOICE: 954.392.8788
FAX: 954.392.8748

SEAL
MAYER S. ABBO, ARCHITECT

Portofino Meadows

FOUR UNIT BUILDING

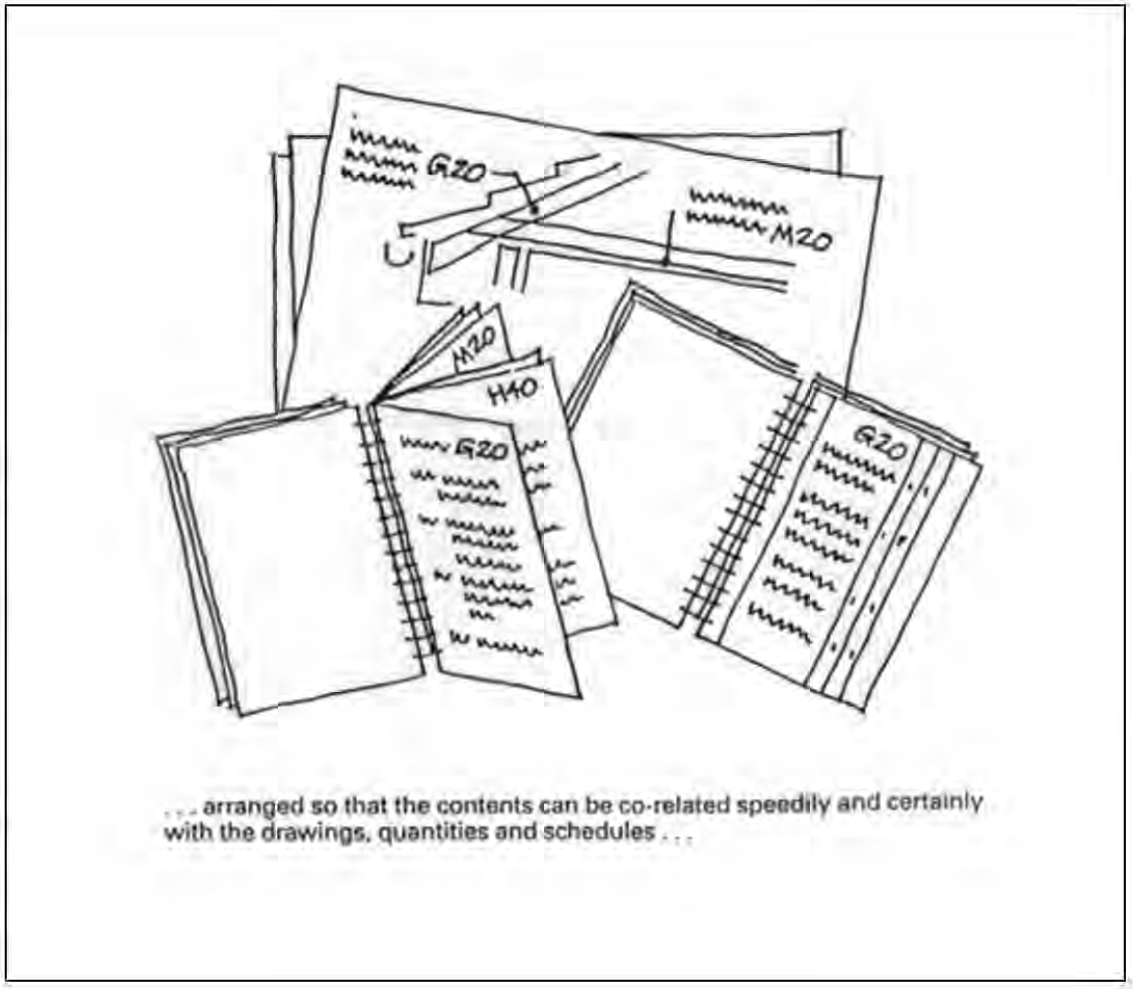
General Notes

A002

HOW TO BUILD A VIRTUAL BUILDING FOR REAL?

INFORMATION MANAGEMENT FOR CONSTRUCTION

CONTRACTUAL DELIVERABLES



. . . arranged so that the contents can be co-related speedily and certainly with the drawings, quantities and schedules . . .

FIRST STRATEGY: BREAKDOWN THE WHOLE
HOW TO CLASSIFY BUILDINGS & ORGANIZE INFORMATION

IN CAD
LAYERING IS THE FIRST PRACTICE

BLOCKS IT'S A MORE SOPHISTICATED TECHNIQUE

Layer Name	Description
CONT-I	Index Contours with Elevation Labels
CONT-N	Intermediate (Normal) Contours
CONTROL	Control Markers and Points
ASPHALT	Existing Asphalt Pavement
BLDG	Existing Buildings/Sheds
CONCRETE	Existing Concrete Areas
DRAIN	Existing Drainage/Ditches/Culverts
FENCE	Existing Fence lines
GRAVEL	Existing Gravel areas, Shoulders
RECREATION	Existing Fire-rings/Tables/ Dumpsters, Tent-Pads
SIGNS	Existing Signage
TRAILS	Existing Trail ways
TREES	Existing Vegetation/Trees
UTIL-WATER	Water Lines
UTIL-WATER-HYD	Water Hydrants
UTIL-WATER-SYM	Water Valves/Meters
UTIL-ELEC-UE	Underground Electrical Lines
UTIL-ELEC-OE	Overhead Electrical Lines
UTIL-ELEC-SYM	Electrical Pedestals/Power Poles
UTIL-GAS	Gas Lines
UTIL-SEWER	Sewer Lines
UTIL-TELE	Telecommunication Lines
WATER	Lake/Stream Water Edge
GRID	Grid Ticks
PROPOSED	Proposed Improvements As Flagged
BOUNDARIES	Property/Land Boundaries
SNOTES	Surveyor Info/Legends and Control Tables
TOPO-PTS	All Points (Except Control Points)
TEXT	Survey Text, Annotation
TIN-BDRY	Tin Boundary
TIN-FLT	Tin Fault/Break Lines
TIN-VIEW	Tin Model

Colors shown in table are recommended
and defined in the FS Plot Style Table covered back i

IN BIM:

WE DEAL WE
FAMILIES & TYPES

After the identification, it's required to describe elements and compenents. Elements are simple material that is possible to put in a list as shown below.
BIM software provides schematic graphic symbols to indicate the materials taht can be used to integrate the list.

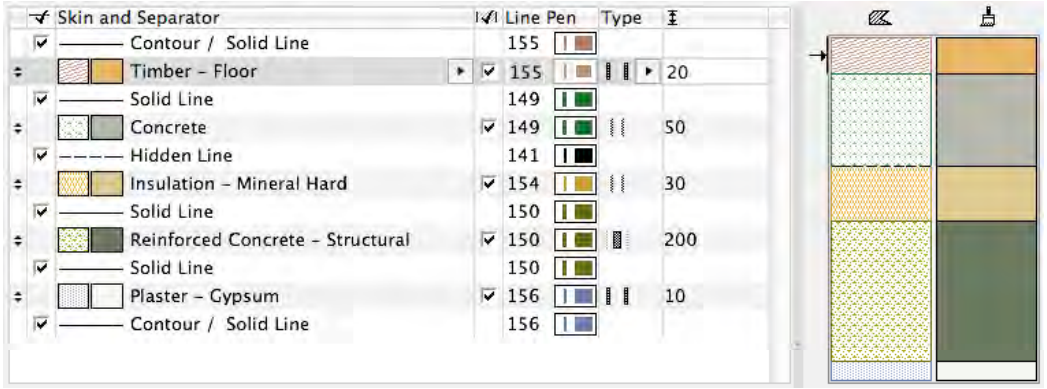
Bill of Material

The bill of material block contains a list of the parts and/or material needed for the project. The block identifies parts and materials by stock number or other appropriate number, and lists the quantities requited.

The bill of material often contains a list of standard parts, known as a parts list or schedule. Figure 1-4 shows a bill of material for an electrical plan.

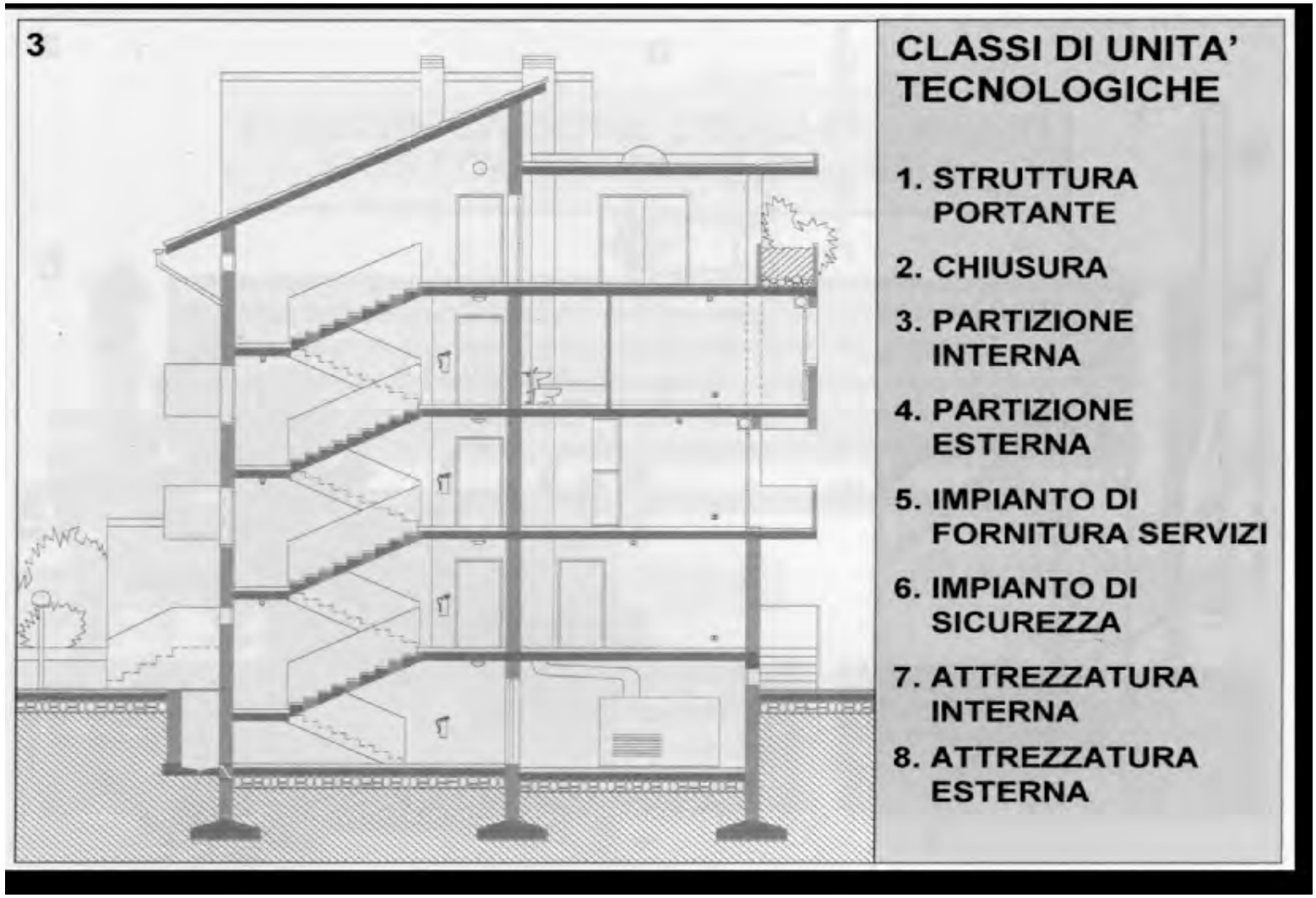
BILL OF MATERIAL

ITEM NO.	DESCRIPTION	UNIT	ASSEMBLY OR FSN NO.	QUANTITIES TROP	QUANTITIES NORTH
3 - 1	LIGHTING CIRCUIT — NAVFAC DWG NO 283414	EA.	3018	3	3
3 - 2	POWER BUS, 100A — NAVFAC DWG NO 304131	EA	3047	1	1
3 - 3	RECEPTACLE CKT — NAVFAC DWG NO 303668	EA	3019	2	2
3 - 4	BOX, RECEPTACLE W/CLAMP FOR NONMETALLIC SHEATH WIRE	EA	5325-102-804	5	5
3 - 5	LAMP ELECTRIC, MED BASE, INSIDE FROSTED, 200W, 120 V	EA	6240-180-314	80	60
3 - 6	PLUG: ATTACHMENT, 3 WIRE, 15 AMP, 125 V	EA	5935-102-309	10	10
3 - 7	PLATE BRASS, DUPLEX RECEPTACLE	EA	5325-800-101	5	5
3 - 8	RECEPTACLE, DUPLEX, 3 WIRE, 15 AMP, 125V.	EA	5328-100-102	5	5
3 - 9	ROD, GROUND, 3/4" x 10'-0"	EA	5306-200-180	12	12
3-10	WIRE, NO 2 1/C STRANDED, HARD DRAWN, BARE	LB	6145-134-200	52	52
3-11	SWITCH, SAFETY, 2P, ST 30 AMP, 250 V, PLUG FUSE	EA	6930-142-401	2	2
3-12	CLAMP, GROUND ROD	EA	5208-100-101	15	15
3-13	SWITCH, SAFETY, 200 AMP, 250V, 3P	EA	5930-201-903	1	1



TAXONOMY IN CONSTRUCTION

THE ITALIAN CODE FOR BUILDING CLASSIFICATION



THE INTERNATIONAL CLASSIFICATION SYSTEM FOR BIM

> Technological hierarchical criteria

Common Arragement of Work Sections (CAWS-IFC)

- A Preliminaries/General conditions
- B Complete buildings/structures/units
- C Existing site/buildings/services
- D Groundwork
- E In situ concrete/Large precast concrete
- F Masonry
- G Structural/Carcassing metal/timber
- H Cladding/Covering
- J Waterproofing
- K Linings/Sheathing/Dry partitioning
- L Windows/Doors/Stairs
- M Surface finishes
- N Furniture/Equipment
- P Building fabric sundries
- Q Paving/Planting/Fencing/Site furniture
- R Disposal systems
- S Piped supply systems
- T Mechanical heating, cooling and refrigeration systems
- U Ventilation and air conditioning systems
- V Electrical systems
- W Communications, security, safety and protection systems
- X Transport systems
- Y General engineering services
- Z Building fabric reference specification

- H Cladding/Covering
  - H1 Glazed cladding/covering
  - H2 Sheet/board cladding
  - H3 Profiled/flat sheet cladding/covering
  - H4 Panel cladding
    - H40 Glass reinforced cement panel cladding/features
    - H41 Glass reinforced plastics panel cladding/features
    - H42 Precast concrete panel cladding/features
    - H43 Metal panel cladding/features
  - H5 Slab cladding
  - H6 Slate/Tile cladding/covering
  - H7 Malleable sheet coverings/cladding
  - H9 Other cladding/covering
- J Waterproofing
  - J1 Cementitious coatings
  - J2 Asphalt coatings
    - J20 Mastic asphalt tanking/damp proofing
    - J21 Mastic asphalt roofing/insulation/finishes
    - J22 Proprietary roof decking with asphalt finish
  - J3 Liquid applied coatings
  - J4 Felt/flexible sheets
- K Linings/Sheathing/Dry partitioning
- L Windows/Doors/Stairs
  - L1 Windows/Rooflights/Screens/Louvres
    - L10 Windows
    - L11 Rooflights/Roof windows
    - L12 Screens
    - L13 Louvred ventilators
    - L14 External louvres/shutters/canopies/blinds

A- Form of information
B- Subject Discipline
C- Management
D- Facilities
E- Construction entities
F- Spaces
G- Elements for Building
H- Elements for civil engineering works
J- Work sections for buildings
K- Work sections for civil engineering works
L- Construction products
M- Construction Aids
N- Properties and characteristics
P- Materials
Q- Universal decimal classification

THE INTERNATIONAL CLASSIFICATION SYSTEM FOR BIM
Technological and others criteria

UNICLASS Classification

UNICLASS classification

- A1 General reference works
- A2 Legislation, legal documents
- A3 National and international standards
- A4 Other rules, recommendations
- A5 Standard specifications
- A6 Standard contracts
- A9 Types of medium

- G1 Site preparation
- G2 Fabric: complete elements
- G3 Fabric: parts of elements
  - G31 Carcass/structure/fabric
    - G311 Core fabric
    - G312 Coverings/external finishes
  - G32 Openings
    - G321 Windows
    - G322 Doors
  - G33 Internal finishes
    - G331 Internal finishes floor
    - G332 Internal finishes ceilings or soffit
    - G333 Internal finishes wall
    - G334 Other internal finishes
  - G34 Other parts of fabric elements
- G4 Fittings/furniture/equipment (FFE)
- G5 Services: complete elements
- G6 Services: parts of elements
- G7 External/site works

- JA Preliminaries/General conditions
- JB Complete buildings/structures/units
- JC Existing site/buildings/services
- JD Groundwork
- JE In situ concrete/Large precast concrete
- JF Masonry
- JG Structural/Carcassing metal/timber
- JH Cladding/Covering
  - JH1 Glazed cladding/covering
  - JH2 Sheet/board cladding
  - JH3 Profiled/flat sheet cladding/covering
  - JH4 Panel cladding
    - JH40 Glass reinforced cement panel cladding/features
    - JH41 Glass reinforced plastics panel cladding/features
    - JH42 Precast concrete panel cladding/features
    - JH43 Metal panel cladding/features
  - JH5 Slab cladding
  - JH6 Slate/Tile cladding/covering
  - JH7 Malleable sheet coverings/cladding
  - JH9 Other cladding/covering
- JJ Waterproofing

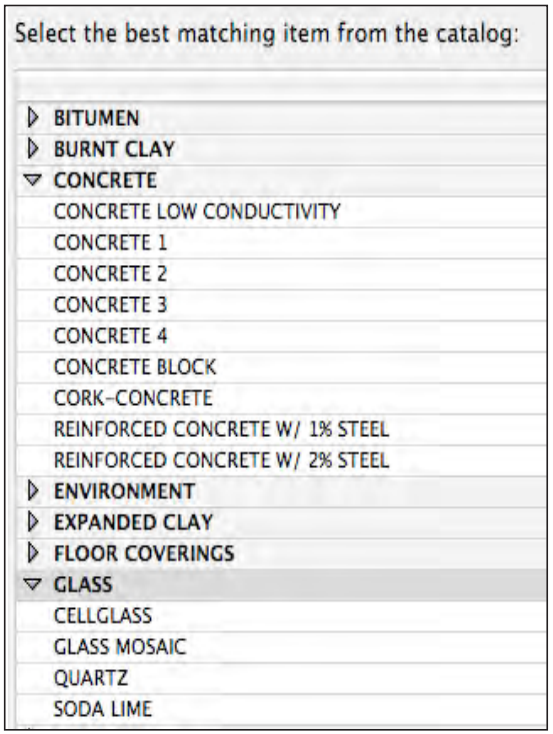
International Building Code (IBC)
– 10 occupancy groups

Assembly: Groups A-1, A-2, A-3, A-4 and A-5
Business: Group B
Educational: Group E
Factory and Industrial: Groups F-1 and F-2
High Hazard: Groups H-1, H-2, H-3, H-4 and H-5
Institutional: Groups I-1, I-2, I-3 and I-4
Mercantile: Group M
Residential: Groups R-1, R-2, R-3 and R-4
Storage: Groups S-1 and S-2
Utility and Miscellaneous: Group U

Because buildings are systems of physical, functional and operational entities, classification can be related to technological elements and components, to the space use; to procedures and phases of the process. Here and in the previous page (Uniclass classification) are some examples.

Classification is useful to exchange information between different professionals, but also for the automation of many tasks such as cost estimation.
Other sophisticated parametric operation are, for example, allowed by space use classification. Through these clusters and the behaviours of the occupancy groups it is possible to define the assigned surface per person, indoor conditions, or estimate fire or other risk protection.

(In archicad)



OmniClass consists of 15 hierarchical tables, each of which represents a different facet of construction information. Each table can be used independently to classify a particular type of information, or entries on it can be combined with entries on other tables to classify more complex subjects.

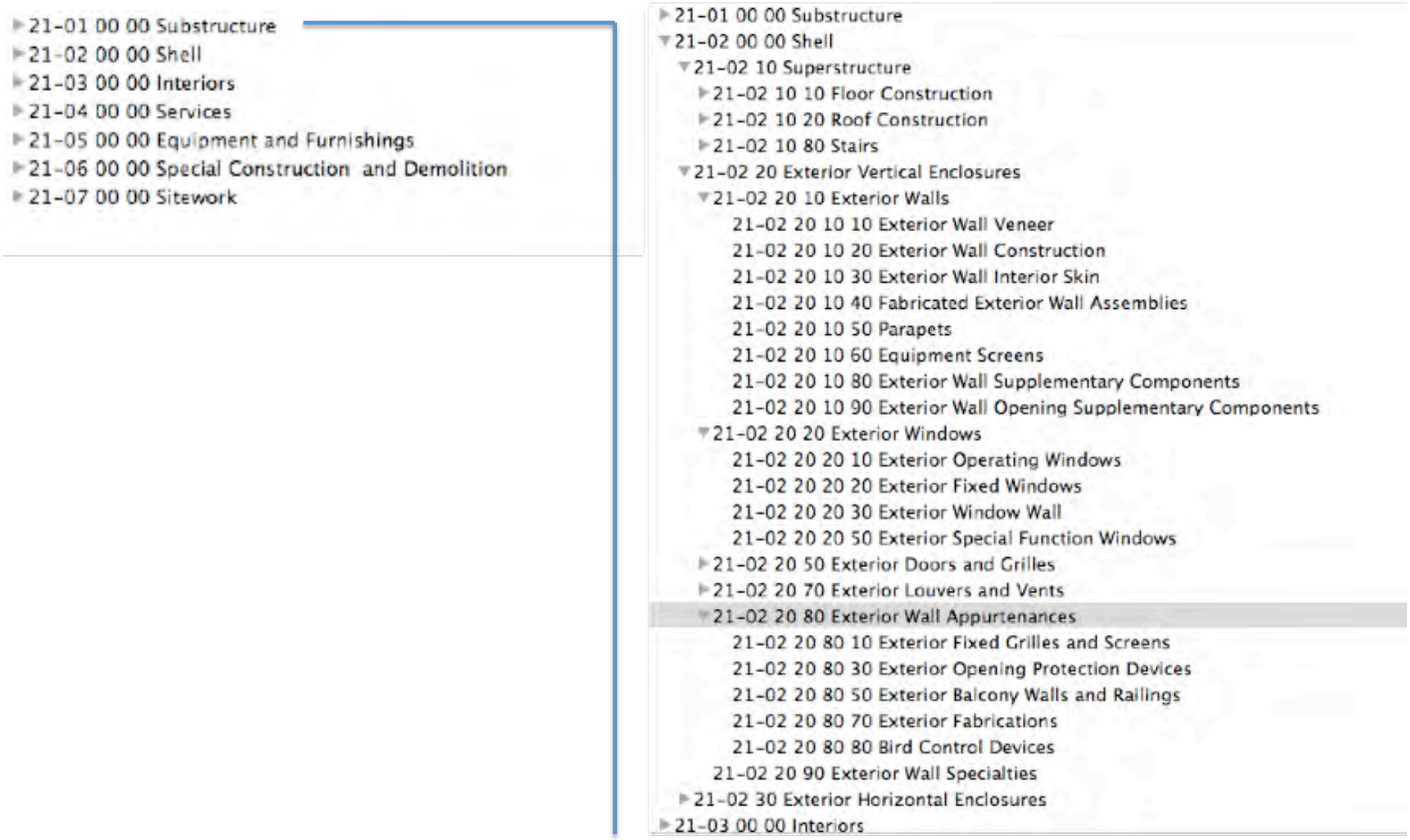
The 15 inter-related OmniClass tables are:

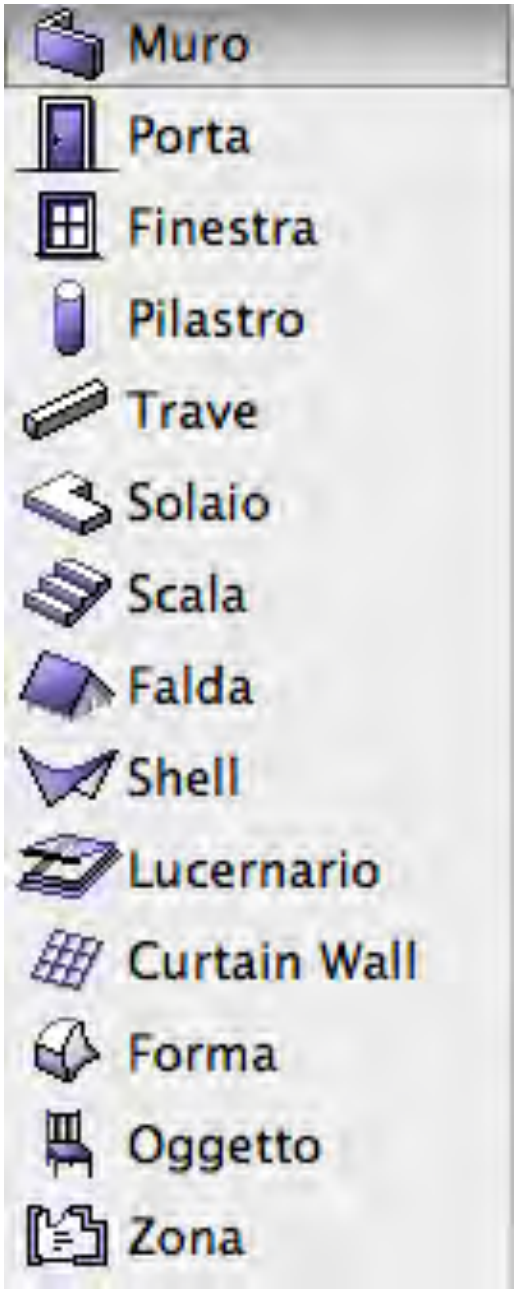
Download the tables in ZIP format

Table	Status	Release Date
OmniClass Introduction - Introduction (PDF) Introductory and explanatory material about the use and development of OmniClass.	Release	2006-03-28
Construction Entities by Function - Table 11 (ZIP) Construction Entities by Function are significant, definable units of the built environment comprised of elements and interrelated spaces and characterized by function.	Pre Consensus Approved Draft	2013-02-26
Construction Entities by Form - Table 12 (ZIP) Construction Entities by Form are significant, definable units of the built environment comprised of elements and interrelated spaces and characterized by form.	Pre Consensus Approved Draft	2012-10-30
Spaces by Function - Table 13 (ZIP) Spaces by Function are basic units of the built environment delineated by physical or abstract boundaries and characterized by function.	National Standard	2012-05-16
Spaces by Form - Table 14 (PDF) Spaces by Form are basic units of the built environment delineated by physical or abstract boundaries and characterized by physical form.	Release	2006-03-28
Elements (includes Designed Elements) - Table 21 (ZIP) ▪ An Element is a major component, assembly, or "construction entity part which, in itself or in combination with other parts, fulfills a predominating function of the construction entity" (ISO 12006-2). Predominating functions include, but are not limited to, supporting, enclosing, servicing, and equipping a facility. Functional descriptions can also include a process or an activity. ▪ A Designed Element is an "Element for which the work result(s) have been defined." (ISO 12006-2).	National Standard	2012-05-16
Work Results - Table 22 (ZIP) Work Results are construction results achieved in the production stage or phase or by subsequent alteration, maintenance, or demolition processes and identified by one or more of the following: the particular skill or trade involved; the construction resources used; the part of the construction entity which results; the temporary work or other preparatory or completion of work which is the result.	National Standard	2012-05-16
Work Results - Table 22 (ZIP) Work Results are construction results achieved in the production stage or phase or by subsequent alteration, maintenance, or demolition processes and identified by one or more of the following: the particular skill or trade involved; the construction resources used; the part of the construction entity which results; the temporary work or other preparatory or completion of work which is the result.	Pre Consensus Approved Draft	2013-08-25
Products - Table 23 (ZIP) Products are components or assemblies of components for permanent incorporation into construction entities.	National Standard	2012-05-16
Phases - Table 31 (ZIP) Life cycle phases are often represented by two terms used somewhat interchangeably in our industry. For the purposes of clarity and standardization, OmniClass defines these terms: ▪ Stage: A categorization of the principal segments of a project. Stages usually are: Conception, Project Delivery Selection, Design, Construction Documents, Procurement, Execution, Utilization, and Closure. ▪ Phase: A portion of work that arises from sequencing work in accordance with a predetermined portion of a Stage. For purposes of usage in OmniClass classifications, a Stage is a higher-level of categorization and a Phase is a subordinate level of titling within a Stage.	Pre Consensus Approved Draft	2012-10-30
Services - Table 32 (ZIP) Services are the activities, processes and procedures relating to the design, construction, maintenance, renovation, demolition, commissioning, decommissioning, and all other functions occurring in relation to the life cycle of a construction entity.	National Standard	2012-05-16
Disciplines - Table 33 (ZIP) Disciplines are the practice areas and specialties of the actors (participants) that carry out the processes and procedures that occur during the life cycle of a construction entity.	Pre Consensus Approved Draft	2012-10-30
Organizational Roles - Table 34 (ZIP) Organizational Roles are the functional positions occupied by the participants, both individuals and groups, that carry out the processes and procedures which occur during the life cycle of a construction entity. Table 34 can be combined with Table 33 – Disciplines, to provide a full classification of each participant in the creation and support of a facility.	Pre Consensus Approved Draft	2012-10-30
Tools - Table 35 (PDF) Tools are the resources used to develop the design and construction of a project that do not become a permanent part of the facility, including computer systems, vehicles, scaffolding and all other items needed to execute the processes and procedures relating to the life cycle of a construction entity.	Draft	2006-03-28
Information - Table 36 (ZIP) Information is data referenced and utilized during the process of creating and sustaining the built environment.	National Standard	2012-05-16
Materials - Table 41 (ZIP) Materials are substances used in construction or to manufacture products and other items used in construction. These substances may be raw materials or refined compounds, and are considered subjects of this table irrespective of form.	Pre Consensus Approved Draft	2012-10-30
Properties - Table 49 (ZIP) Properties are measurable or definable characteristics of construction entities.	Pre Consensus Approved Draft	2012-10-30

THE INTERNATIONAL CLASSIFICATION SYSTEM FOR BIM
> Technological criteria

OMNI Classification (IFC)




Muro
Porta
Finestra
Pilastro
Trave
Solaio
Scala
Falda
Shell
Lucernario
Curtain Wall
Forma
Oggetto
Zona

ONTOLOGY GUIDE

To accomplish this task the easiest way is to integrate the previous representation with some field where to store the required data (geometrical dimensioning; quantity; material and constituents elements; solar absorption; thermal conductivity
A good standardized format for organizing all of the information may be the final solution.

keep in mind that BIM programs such as Revit or Archicad or energy modeling programs like Ecotect contain the thermal characteristics of a large number of materials and components. Use them to facilitate the work !

Select the best matching item from the catalog:

	Thermal conductivity (W/mK)
▷ **BITUMEN**	
▷ **BURNT CLAY**	
▽ **CONCRETE**	
CONCRETE LOW CONDUCTIVITY	0,8000
CONCRETE 1	1,1500
CONCRETE 2	1,3500
CONCRETE 3	1,6500
CONCRETE 4	1,7000
CONCRETE BLOCK	0,6000
CORK-CONCRETE	0,4400
REINFORCED CONCRETE W/ 1% STEEL	2,3000
REINFORCED CONCRETE W/ 2% STEEL	2,5000
▷ **ENVIRONMENT**	
▷ **EXPANDED CLAY**	
▷ **FLOOR COVERINGS**	
▽ **GLASS**	
CELLGLASS	0,0390
GLASS MOSAIC	1,2000
QUARTZ	1,4000
SODA LIME	1,0000

http://prezzariollpp.regione.toscana.it

Regione Toscana | PENTOSCANA

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Il Prezzario dei lavori pubblici della Toscana è aggiornato e pubblicato con cadenza annuale a supporto delle amministrazioni presenti sul territorio toscano, che se ne avvalgono nell'elaborazione di capitolati, nella definizione degli importi a base di appalto e nei procedimenti per la valutazione di anomalia delle offerte.

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Il Prezzario dei lavori pubblici della Toscana è composto da:

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- **Nota Metodologica**, che illustra le modalità di formazione del prezzario e le principali novità di ogni edizione
- **Guida delle lavorazioni e Norme di misurazione**, contenente le descrizioni e le norme di misurazione di alcune tipologie di opere contenute nel Prezzario, oltre alle indicazioni operative per l'esecuzione delle relative lavorazioni

Per consultare e scaricare l'**Elenco prezzi e le Analisi** nei diversi formati disponibili, selezionare l'anno e la Provincia di interesse, quindi scegliere l'opzione Esporta i documenti

Per visualizzare e consultare la **Nota Metodologica** e la **Guida delle lavorazioni e Norme di misurazione**, selezionare solo l'anno di interesse , quindi scegliere il documento da scaricare

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Per informazioni sulla struttura e le modalità di utilizzo del Prezzario:

prezzariollpp@regione.toscana.it

Annarosa Pisaturo
- annarosa.pisaturo@regione.toscana.it
- 055. 4383890

Maria De Mitri
- maria.demitri@regione.toscana.it
- 055. 4382278

Gino Pitti
- gino.pitti@regione.toscana.it
- 055. 4385563

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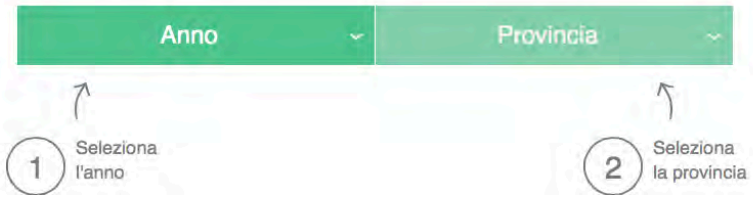
http://www.regione.toscana.it/psr-2014/pubblicazioni_psr2014/appendice-prezzario



01. NEW CONSTRUCTION

- A03. DEMOLITIONS
- A04. EXCAVATIONS
- AO5. BACKFILLS
- A06. FOUNDATION AND UNDERSLAB DRAINAGE
- B02. FORMWORKS
- B03. STEEL AND REBARS — STRUCTURE
- B04. CONCRETE
- B07. BEARING WALLS
- B08. SLABS
- C01. NOT BEARING WALLS
- C02. INTERIOR WALLS AND CEILINGS
- C03. ROOFS
- D01. THERMAL INSULATION
- D05. WATERPROOFING
- E01. PLASTERS
- E02. PAVEMENTS
- E03. FINISHINGS
- E04.
- E05. SCREEDS
- F03.
- F04. PAINTIGS AND COATINGS
- F05. PLUVIAL WORKS
- F06. SEWERS

PR. PRODUCTS

- P70. EXTERNAL DOORS AND WINDOWS
- P71. EXTERNAL DOORS AND WINDOWS

As an example and according with this coding system we can have for this type of slab the following code:
01.B08.**021.003** *Solaio "a lastre" (tipo "predalle"), con lastre in cemento armato vibrato aventi soletta inferiore di spessore minimo cm 4, di larghezza di 120 cm, irrigidite con tralicci in ferro, alleggerito con elementi in polistirolo*, where the last terns of numbers are related to the type and the first (01.B08.) to the family .

As an example and according with this coding system we can have for this type of slab the following code:
01.B08.**021.003** *Solaio "a lastre" (tipo "predalle"), con lastre in cemento armato vibrato aventi soletta inferiore di spessore minimo cm 4, di larghezza di 120 cm, irrigidite con tralicci in ferro, alleggerito con elementi in polistirolo*, where the last terns of numbers are related to the type and the first (01.B08.) to the family .

This the starting point.

For your deliverable follow this index:
1) Briefing
2) Building Program and Budgeting

3) Ground Work: Demolition, Exavations and Foundations
4) Structure: incuding a 3D representation of the structure diividing tthe following families:
- Pilasters
-Beams
-Bearing walls
-Stairs
exteriors/interioris

G) Site preparation and Ground work: (A03.) Demolition, (A04.) Excavations, (A06.) Consolidations, and Grids

IDENTIFICATION AND LOCALIZATION

(A03. Demolitions) Photo of the actual situation showing nature and localization of demolitions
Graphical representation and calculation in m3 of demolitions

(A.04 Excavations) Schematic plans and sections or 3D view with dimensioning showing excavations needed for foundations and the realization of the underground floor integrated by analytical calculation in volume

Site plan with structural grid referred to some existent cornerstones or other fixed objects in the construction site in order to allow a correct displacement of the building. Remember to close each triangulation or put angles if needed.

QUANTITY ESTIMATION
According with descriptions in «Identification and localization» a calculation in volume is required for:
Demolitions
Excavations

A foundation plan (fig. 7-9) is a plan view of a structure projected on a imaginary horizontal plane passing through at the level of the tops of the foundations. The plan shown in figure 7-9 tells you that the main foundation of this structure will consist of a rectangular 8-inch concrete block wall, 22 by 28 feet, centered on a concrete footing 10 inches wide. Besides the outside wall and footing, there will be two 12-inch square piers, centered on 18-inch square footings, and located 9 feet 6 inches from the end wall building lines. These piers will support a ground floor center-line girder.

Figure 7-10 shows the development of a typical floor plan, and figure 7-11 shows the floor plan itself.

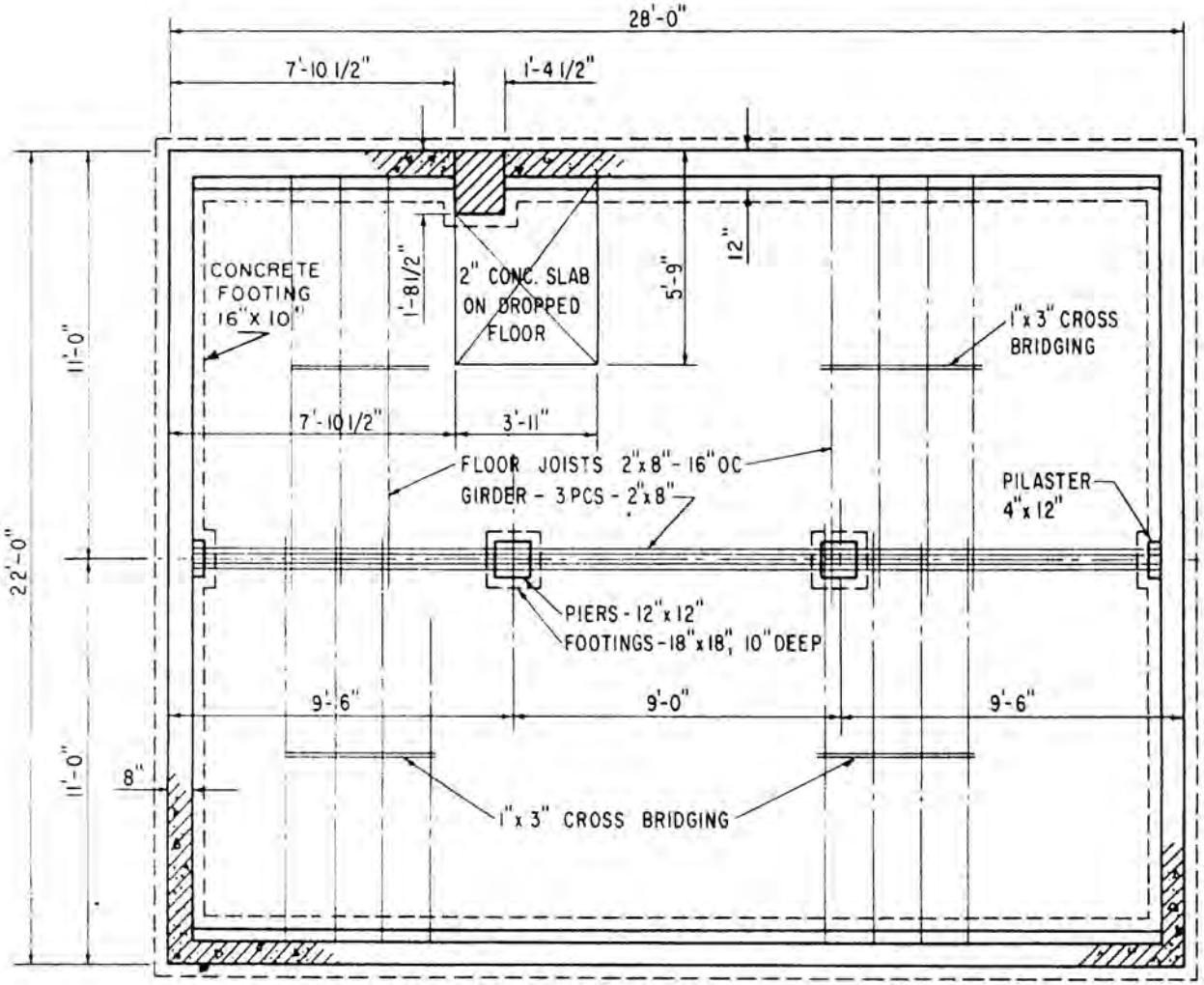
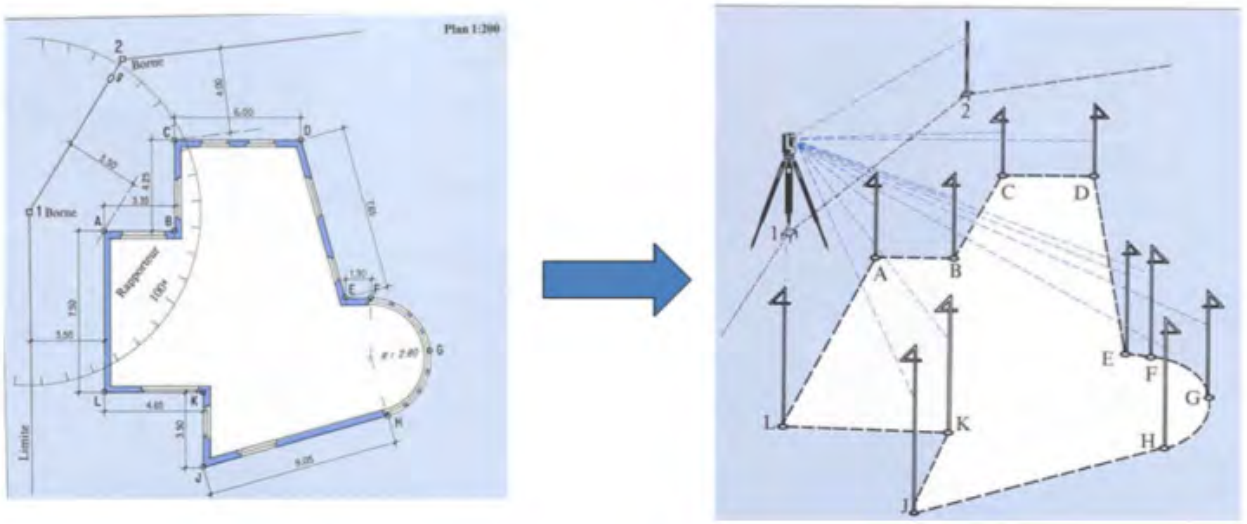
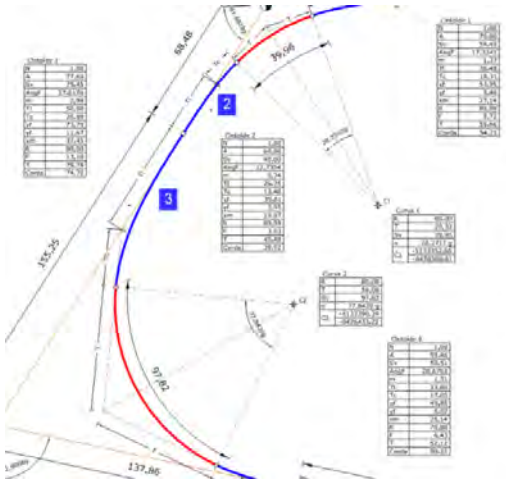
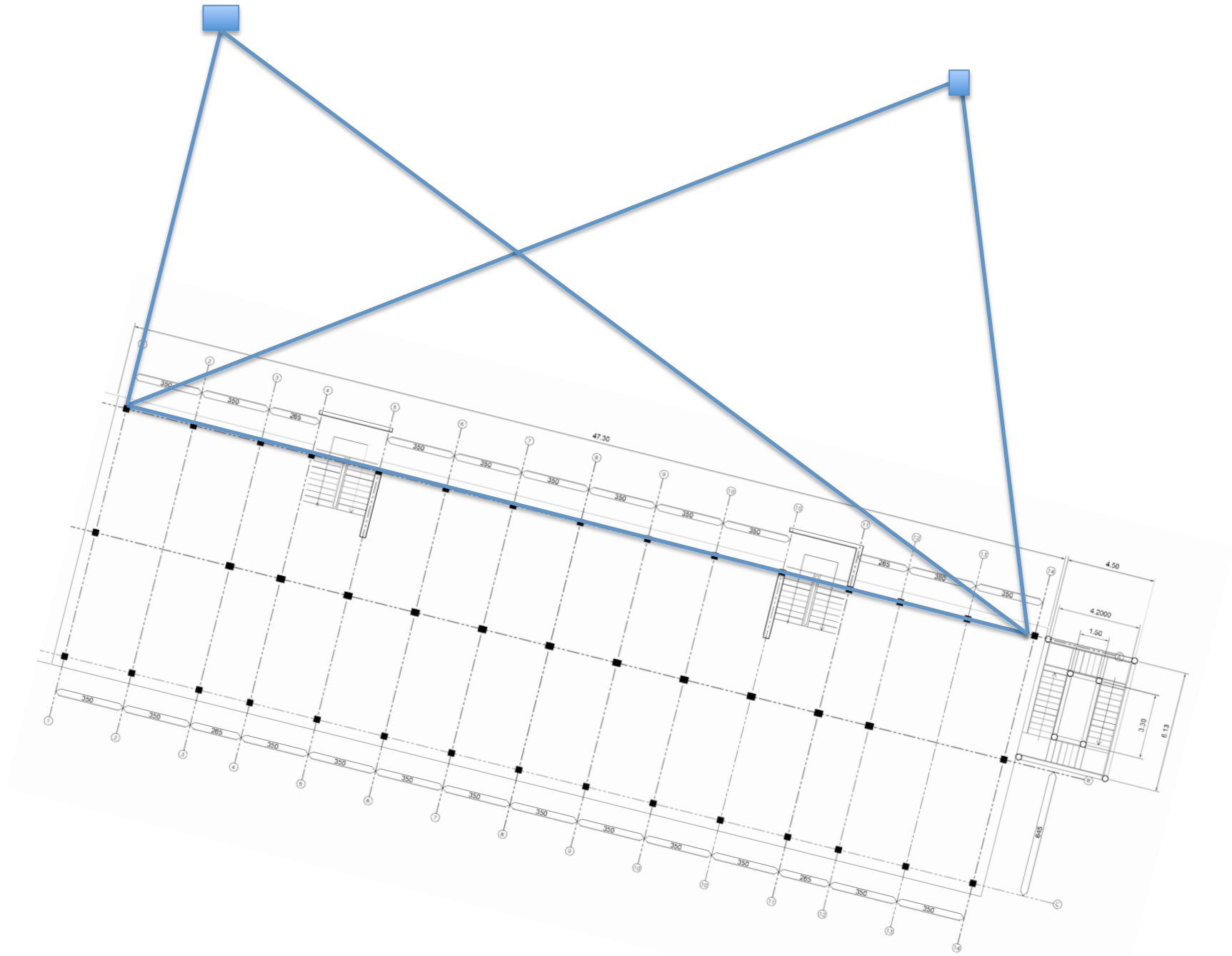


Figure 7-9.—Foundation plan.

Fig. 2 : Da progetto a tracciamento






47.30
4.50
4.2000
1.50
3.39
6.13
645
350
285

F) Foundations

IDENTIFICATION AND LOCALIZATION

(A06. B02. B03.) 3D visualizations or schematic plans and sections of the Foundation Floor with labels referring each families and types of adopted foundations. In this chapter structural walls and/or other solutions for consolidations of the building area are required.

Current families/types of foundations and consolidation works could be:
foundation wall
reverse beam
isolated plinth
flat plate
beam-and-slab
plate with pedestals
foundation on piles
bulkheads

ONTOLOGY

3D sections or 2D drawings with sections for each families types of foundation adopted with its main label and labels of product elements (PR_) of its components.
For composite foundation type, current functional elements could be:
base and sub base foundation
reinforced concrete footing
reinforced concrete elements (beam, plinth, wall,...)
tiebacks (for bulkheads)

Photos and/or drawings with some technical specifications from manufacturing firms or examples depicting the type of adopted foundations

FIG. 1.
(PRIOR ART)

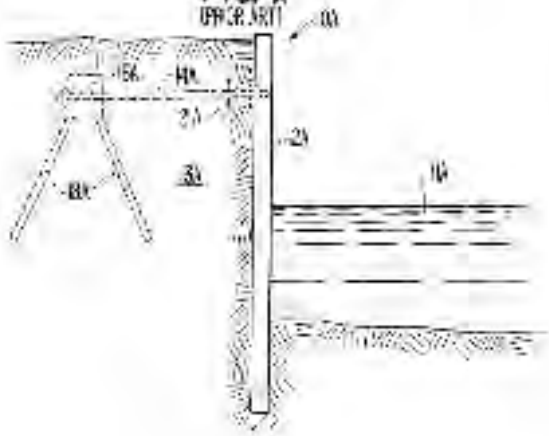
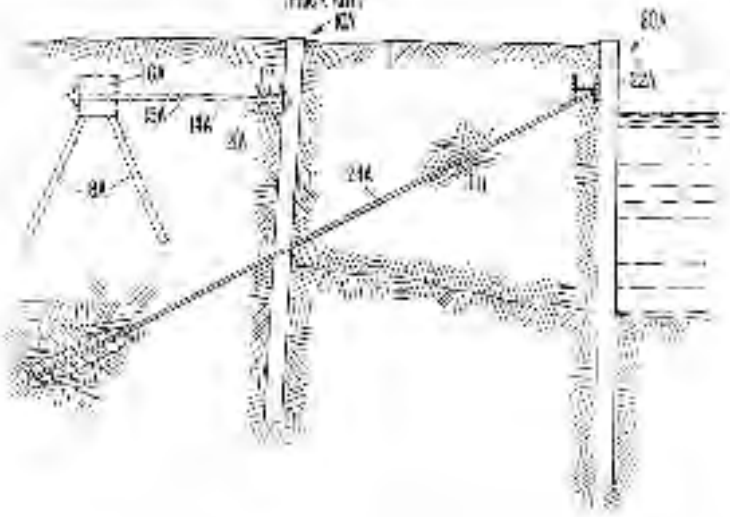
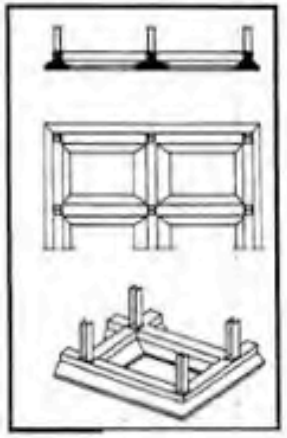
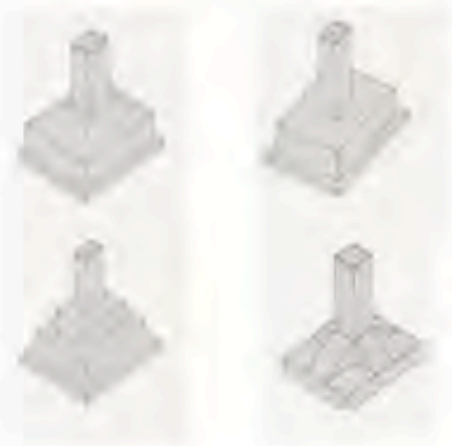


FIG. 2.
(PRIOR ART)

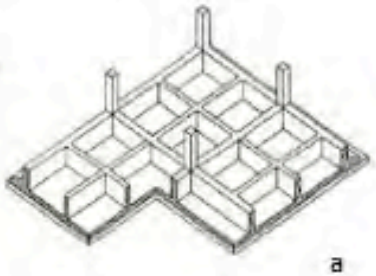




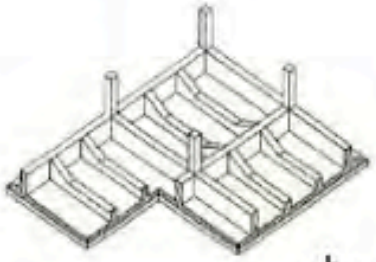
Reverse beams



Isolated plinths

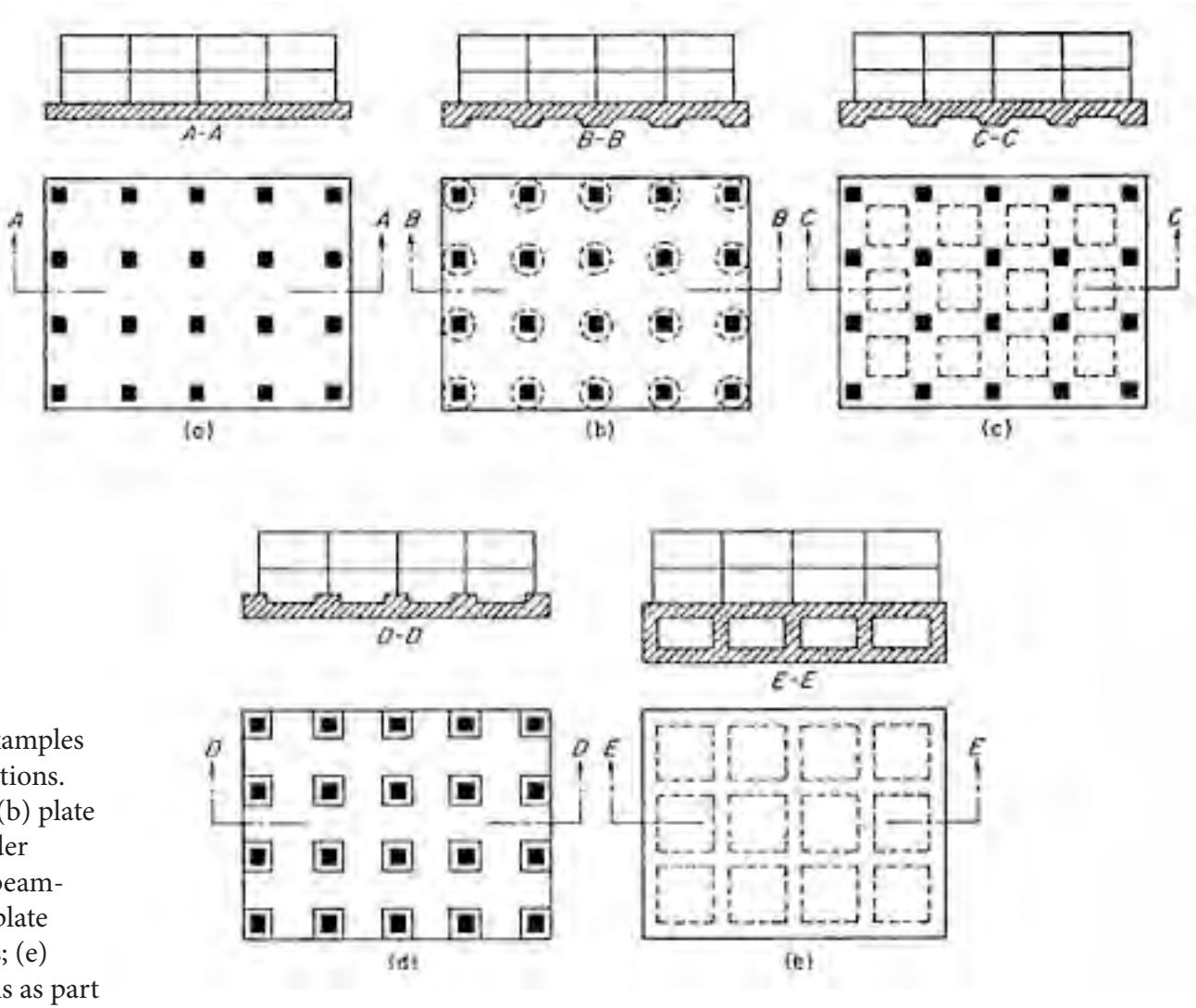


a



b

Plate



IGURE 5.2 Examples of mat foundations. (a) Flat plate; (b) plate thickened under columns; (c) beam-and-slab; (d) plate with pedestals; (e) basement walls as part of mat.

QUANTITY ESTIMATION

Bill of quantities obtained from analytical calculation or from BIM scheduling related to each product elements (PR_) forming the foundation types.

Product elements (PR_) normally used in foundation are:
gravel (for sub-base foundation)
formworks (to contain the concrete casting)
lean concrete (for base foundation)
reinforced concrete that can be distinguished in different categories in relation to resistance, durability, ...

In this assignment we can simplify assuming the following types of product element (PR_):
gravel for sub-base
concrete type 0* (with weak presence of rebars) for base
concrete type C* for plinth, beam plate
concrete type B* for joists
* refer to the introductory part for concrete types specifications

In this chapter do NOT consider the quantity estimation of formworks (B02.). A parametrical estimation will be adopted in the final cost estimation (see the relative chapter)
In the same way, do NOT estimate rebars quantities. A parametrical estimation of this item will be adopted in the final cost estimation (see the relative chapter)

S) Structure:

IDENTIFICATION AND LOCALIZATION

(B02. B03. B04. B07) 3D visualization of the structural system (here, 2D drawing are NOT allowed!) with labels referring to the adopted families and types

Current in-situ reinforced concrete structural families/types could be:
bearing walls and beams
bearing walls and plates
posts and beams (mono or bi directional)
column and plate

ONTOLOGY

3D sections or 2D sections of each families types with its main label and labels of each product elements (PR_) if the type is a composite type.

Current functional elements of foundation could be:
pilasters
girders (horizontal, vertical, shaped..)
joist (to connect the main beams or as a shearing element)
bearing walls
slab and plates
stairs

photos and/or drawings with some technical specifications from manufacturing firms or examples depicting the type of adopted structure.

QUANTITY ESTIMATION

Bill of quantities obtained from analytical calculation or from BIM scheduling related to each product elements (PR_) forming the structural types.

Product elements (PR_) normally used in structural system are:
formworks (to contain the concrete casting)
concrete
steel rebars

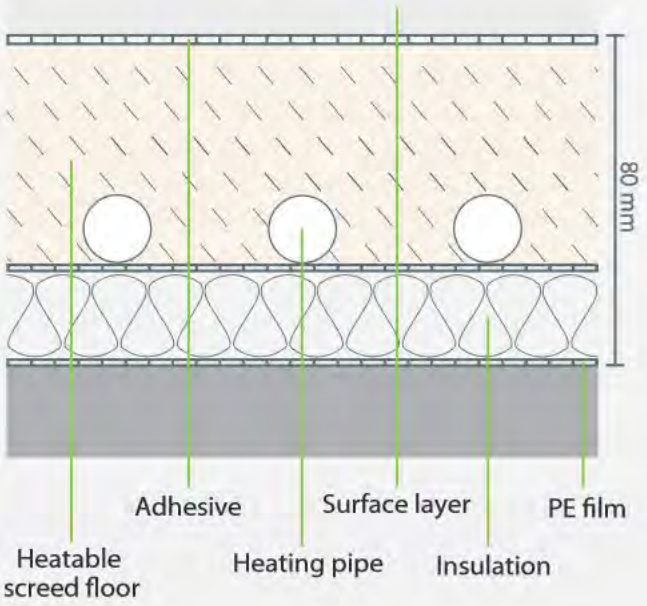
Reinforced concrete can be distinguished in different categories in relation to resistance, durability, ...
In this assignment we can simplify assuming the following product categories:

reinforced concrete type B* for joists e vertical beam
reinforced concrete type A* for pilasters and horizontal beams
* refer to the introductory part for concrete types specifications

In this chapter do NOT consider the quantity estimation of formworks (B02.). A parametrical estimation of this item will be adopted in the final cost estimation (see the relative chapter)
In the same way, do NOT estimate rebars quantities. A parametrical estimation of this item will be adopted in the final cost estimation (see the relative chapter)

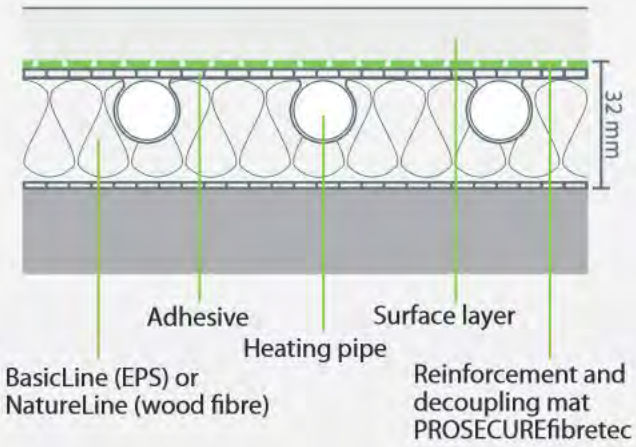
Underfloor heating system with screed floor

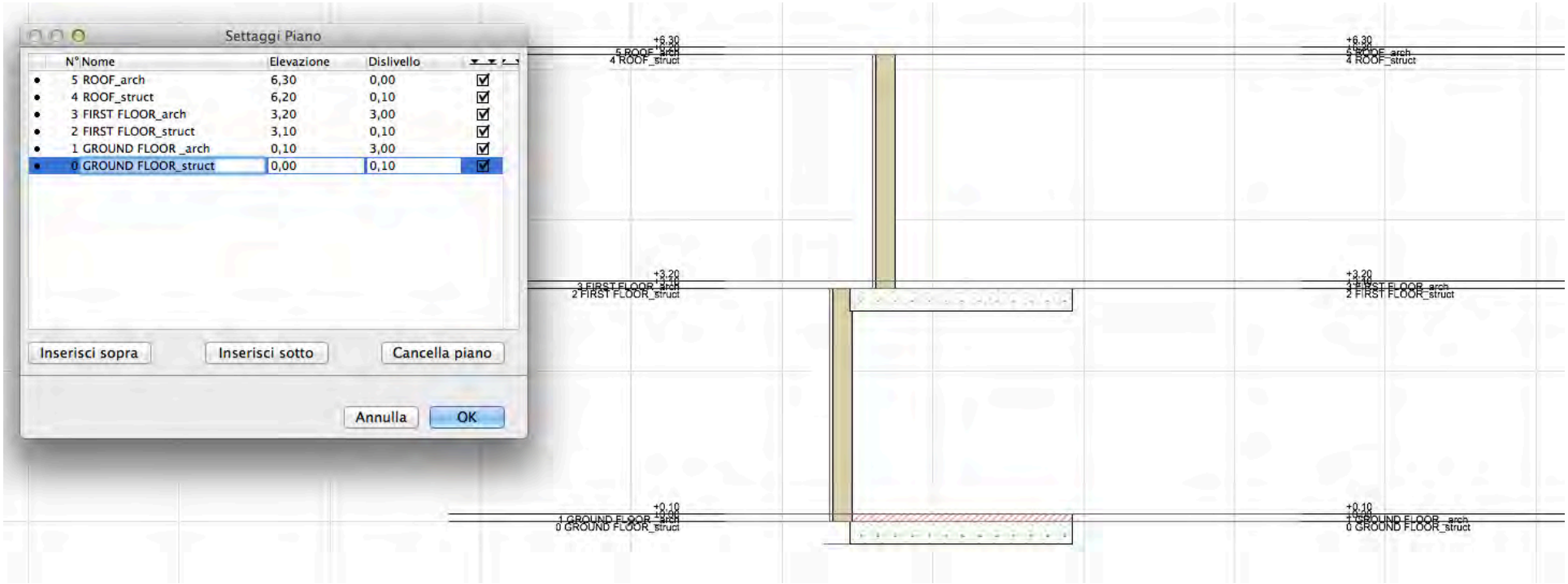
Design height 80 mm

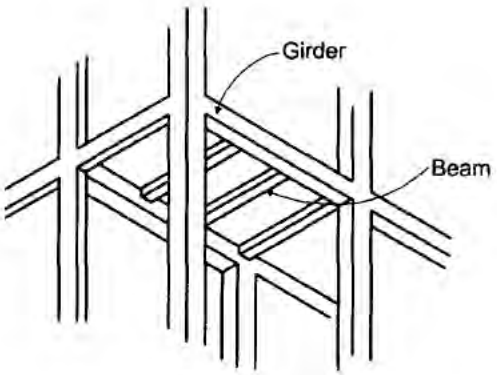


BasicLine or NatureLine as a thin-layered underfloor heating system in dry-wall construction

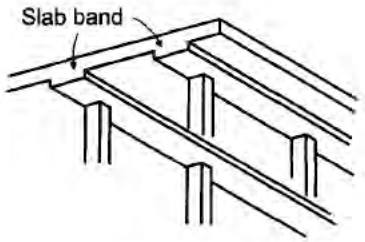
Design height 32 mm



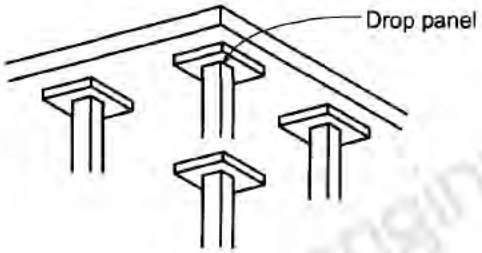

Settaggi Piano
N° Nome
Elevazione
Dislivello
5 ROOF_arch
6,30
0,00
4 ROOF_struct
6,20
0,10
3 FIRST FLOOR_arch
3,20
3,00
2 FIRST FLOOR_struct
3,10
0,10
1 GROUND FLOOR _arch
0,10
3,00
0 GROUND FLOOR_struct
0,00
0,10
Inserisci sopra
Inserisci sotto
Cancella piano
Annulla
OK
+6.30
5 ROOF_arch
4 ROOF_struct
+3.20
3 FIRST FLOOR_arch
2 FIRST FLOOR_struct
+0.10
1 GROUND FLOOR_arch
0 GROUND FLOOR_struct



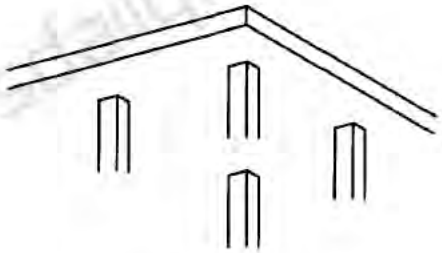
(a)



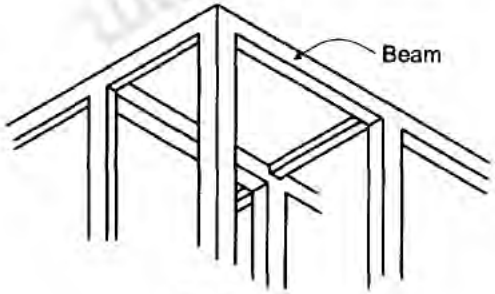
(b)



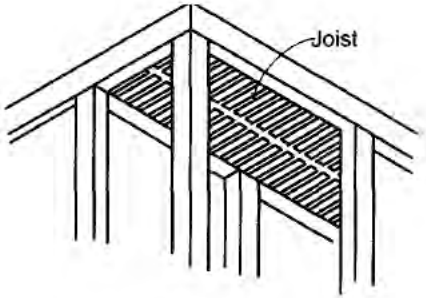
(c)



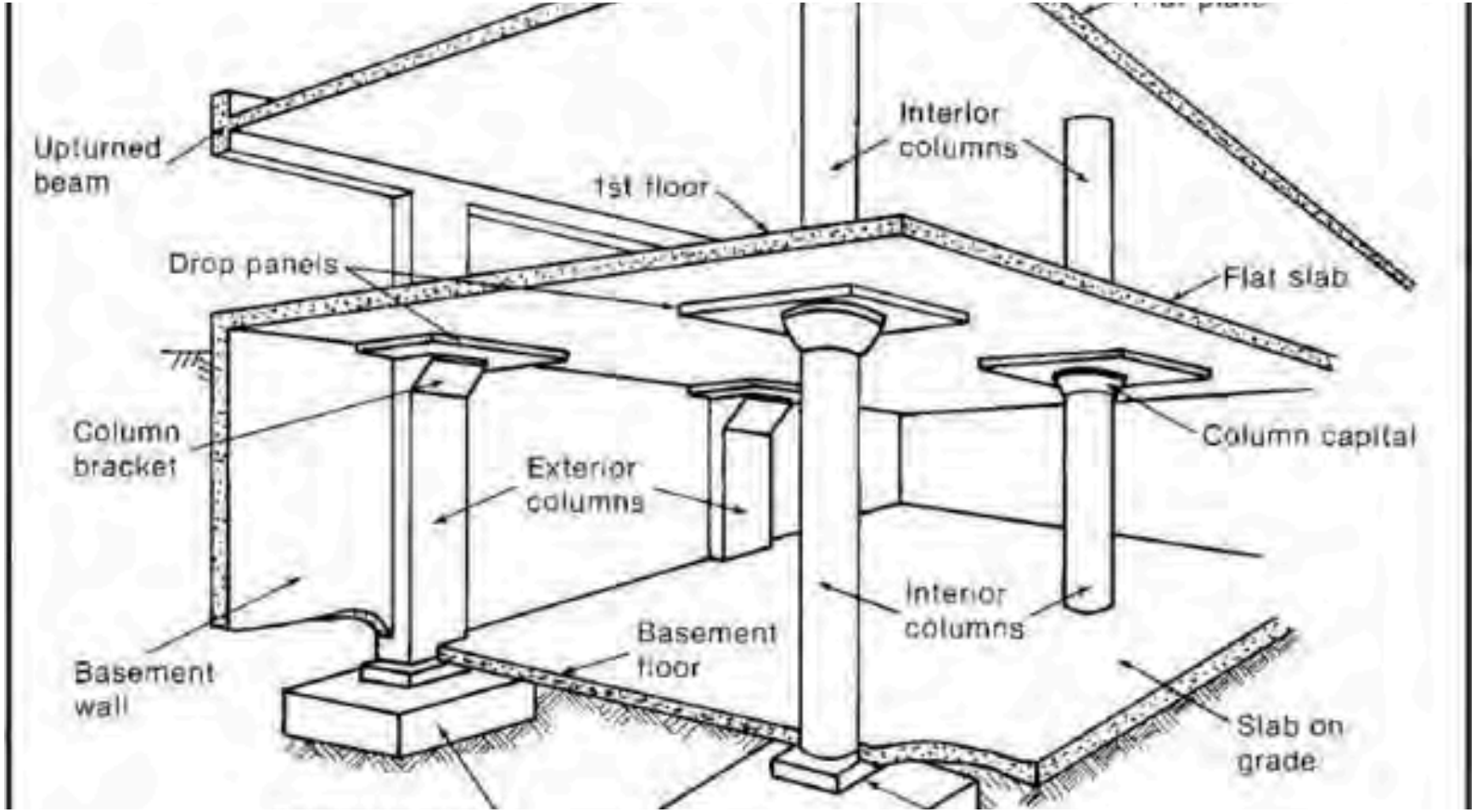
(d)

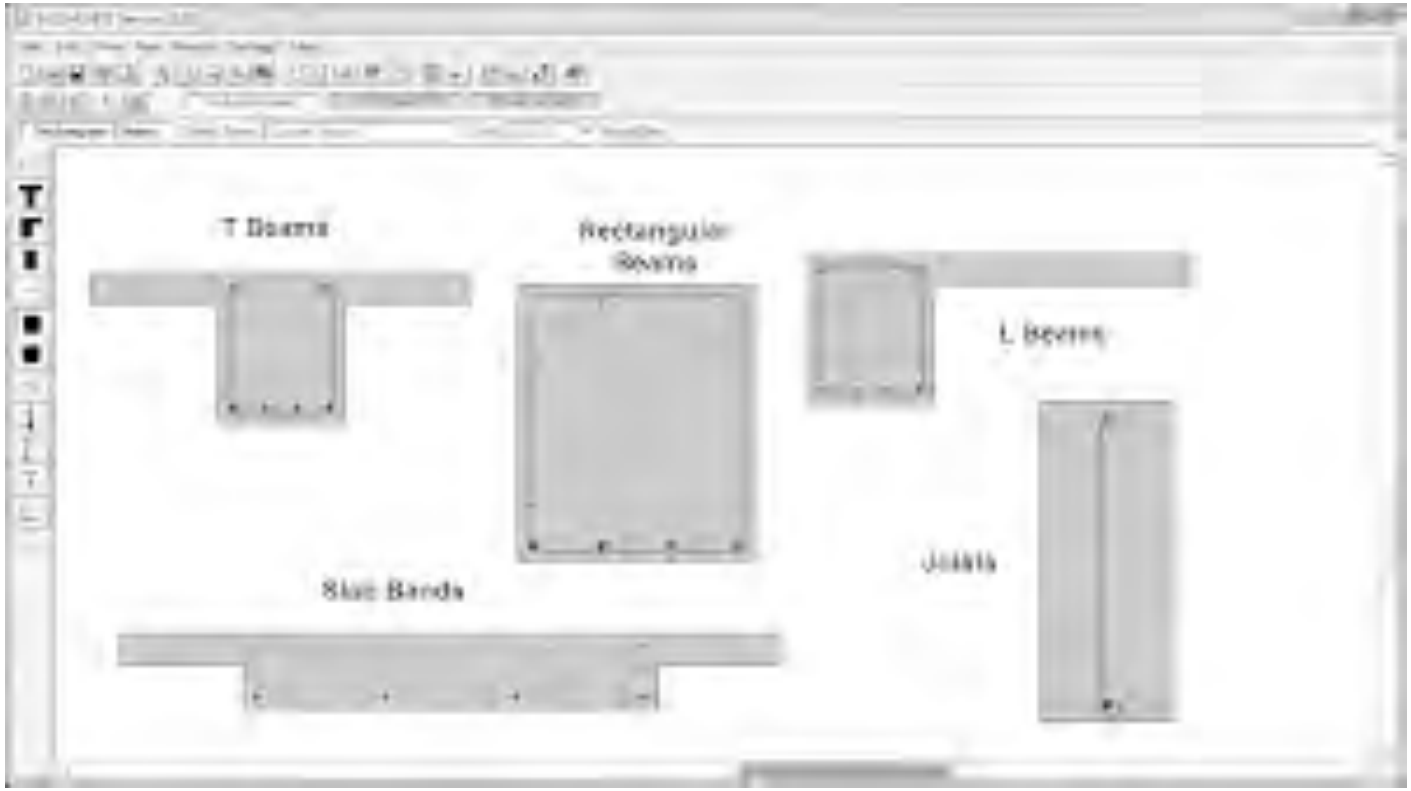


(e)

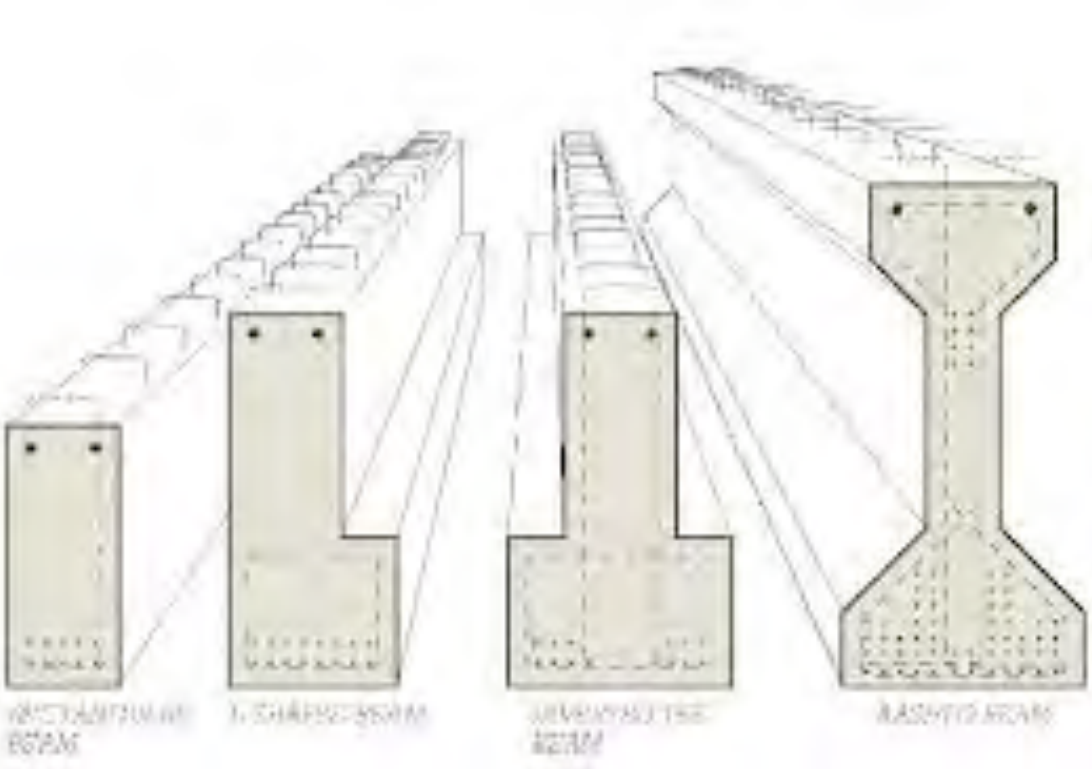


(f)


Upturned beam
Interior columns
1st floor
Drop panels
Flat slab
Column bracket
Column capital
Exterior columns
Interior columns
Basement floor
Basement wall
Slab on grade


T Beams
Rectangular
Beams
L Beams
Joists
Slab Bands

Luce [m]	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00
Trave a spessore b x h [cm]	25 x 12	34 x 12	42 x 12	50 x 12	60 x 14	68 x 16	75 x 18	84 x 20	92 x 22	100 x 24
Trave emergente b x h [cm]	30 x 15	30 x 20	30 x 25	30 x 30	30 x 35	30 x 40	30 x 45	30 x 50	30 x 55	30 x 60



L) Slabs

IDENTIFICATION AND LOCALIZATION

(B08) 3D visualization or 2D drawing of roof slabs, intermediate internal slabs, and ground slabs with labels referring to the adopted families and types

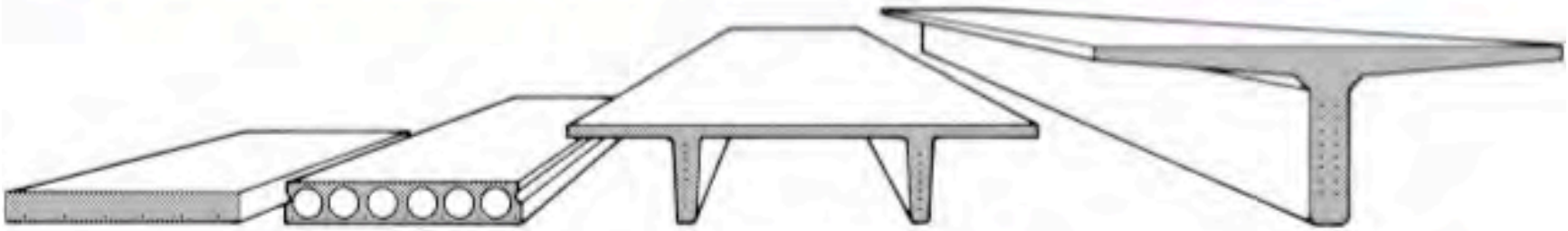
Current reinforced concrete or precast slab families/types could be:
flat slab
hallow slab
waffle slab
with many variations in relationship to the used materials and methods of production (for example: in-situ or precast).

ONTOLOGY
3D sections or 2D sections of each families types with its main label. In most cases, do NOT label the product elements (PR_) because many slabs are normally supplied as an integrated component. Anyhow a description of the constituent parts off the slab is required. Vice versa, if the chosen slab is an in-situ concrete work the product element is required in the same manner of the structural chapter.
Current functional elements of slabs could be:
Structural deck
Formwork and or voidform
Structural screed
joists

In this system do NOT include labels of the following elements that belong to other building system (C02. Pavements and C03. Roofs):
Air control and/or vapor barrier (for roof slabs)
thermal Insulation layer (for roof slabs)
screed to fall or leveling not bearing screed
waterproof layer (for roof slabs)
pavement bedding and/or bonding/adhesive layer
floor finishing
In addition do NOT include labels of finishing layer below the intrados of the structural slab because are part of the finishing category (E03.)

photos and/or drawings with some technical specifications from manufacturing firms or examples depicting the type of adopted slabs.

- *Used for floor and roof decks.*
- *Deeper elements (toward the right below) span further than those that are shallower (toward the left).*
- *Right: Hollow core slabs stacked at the precasting plant.*



SOLID FLAT SLAB	HOLLOW CORE SLAB	DOUBLE TEE	SINGLE TEE
Widths vary	2', 4', 8' wide (610, 1220, 2440 mm)	8', 10' wide (2440, 3050 mm)	8', 10' wide (2440, 3050 mm)

QUANTITY ESTIMATION

Bill of quantities obtained from analytical calculation or from BIM scheduling related to each product type.

Pay attention that inside the same typology of slab differentiations types can derive form a different thickness of the structural screed (such as 4 cm, 6, cm.,...)

As mentioned before for slabs supplied as a completed component the quantity estimation of its element is NOT required. The quantity estimation should be run as a type without the analytical quantity breakdown of the individual elements.

For in-situ concrete slab analytical estimation refers to instructions provided in the structure chapter

6) Not Bearing External Walls

IDENTIFICATION AND LOCALIZATION

(C01.) 3D visualization system or 2D views/plans with labels referring to the adopted families and types of facades, and vertical envelopes.
According to the technological solutions adopted for the project (for example curtain wall, precast integrated envelopes panels or unitized construction in general), localization drawings and/or 3D model views could integrate the external windows and doors category as well. In this case types/families should be defined according to the walls/ windows combinations.

There is a large number of families/types for this building system depending form the nature of classification (functional, technological, topological,...).
By morphology a very limited list could be:
monolitic
multilayer
ventilated facade
curtain wall
double skin facade

by topology;
inserted
semi-inserted
external.

Another useful classification can be defined according with its parts such as:
base
wall
parapet
corner wall.

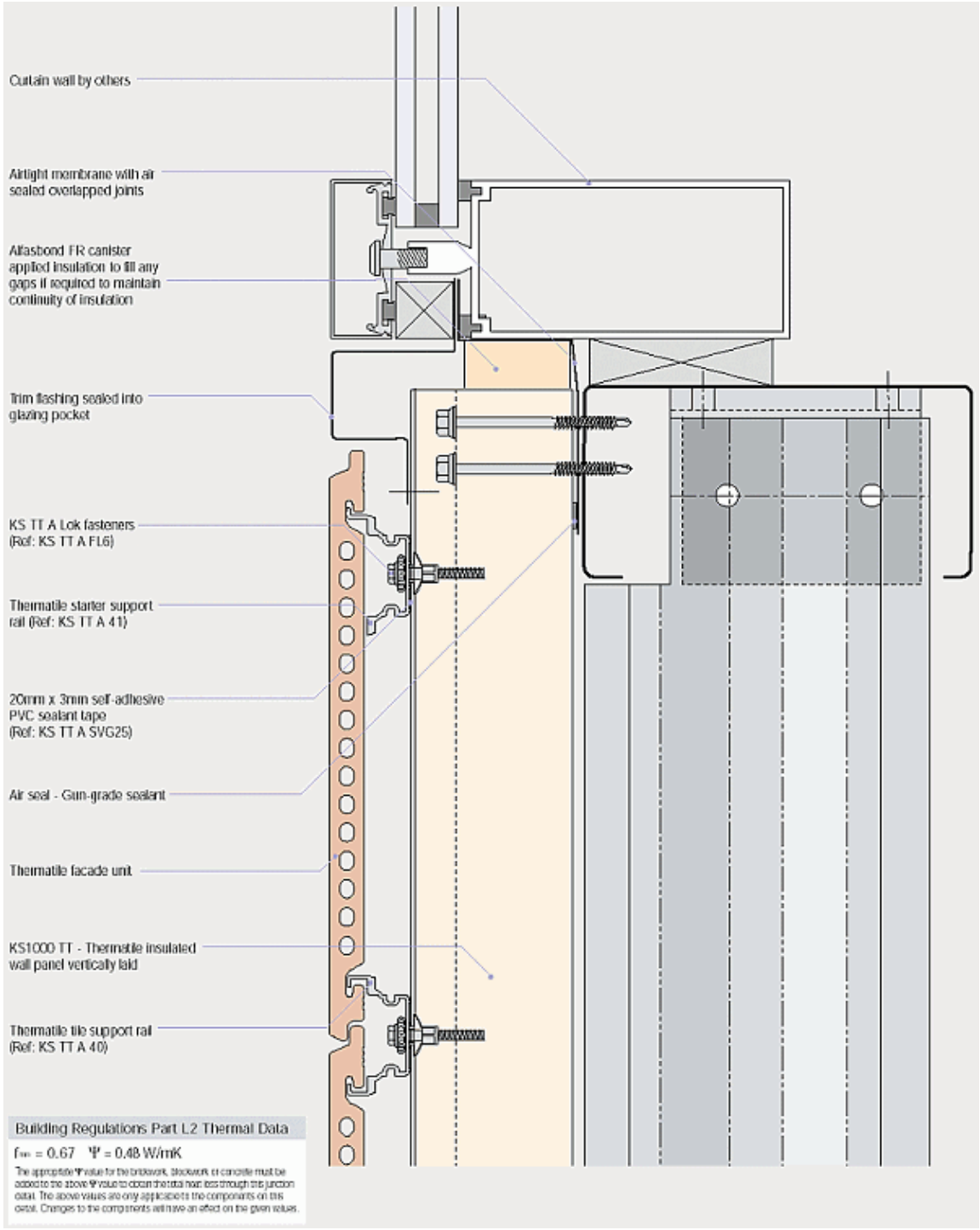
ONTOLOGY
3D sections or 2D sections of each families types with its main label and labels of each product elements (PR_) if the type is a composite type.

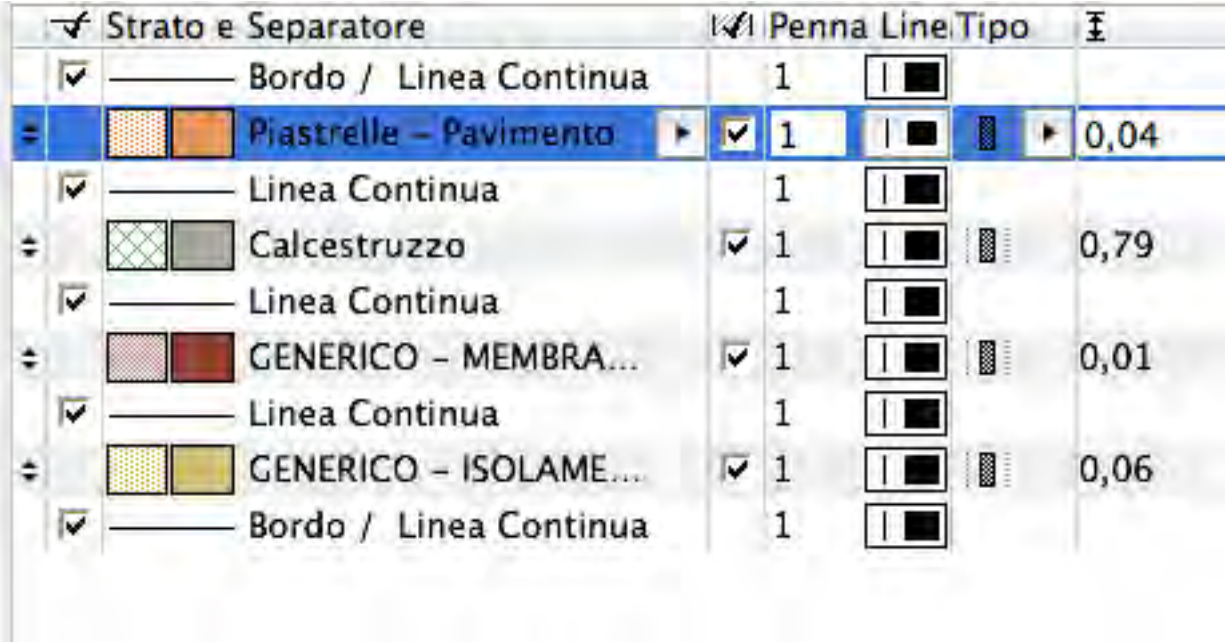
Current functional elements of external walls could be:
Veneer and finishing layer (cladding, plaster, tiles, blocks..)
Finishing support (hallow clay, bricks,.. studs and framing)
Air gap
thermal insulation layer
Structural core (masonry, self bearing panels, frames)
air control and/or vapor barrier
internal wall (hallow clay, gypsum boards,..)
internal finishing (painting, coating,..)
and external windows and doors if are included inside this category

In this system do NOT include labels of the following elements that belong to other building system (C02. Pavements and C03. Roofs):
Air control and/or vapor barrier (for roof slabs)
thermal Insulation layer (for roof slabs)
screed to fall or leveling not bearing screed
waterproof layer (for roof slabs)
pavement bedding and/or bonding/adhesive layer
floor finishing
In addition do NOT include labels of finishing layer below the intrados of the structural slab because are part of the finishing category (E03.)

photos and/or drawings with some technical specifications from manufacturing firms or examples depicting the type of adopted slabs.

Photos and/or drawings with some technical specifications from manufacturing firms or examples depicting the type of adopted envelope walls.


Curtain wall by others
Airtight membrane with air sealed overlapped joints
Allasbond FR canister applied insulation to fill any gaps if required to maintain continuity of insulation
Trim flashing sealed into glazing pocket
KS TT A Lok fasteners (Ref: KS TT A FL6)
Thermatile starter support rail (Ref: KS TT A 41)
20mm x 3mm self-adhesive PVC sealant tape (Ref: KS TT A SVG25)
Air seal - Gun-grade sealant
Thermatile facade unit
KS1000 TT - Thermatile insulated wall panel vertically laid
Thermatile tile support rail (Ref: KS TT A 40)
Building Regulations Part L2 Thermal Data
fRsi = 0.67 Ψ = 0.48 W/mK
The appropriate Ψ value for the brickwork, blockwork or concrete must be added to the above Ψ value to obtain the total heat loss through this junction detail. The above values are only applicable to the components on this detail. Changes to the components will have an effect on the given values.

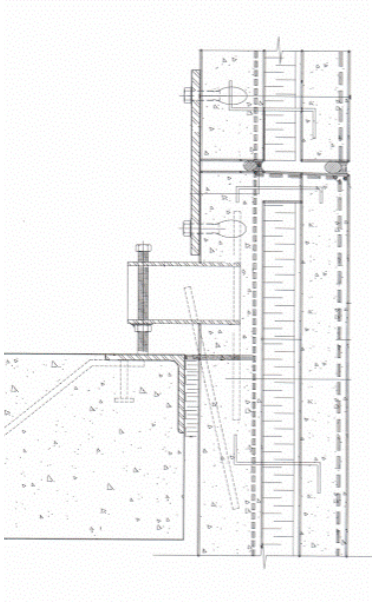

Strato e Separatore
Penna Linea
Tipo
Bordo / Linea Continua
1
Piastrelle – Pavimento
1
0,04
Linea Continua
1
Calcestruzzo
1
0,79
Linea Continua
1
GENERICO – MEMBRA...
1
0,01
Linea Continua
1
GENERICO – ISOLAME...
1
0,06
Bordo / Linea Continua
1

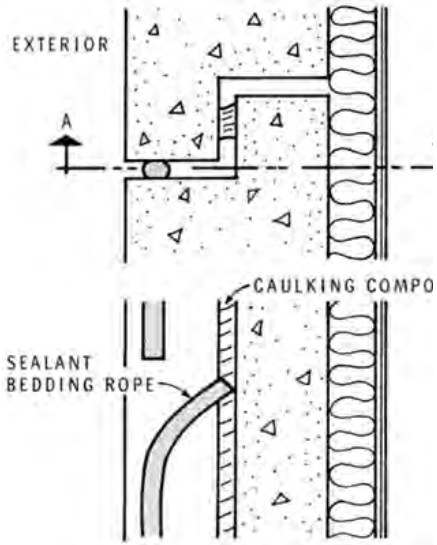
QUANTITY ESTIMATION

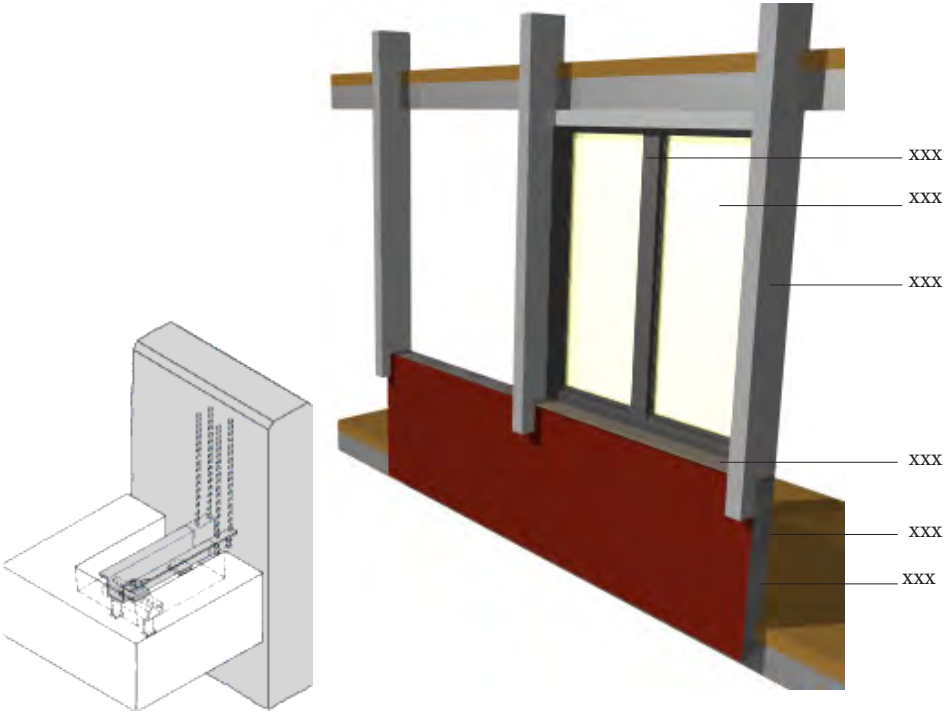
Bill of quantities obtained from analytical calculation or from BIM scheduling related to each product type.
Product elements (PR_) normally used in not bearing external wall system are a multitude. A reference list can be :

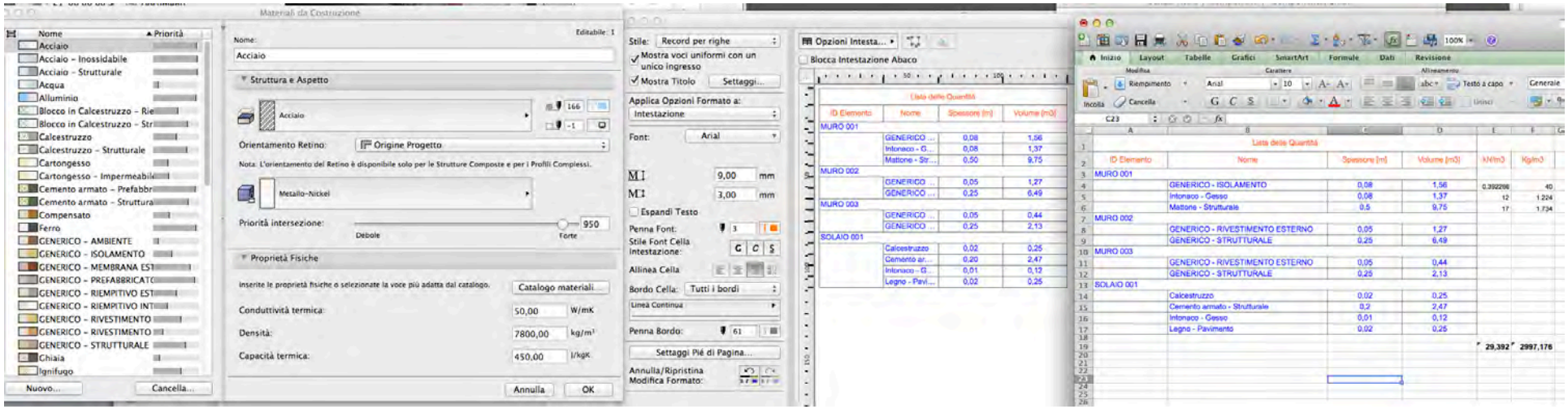
Bricks/ allow clay
Concrete blocks
Tiles (marble, Ceramic, plastic,)
Panels (Concrete, polycarbonate, glass,..
Different kind of butt thermal insulations (corks, polystyrene,
Studs
Membranes
Wallboards
Bris soleil
spandrel
mullions
screens
and windows if an integrated type is adopted.

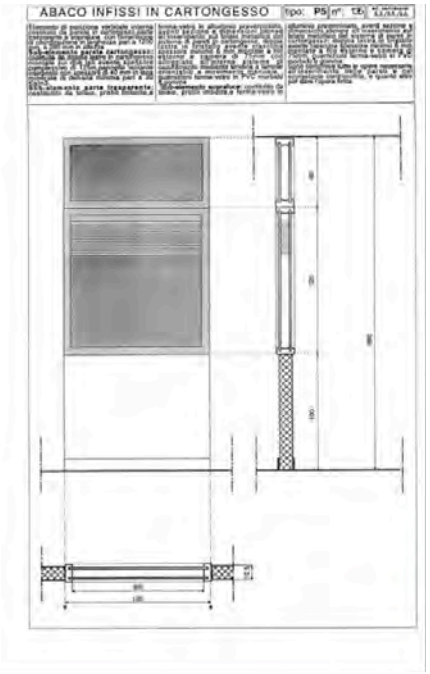
Although a description of parts and elements forming the external envelope types/families are required, for technical solutions supplied as a completed components, do NOT breakdown them in elements, and do NOT estimate them as sum of different part. Prices for this kind of products are all included and expressed in squared meters.
Some considerations can be applied for external windows and doors.

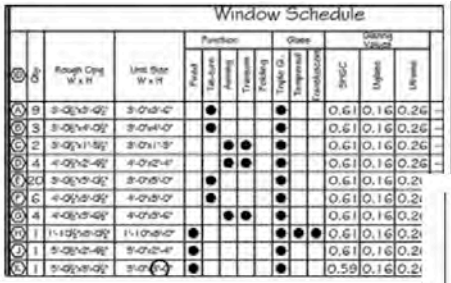


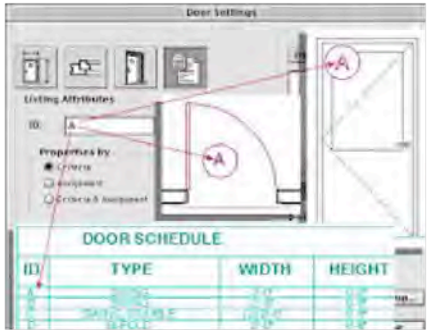

EXTERIOR
A
CAULKING COMPO
SEALANT
BEDDING ROPE


xxx
xxx
xxx
xxx
xxx
xxx


Materiali da Costruzione
Nome
Priorità
Acciaio
Acciaio - Inossidabile
Acciaio - Strutturale
Acqua
Alluminio
Blocco in Calcestruzzo - Rie
Blocco in Calcestruzzo - Str
Calcestruzzo
Calcestruzzo - Strutturale
Cartongesso
Cartongesso - Impermeabile
Cemento armato - Prefabbr
Cemento armato - Struttura
Compensato
Ferro
GENERICO - AMBIENTE
GENERICO - ISOLAMENTO
GENERICO - MEMBRANA EST
GENERICO - PREFABBRICAT
GENERICO - RIEMPITIVO EST
GENERICO - RIEMPITIVO INT
GENERICO - RIVESTIMENTO
GENERICO - RIVESTIMENTO
GENERICO - STRUTTURALE
Ghiaia
Ignifugo
Nuovo...
Cancella...
Nome:
Acciaio
Editabile: 1
Struttura e Aspetto
Acciaio
Orientamento Retino:
Origine Progetto
Nota: L'orientamento del Retino è disponibile solo per le Strutture Composte e per i Profili Complessi.
Metallo-Nickel
Priorità intersezione:
950
Debole
Forte
Proprietà Fisiche
Inserite le proprietà fisiche o selezionate la voce più adatta dal catalogo.
Catalogo materiali...
Conduttività termica:
50,00
W/mK
Densità:
7800,00
kg/m³
Capacità termica:
450,00
J/kgK
Annulla
OK
Stile:
Record per righe
Mostra voci uniformi con un unico ingresso
Mostra Titolo
Settaggi...
Applica Opzioni Formato a:
Intestazione
Font:
Arial
9,00
mm
3,00
mm
Espandi Testo
Penna Font:
Stile Font Cella Intestazione:
Allinea Cella
Bordo Cella:
Tutti i bordi
Linea Continua
Penna Bordo:
Settaggi Piè di Pagina...
Annulla/Ripristina Modifica Formato:
Opzioni Intesta...
Blocca Intestazione Abaco
Lista delle Quantità
ID Elemento
Nome
Spessore [m]
Volume [m3]
MURO 001
GENERICO ...
Intonaco - G...
Mattone - Str...
MURO 002
GENERICO ...
GENERICO ...
MURO 003
GENERICO ...
GENERICO ...
SOLAIO 001
Calcestruzzo
Cemento ar...
Intonaco - G...
Legno - Pavi...
Inizio
Layout
Tabelle
Grafici
SmartArt
Formule
Dati
Revisione
Incolla
Riempimento
Cancella
Arial
Testo a capo
Generale
C23
Lista delle Quantità
ID Elemento
Nome
Spessore [m]
Volume [m3]
kN/m3
Kg/m3
MURO 001
GENERICO - ISOLAMENTO
Intonaco - Gesso
Mattone - Strutturale
MURO 002
GENERICO - RIVESTIMENTO ESTERNO
GENERICO - STRUTTURALE
MURO 003
GENERICO - RIVESTIMENTO ESTERNO
GENERICO - STRUTTURALE
SOLAIO 001
Calcestruzzo
Cemento armato - Strutturale
Intonaco - Gesso
Legno - Pavimento
0,08 1,56 0,392298 40
0,08 1,37 12 1,224
0,5 9,75 17 1,734
0,05 1,27
0,25 6,49
0,05 0,44
0,25 2,13
0,02 0,25
0,2 2,47
0,01 0,12
0,02 0,25
29,392 2997,176







Components Schedule is a very effective system for describing parts of the building.
BIM provides automated devices to produce them. Other solutions be offered by CAD in conjunction with spreadsheet.