SASPARM 2.0

EUCENTRE European Centre for Training and Research in Earthquake Engineering

IUSS Scuola Universitaria Superiore Pavia

Support Action for Strengthening PAlestine capabilities for seismic Risk Mitigation

SASPARM 2.0

2013

Example on the compilation of forms for existing buildings

PRACTITIONERS

ECHO/SUB/2014/694399 - SASPARM 2.0 Support Action for strengthening PAlestine capabilities for seismic Risk Mitigation
Project co-funded by ECHO - Humanitarian Aid and Civil Protection

Reference Building

ECHO/SUB/2014/694399 - SASPARM 2.0 Support Action for strengthening PAlestine capabilities for seismic Risk Mitigation
Project co-funded by ECHO - Humanitarian Aid and Civil Protection

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Example of how compile the form

GENERAL FORM FOR THE BUILDING PRACTITIONERS

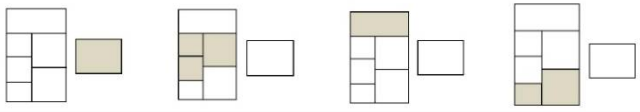
Name of the compiler: JALAL AL DABBEEK
Education level: PHD

1) Identification of the Building

Municipality: NABLUS
Street name: | Street number: 0982
Name of the building: 003
Geographical Coordinates (WGS 84 System): Lat. N 32 11 31 14 07 11 — Long. E 35 14 13 85 11

Position of Building:

1 ☒ Isolated Building ○ 2 Internal Building ○ 3 End Building ○ 4 Corner Building



2) Description of the Building

Metrics

N° Total floors with basement: ○1 ☒9 ○2 ○10 ○3 ○11 ○4 ○12 ○5 ○>12 ○6 ○7 ○8

Average of floor height [m]: 1 ○ < 2.50 | 2 ☒ 2.50÷3.50 | 3 ○ 3.51÷5.0 | 4 ○ > 5.0

N° Basements: A ☒ 0 ○ 2 | B ○ 1 ○ ≥3

Average of floor area [m²]: A ○ < 50 | B ○ 51 ÷ 70 | C ○ 71 ÷ 100 | D ○ 101 ÷ 130 | E ○ 131 ÷ 170 | F ○ 171 ÷ 230 | G ○ 231 ÷ 300 | H ○ 301÷ 400 | I ○ 401 ÷500 | L ☒ 501 ÷650 | M ○ 651 ÷900 | N ○ 901 ÷1200 | O ○ 1201 ÷1600 | P ○ 1601 ÷2200 | Q ○ 2201 ÷3000 | R ○ > 3000

Age

Construction and renovation [max 2]: 1 ☐ ≤ 1919 | 2 ☐ 19 ÷ 45 | 3 ☐ 46 ÷ 61 | 4 ☐ 62 ÷ 71 | 5 ☐ 72 ÷ 81 | 6 ☐ 81 ÷ 91 | 7 ☐ 91 ÷ 02 | 8 ☒ ≥ 2002

Use - Exposure

Type of Use	N° units of use	% of Use
☒ Housing	19	A ○ > 65%
☐ Productive		B ☒ 30÷65%
☐ Trade		C ○ < 30%
☐ Offices		D ○ Under Construction
☐ Public Service		E ○ Unfinished
☒ Deposit	5	F ○ Abandoned
☐ Strategic		
☐ Touristic - Accomodation		

Property: A ○ Public | B ☒ Private

Occupants

100	10	1
0	0	X
X	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	X	8
9	9	9

3) Structural Data

Vertical Structure of the Building

Masonry	Reinforced Concrete	If the building is in reinforced concrete:
○ A	☒ B	B.1 ☐ The building has no walls at floors: ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10 ☐11 ☐≥12 — B.2 ☒ The building has partially walls at floors: ☐1 ☒2 ☒3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10 ☐11 ☐≥12 — B.3 ☐ The building is composed totally by walls — B.4 ☐ The building has RC shear walls

Horizontal Structure

Not identified	Solid slab with drop beams	Reinforced concrete ribbed slab	Reinforced concrete slab	Steel concrete slab
○	☐	☒	☐	☐

Roof

Heavy and flat	Heavy and sloped	Light and flat	Light and sloped
☒	○	○	○

4) Regularity

In plan		In elevation	
Regular	Not regular	Regular	Not regular
○	☒	○	☒

5) Geomorphological Data

Morphology site				Landslides		Category of soil foundation
Ridge	Strong slope	Slight slope	Lowland	Absent	Existing	C
○	○	☒	○	☒	○	

6) Notes

Building Code including the street no and building no: 412-0982-003

Date	The Compiler (Block Letters)	Sign of the Compiler
20/15/10/12	JALAL AL DABBEEK	

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Section 1: Identification of the Building

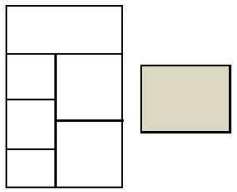
Name of the compiler	JALAL ALDABBEEK
Education level	PHD

1) Identification of the Building

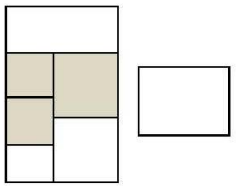
Municipality	NABLUS
Street name	
Street number	0982
Name of the building	003
Geographical Coordinates (WGS 84 System)	Lat. N32 13 14,071 Long. E35 14 13,851

Position of Buiding :

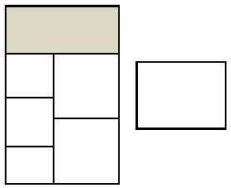
1 ☒ Isolated Building



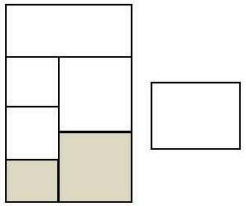
2 ☐ Internal Building



3 ☐ End Building



4 ☐ Corner Building

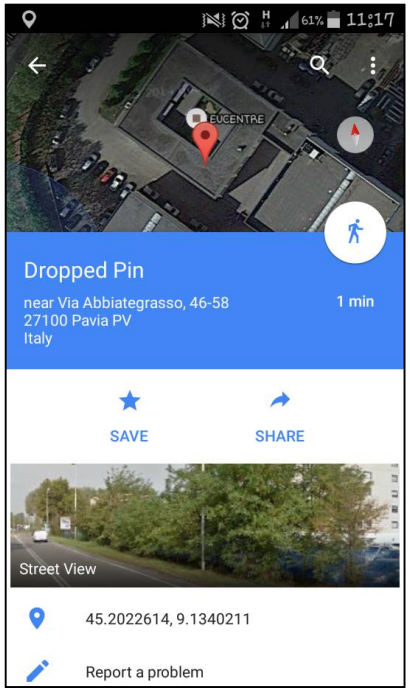


Before starting the compilation of the form, define yourself with ***Name*** and ***Educational Level.***

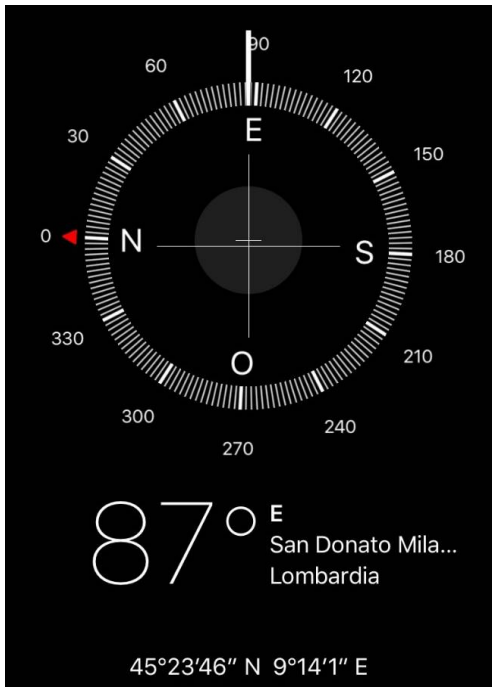
Identification of the Building: *Geographical Coordinates*

Geographical Coordinates (WGS 84 System)	Lat. |N|3|2|1|3|1|4|,|0|7|1| Long. |E|3|5|1|4|1|3|,|8|5|1|

Geographical Coordinates (Android):



Geographical Coordinates (IOS):



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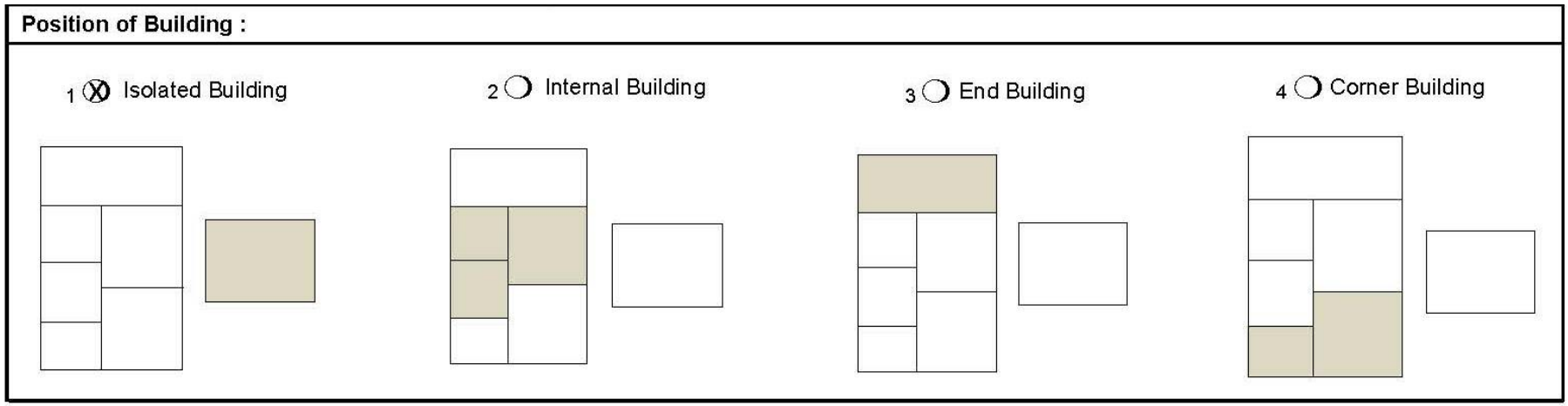
Identification of the Building: *Position of Building*



- ✓ To point out link/connection between buildings
- ✓ Useful element to understand structural interaction and evaluate vulnerability

Identification of the Building: *Position of Building*

- **Isolated Building**
- End Building
- Internal Buildings
- Corner Buildings

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Section 2: Description of Building

Metrics, Age of construction, Use – Exposure, Property

2) Description of the Building

Metrics

N° Total floors with basement

- ○ 1 ⊗ 9
- ○ 2 ○ 10
- ○ 3 ○ 11
- ○ 4 ○ 12
- ○ 5 ○ >12
- ○ 6
- ○ 7
- ○ 8

Average of floor height [m]

- 1 ○ < 2.50
- 2 ⊗ 2.50÷3.50
- 3 ○ 3.51÷5.0
- 4 ○ > 5.0

N° Basements

- A ⊗ 0 C ○ 2
- B ○ 1 D ○ ≥3

Average of floor area [m²]

- A ○ < 50
- B ○ 51 ÷ 70
- C ○ 71 ÷ 100
- D ○ 101 ÷ 130
- E ○ 131 ÷ 170
- F ○ 171 ÷ 230
- G ○ 231 ÷ 300
- H ○ 301÷ 400
- I ○ 401 ÷500
- L ⊗ 501 ÷650
- M ○ 651 ÷900
- N ○ 901 ÷1200
- O ○ 1201 ÷1600
- P ○ 1601 ÷2200
- Q ○ 2201 ÷3000
- R ○ > 3000

Age

Construction and renovation [max 2]

- 1 ☐ ≤ 1919
- 2 ☐ 19 ÷ 45
- 3 ☐ 46 ÷ 61
- 4 ☐ 62 ÷ 71
- 5 ☐ 72 ÷ 81
- 6 ☐ 81 ÷ 91
- 7 ☐ 91 ÷ 02
- 8 ☒ ≥ 2002

Use - Exposure

Type of Use

- ☒ Housing
- ☐ Productive
- ☐ Trade
- ☐ Offices
- ☐ Public Service
- ☒ Deposit
- ☐ Strategic
- ☐ Touristic - Accomodation

N° units of use

- Housing: 19
- Deposit: 5

% of Use

- A ○ > 65%
- B ⊗ 30÷65%
- C ○ < 30%
- D ○ Under Construction
- E ○ Unfinished
- F ○ Abandoned

Occupants

100	10	1
0	0	⊗
⊗	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	⊗	8
9	9	9

Property A ○ Public B ⊗ Private

Description of Building: *Metrics*

N° of floor

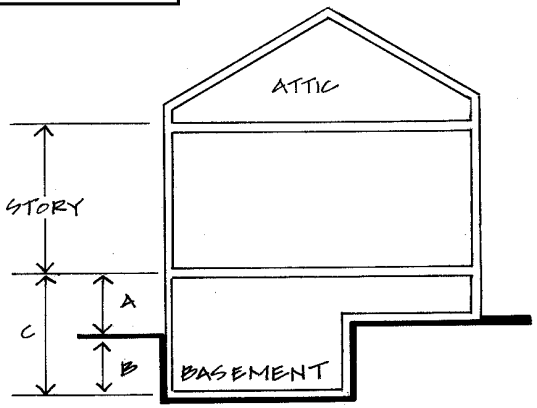
2) Description of the Building

Metrics

N° Total floors with basement	Average of floor height [m]	Average of floor area [m²]	
○ 1 ⊗ 9	1 ○ < 2.50	A ○ < 50	I ○ 401 ÷500
○ 2 ○ 10	2 ⊗ 2.50÷3.50	B ○ 51 ÷ 70	L ⊗ 501 ÷650
○ 3 ○ 11	3 ○ 3.51÷5.0	C ○ 71 ÷ 100	M ○ 651 ÷900
○ 4 ○ 12	4 ○ > 5.0	D ○ 101 ÷ 130	N ○ 901 ÷1200
○ 5 ○ >12		E ○ 131 ÷ 170	O ○ 1201 ÷1600
○ 6	**N° Basements**	F ○ 171 ÷ 230	P ○ 1601 ÷2200
○ 7	A ⊗ 0 C ○ 2	G ○ 231 ÷ 300	Q ○ 2201 ÷3000
○ 8	B ○ 1 D ○ ≥3	H ○ 301÷ 400	R ○ > 3000

9th
8th
7th
6th
5th
4th
3rd
2nd
1st

If A<B → C basement



NO

BASEMENT

Description of the Building: *Metrics*

2) Description of the Building

Metrics

N° Total floors with basement	Average of floor height [m]	Average of floor area [m^2]	
○ 1 ⊗ 9	1 ○ < 2.50	A ○ < 50	I ○ 401 ÷500
○ 2 ○ 10	2 ⊗ 2.50÷3.50	B ○ 51 ÷ 70	L ⊗ 501 ÷650
○ 3 ○ 11	3 ○ 3.51÷5.0	C ○ 71 ÷ 100	M ○ 651 ÷900
○ 4 ○ 12	4 ○ > 5.0	D ○ 101 ÷ 130	N ○ 901 ÷1200
○ 5 ○ >12		E ○ 131 ÷ 170	O ○ 1201 ÷1600
○ 6	**N° Basements**	F ○ 171 ÷ 230	P ○ 1601 ÷2200
○ 7	A ⊗ 0 C ○ 2	G ○ 231 ÷ 300	Q ○ 2201 ÷3000
○ 8	B ○ 1 D ○ ≥3	H ○ 301÷ 400	R ○ > 3000

- ✓Indicate the average floor height
- ✓Indicate the floor area

Description of the Building: *Age*

Age	
Construction and renovation [max 2]	
1	☐ ≤ 1919
2	☐ 19 ÷ 45
3	☐ 46 ÷ 61
4	☐ 62 ÷ 71
5	☐ 72 ÷ 81
6	☐ 81 ÷ 91
7	☐ 91 ÷ 02
8	☒ ≥ 2002

Period in which building was built or when it has been subjected to a **significant restoration** (structural part).

Remember: **max 2 choices**!

Description of Building: *Use – Exposure and Property*

- ✓ Select all kind of use taking place in the building and its related number of units.
- ✓ % Use: indicate % use for spatial and/or temporal term according to 3 levels or, if building is not used, choose among 3 alternatives.
- ✓ Occupants: indicate the number of persons that are usually present in the building.
- ✓ Type of Property: public or private.

Use - Exposure

Type of Use	N° units of use	% of Use	Occupants (100 / 10 / 1)
[X] Housing	19	A ○ > 65%	0 / 0 / X
[ ] Productive		B ⊗ 30÷65%	X / 1 / 1
[ ] Trade		C ○ < 30%	2 / 2 / 2
[ ] Offices		D ○ Under Construction	3 / 3 / 3
[ ] Public Service			4 / 4 / 4
[X] Deposit	5	E ○ Unfinished	5 / 5 / 5
[ ] Strategic		F ○ Abandoned	6 / 6 / 6
[ ] Touristic - Accomodation			7 / 7 / 7
			8 / X / 8
			9 / 9 / 9

Property A ○ Public B ⊗ Private

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Section 3: Structural Data – Vertical Structure of the Building

3) Structural Data

Vertical Structure of the Building

Masonry: ○ A	Reinforced Concrete: ⊗ B	If the building is in reinforced concrete:

B.1 ☐ The building has no walls at floors:

☐ 1 ☐ 2 ☐ 3 ☐ 4

☐ 5 ☐ 6 ☐ 7 ☐ 8

☐ 9 ☐ 10 ☐ 11 ☐ ≥12

B.2 ☒ The building has partially walls at floors:

☐ 1 ☒ 2 ☒ 3 ☐ 4

☐ 5 ☐ 6 ☐ 7 ☐ 8

☐ 9 ☐ 10 ☐ 11 ☐ ≥12

B.3 ☐ The building is composed totally by walls

B.4 ☐ The building has RC shear walls

1 Reinforced Concrete

2 The building has partially walls at 2nd and 3rd floors

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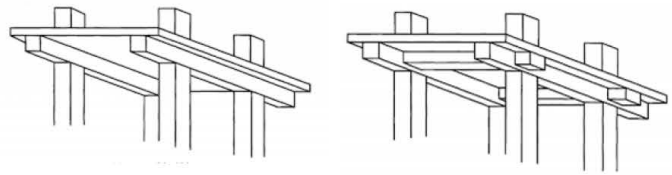
Section 3: *Horizontal Structure*

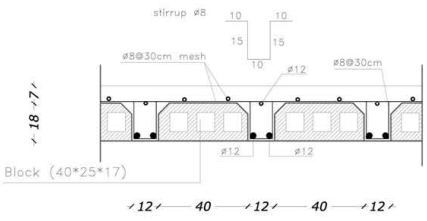
Horizontal Structure				
Not identified	Solid slab with drop beams	Reinforced concrete ribbed slab	Reinforced concrete slab	Steel concrete slab
○	❑	☒	❑	❑

Type of slabs

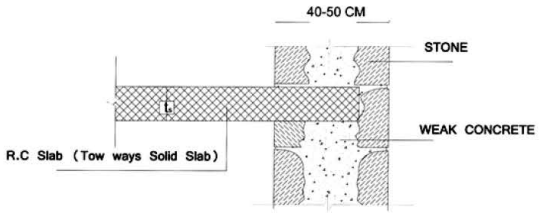
Solid slab with drop beams



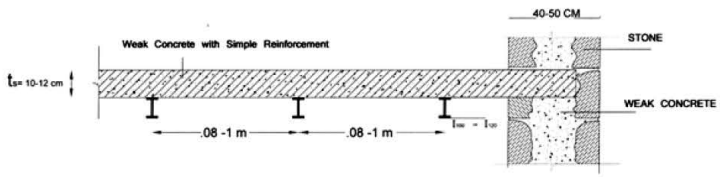
Reinforced concrete ribbed slab



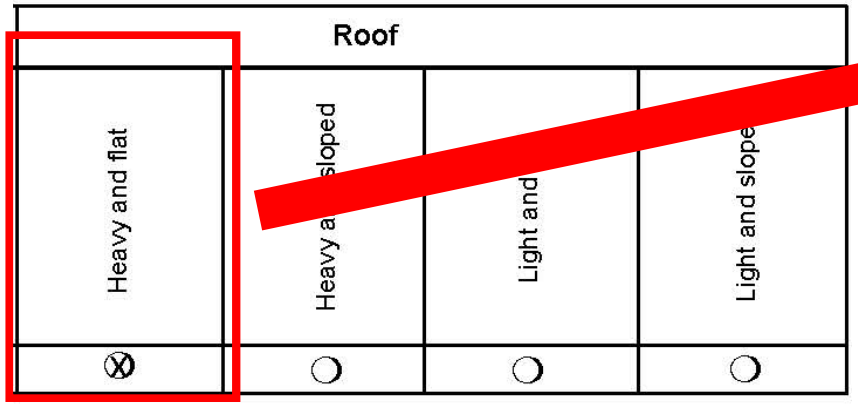
Reinforced concrete slab



Steel concrete slab



Section 3: *Horizontal Structure*



Heavy: **reinforced concrete roof or roof with water tanks**

Light: **steel or wood roof without water tanks and/or heavy plates/tiles such as natural stone**

Flat

Sloped

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Section 4: Regularity (UNI EN 1998-1:2005)

4) Regularity			
In plan		In elevation	
Regular	Not regular	Regular	Not regular
○	⊗	○	⊗

In plan: Not regular

✓The building plan is not symmetrical, with respect to two orthogonal axes.

✓The building plan has re-entrant corners and edge recesses.

In elevation: Not regular

✓Soft story at 2nd and 3th floors.

✓Vertical structural elements are not continuous from foundation to roof or reduce gradually, from the base to the top of the building

Section 5: Geomorphological Data

5) Geomorphological Data						
Morphology site				Landslides		Category of soil foundation
Ridge	Strong slope	Slight slope	Lowland	Absent	Existing	
○	○	⊗	○	⊗	○	C

Category of soil foundation

- ✓UNI EN 1998-1:2005
- ✓Jordanian Building Code (in accordance with UBC97)

***Section 6*: Notes**

- ✓ Optional Field, if you want to describe building's features in more details.
- ✓ Remember to input the date and your signature.
- ✓ At the end of the form, quick information and the meaning of each section are available.

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Thank you for your attention!

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