

## BUILDING REGULATIONS

FOR THE COMMUNES OF THE ISLAND OF ISCHIA  
DAMAGED BY THE EARTHQUAKE OF 28TH APRIL, 1889.

Regolamento edilizio per i comuni dell'Isola d'Ischia danneggiati  
del terremoto del 28 luglio 1883, Roma 1884.

### CHAPTER I.—RULES FOR NEW CONSTRUCTIONS.

Art. 1.—In the commune of Casamicciola, Lacco Ameno, Forio, Serrara Fontana, and Barano, which have been damaged by the earthquake of 1883, the use of masonry in new buildings for dwellings and in those serving only for temporary residence, is prohibited, unless it is executed according to the barrack-system, with timber or iron frames, as in Art. 6.

Art. 2.—Common masonry, executed according to the best technical rules, may be exceptionally used, but then only for buildings of one storey over the soil, constructed on ground formed of solid lava or by well cemented tuff, or on plains, especially along the sea-shore, which have been recognised as being less dangerous.

These buildings of ordinary masonry must be covered with roofs of light materials, and, where tile coverings are required or there exist terraces (flat roofs) with "impiantito," it may be compulsory, according to the use of the building, that the planking be supported by posts solidly resting on or fixed into the ground and connected together by means of cross diagonals.

Art. 3.—The height of the new buildings which is referred to in Art. 1, is limited to 10 mètres measured from the soil to the summit of the external wall, the parapet excluded, should there be terraces. The number of the dwelling stories over the soil cannot be more than two, the ground storey included. A cellar may be also constructed, provided it is not more than one and a half mètre over the soil.

Art. 4.—In any building of whatever kind of construction, vaults, arches, and flat bands of masonry in stories over the soil are prohibited.

Only vaults in cellars, which do not reach over the soil, are permitted, provided they are made of good material and of good mortar, and with a sine not less than  $\frac{1}{3}$  of the chord.

Art. 5.—In buildings for public use, as churches, schools, municipal buildings, theatres, bath-houses, saloons for amusement (ridotti), etc., doors and staircases must be large and so arranged as to permit in case of danger the most rapid exit for the people which are there assembled.

Art. 6.—The new dwelling houses must, with regard to the material, to their size, and to the manner of execution, be constructed according to the best technical rules, in order to protect the same against earthquakes.

For this purpose, besides being sanctioned by the preceding articles and special instructions, such as might be given according to particular cases, the following rules must be also observed :—

1. It is prohibited to construct buildings for dwellings or even for temporary residence, on the sides of hills having a great slope, or on inclined ground, although supported by walls, unless by means of excavation a solid bed has been found upon which the foundations can be laid, and the neighbouring ground has also made secure.

Besides this, if the importance of the building or the peculiar conditions of the ground requires the same, a special foundation platform may be necessary.

For new buildings, a form with a square base is preferred : however, other forms cannot be excluded, provided they do not differ much from the square base.

2. Mortar for the construction of new walls must be of good quality, composed of lime and sand, or lime and puzzolano, excluding all mixtures of earth.

It is prohibited to slacken lime for construction by means of salt or thermal water.

Hollow masonry filled in is also prohibited, unless it is done with lime-mortar and with good puzzolano making a proper concrete.

The tufaceous stone of Ischia, used for heavy masonry, must be cut into parallelepipeds, having a face of such length as to permit the same alternating in length and width, especially near the corners.

In buildings which have their ground storey of simple masonry, the external walls, if they are made of the tufaceous stones of Ischia, must have a height not exceeding 4 mètres and a thickness of not less than 0m.70.

A somewhat lesser thickness is only permitted for brick-work, executed according to technical rules, in consideration of its greater solidity.

3. The spans of doors and windows must be at a distance of at least 1m.50 from the corners, and they must be protected by lintols, or by small arches with a sine of at least  $\frac{1}{4}$  of the chord, and both strengthened underneath by solid timber or iron supports well cased into the side walls.

Any abrupt or projecting construction, with the exception of balconies, must never project over the road more than 0m.60, or cornices any more than 0m.30.

Balconies, whether they are of iron or of timber, must be solidly constructed, well cased into the walls, and supported by iron consoles.

Timber or iron frames of buildings belonging to the barrack-system must be properly strengthened by diagonals and triangles so to resist without damage shocks in various directions.

Frames, as well as floor-plankings and trusses, must be solidly connected together.

Walls of buildings of the barrack system may be either externally and internally covered with light lathing coated with

roughcast, or lined, as in Calabria and in Portugal, with squared stones or bricks. But in this last case the material must be very light and fastened together by several means, in order to prevent it from falling during earthquakes.

4. Roof-beams must form a complete truss, with the horizontal beam prolonged as far as the external facing of the walls and supported by other beams resting longitudinally upon the same walls and well connected with them.

Tiles, to be used for covering roofs, must be light, especially in buildings of two stories over the soil, and well fastened by hooks, screws, or ties, which prevent their falling.

In order to protect garrets or roof-rooms, a good planking under the tiles, supported by the truss beams, may be ordered.

It is prohibited to employ loose small split beams for the support of the terrazzo, instead of which a planking solidly fastened on the beams or on the small joists, and resting upon a frame running on the top of the walls, must be used.

5. The timber to be used in construction (preferably chestnut) must be of good quality, well seasoned, and properly prepared in order to resist worms and other insects.

In parts exposed to fire, and especially in buildings entirely of timber, which are for public use, the timber must be preserved by injections and several times coated with an efficacious incombustible material. The iron employed for frames and frame-work of barrack buildings must be malleable and be able to resist strong shocks without breaking.

6. In churches and chapels of certain dimensions, the basilic form, which is lighter, is to be preferred.

Bells must be preferably suspended in small solid timber towers, in a little frequented corner of the church.

Art. 7.—Small supporting and separation walls along public roads, in inhabited places as well as in the country, must be so constructed as to prevent all danger of disasters or of nuisance in case of earthquakes.

Constructions of rustic walls with irregular stones put together without order, are also prohibited, unless their solidity be strengthened by means of a sufficient escarpment which is not inconvenient to the public thoroughfare.

#### CHAPTER II.—DANGEROUS ZONES.

Art. 8.—Those tracts of ground are declared dangerous zones which, either on account of their vicinity to the centres of commotion, or in consequence of the nature of the soil or of its steep slope, are greatly exposed to the dangers of earthquakes.

Art. 9.—In the territory of the two bordering communes of Casamicciola and Lacco Ameno, the dangerous zone includes the slope which forms the lower region near the sea-shore and goes up the sides of Mount Epomes, limited by a line which, starting eastward from the angle of the road near the church of San Pasquale, ascends to the south the height of Tresta; then, turning to the west, skirts the foot of Epomes, passing over the valley of Ombrasco or Gurgitello, Casamicciola-alta, and Mount Cito; thence, descending to the north-west through San Giuseppe, Mennella, and the first hills of Mezzavia, reaching the sea-shore near the hot springs of Santa Restituita.

The region of Perrone eastwards from Casamicciola and the lower sea-shore, indicated on the new plan, are excluded.

In the commune of Torlo, the dangerous zone includes the slopes east and north-east from the inhabited localities, where the boroughs of Monterone, San Pietro, Tirone, and Santa Maria delle Grazie are situated, this zone continuing down to the sea.

In the communes of Serrara Fontana and Barano in particular parts the dangerous points will be declared on the presentation of the regulating plans or of the petitions for reconstructions or for new buildings.

The boundaries of the zones declared dangerous must be drawn, within the shortest delay, on a special plan and

indicated on the ground by stone pillars expressly put up to show the boundaries.

Art. 10.—It is allowed to build on zones declared dangerous private dwelling houses either of timber or of masonry, according to the barrack system, of which Art. 1 treats; but it is prohibited to extend the regulating plans to the new quarters, to reconstruct the old quarters, and to construct buildings or public establishments, unless they are entirely of timber and well connected.

Art. 11.—From the prohibition mentioned in the preceding Article, although situated in a dangerous zone, certain places may be excepted, which on account of the nature or exceptionally favourable situation of the ground or for other reasons may be considered as presenting sufficient guarantee of security.

#### CHAPTER III.—RULES FOR BUILDINGS WHICH ARE DAMAGED AND IN A DANGEROUS CONDITION.

Art. 12.—Independent of the power granted by the law on public works (Art. 76), by the communal and provincial law (Art. 3 and 104), as well as by the rules contained in the law of 2nd March, 1884, No. 1985, on the provision for Ischia, to the Prefect of the province and to the Mayor, a speedy total or partial demolition of those buildings, which, on account of the severe damage occasioned by earthquakes or by falling of the ground, or which by any other reason present danger of ruin, must be proceeded with.

Art. 13.—In case of repairs, the following rules must be observed:—

1. Vaults of stories over the ground must be demolished, substituting for them, well constructed ceilings, and only under exceptional circumstances may such of those of the ground stories be preserved as are in a good and safe condition, or such as can be solidly secured either by tightening or strengthening them with iron chains and bands.

2. Those ceilings which support terraces, if they have not a solidity proportionate to the weight they bear, must be demolished and their reconstruction must not be permitted except in accordance with the rules contained in Article 6.

3. In case of need, the floor timbers must be supported by a sufficient number of posts, conveniently placed in the thickness of the walls or at least into the corners of each room, to be scovered.

The same rule must be applied to the support of floors of the "entresol."

4. Vaults of churches, which present danger, must be substituted by ceilings well constructed and supported by posts in connection with each other, otherwise, in order to prevent disasters, they must be strengthened by metallic hoops.

5. If it is necessary to consolidate vaults or walls by means of iron chains or bands, these must bear upon a large surface by means of metallic plates, net work, or long iron rods or bars.

Art. 14.—If the dangerous condition of a building of several stories necessitates heavy expense for its repairs, the reduction to only two stories over the soil may be ordered.

Art. 15.—The owners of ground protected by small dry walls of little solidity bordering mule-paths, will be requested to have them demolished within a period to be fixed by the Committee. For the reconstruction of these walls the rules contained in Art. 7 must be observed; and should the owners not obey, the rules for damaged buildings contained in Art. 12 of the present regulations must be applied.

#### CHAPTER IV.—SPECIAL BUILDING COMMITTEE.

Art. 16.—A special Building Committee is instituted, its duty being to enforce the rules of the present regulations.

Art. 17.—The Committee is composed as follows:—

A superior officer of the Home Department as president;

The director of the Geodynamical Observatory of the Island, as vice-president ;

An official Civil Engineer, independent of the Government office of the province, as secretary and reporter ;

The Mayor of the Commune, when action has to be taken ;

A leading resident of the same Commune.

The first three must be appointed by the Government and the leading residents by the Provincial Council.

The Mayor and the leading resident will only take part in meetings when affairs relating to their Commune are discussed.

The Committee will have its seat in the Island of Ischia, in the Royal Villa near to the harbour.

Article 18.—The representatives of the communes may be also called together by the president in extraordinary meetings, in order to hear communications and to express their opinion on measures to be adopted.

Article 19.—The Committee has a technical office directed by the Civil Engineer, who is a member of the same committee. The department of public works must furnish the funds for the expenses of this office.

Article 20.—The Government officers, who belong to the Committee and to the technical office are entitled to an allowance for residence, according to the existing rules, to be defrayed by the respective Departments. There is no other allowance for travelling within the district of the island.

The expenses of the Mayors and leading residents of the Communes, when they assist at meetings in Ischia, or when they take part in local visits of inspection must be defrayed by the budget of the Home Department.

Article 21.—The Committee decides by a majority of votes.

When the votes are equal, that of the President, who votes after the others, decides. The meeting is legal, if at least three members are present.

A protocol must be drawn up of every discussion and decision.



Art. 22.—The decisions of the Committee must be immediately communicated by the secretary to the Prefect and to the parties interested, and posted on the official board of the Commune concerned.

Art. 23.—Everybody who proposes to construct new buildings or to repair existing ones, must lodge a petition before the Committee, in which the situation of the new building, its purpose, and the kind of construction which is proposed to be adopted, must be stated, and in case of repairs their nature and importance.

To the petition a plan of the place must be affixed, and should the proposed building possess a certain importance, especially if it is intended to have several stories over the soil, a drawing containing all the particulars of the construction must be attached.

On the presentation of the petition a receipt must be delivered.

Art. 24.—The Committee, after having examined the petition, must decide whether the project complies with the rules of the present regulations.

It has therefore the right to ask the constructor for other information and drawings, to visit the place, to order examinations of the soil, and to make such experiments, as are deemed necessary for the solidity of the building and for public security.

Art. 25.—The Committee, should verifications not be required, must decide within eight days from the date of the presentations of the petitions with the annexed data above mentioned.

Art. 26.—The parties interested have the power to claim against the decisions of the Committee within eight days of their notifications. The claims must be lodged before the same Committee, which must examine them, and should the Committee not deem it necessary to change its decision, it will

transmit the same to the Prefect, who must give urgent provisions, after having heard from the Office of the Civil Engineer.

Art. 27.—After the above periods have passed without any claim or cancelment on the part of the Prefect, the decision is considered as definitively approved and becomes executory. The Committee must give the petitioner a speedy notification, specifying the conditions and the obligations imposed for the execution of the work.

Art. 28.—The Prefect within 15 days from the notification has power to suspend and even to cancel, by decree with a statement of the motives, the decision given by the Committee.

Art. 29.—Against the decrees of the Prefect there remains the way of appeal, in the form and according to the existing laws.

Art. 30.—The Committee, by means of its technical office and even by periodical visits to the sites, watches the strict carrying out of the present regulations and obligations mentioned in Art. 27.

Art. 31.—Infractions against the present regulations must, be intimated by the Committee, to the parties, according to the laws in force, and after the compiling of the necessary protocol, which must be transmitted to a competent judge, offenders are punished according to Art. 146 of the existing commercial and provincial law.

However, the stipulation mentioned in Art. 148 of the said law may be put in force, the obligation of the offenders to submit to the present Regulations and to the rules ordered by the Committee in obedience to the same regulations remains.

Art. 32.—At the end of every month the secretary must compile a register of the petitions received, and of the corresponding decisions, of the claims lodged and of their result, as well as of the infractions made and of the result of the conciliation or of the judicial procedure. The president must sign the register and forward it to the Prefecture.

## CHAPTER V.—TEMPORARY AND FINAL RULES.

Art. 33.—Should the present regulations be applied before the Director of the Geodinamical Observatory has been definitively appointed, it will be in the province of the Minister of Agriculture and Commerce to appoint a competent person to act provisionally for the Director.

Art. 34.—The Committee mentioned in Art. 16 retains its functions for a period of five years.

After the elapse of this period a prolongation of its powers may be granted by Royal decree, which may also transmit the same to the communal authority or make other provisions according to requirement, all other rules and dispositions of the present regulations remaining still in force.

Art. 35.—Within two months from the constitution of the Committee the technical office which depends upon it, must make an inspection and examination of the buildings, and of the walls of the country roads, which have been damaged by the earthquake, in order to classify the same according to the importance of the danger, to state the urgency required and the kind of works to be done, and to decide respecting petitions for repairs.

In order to facilitate the work of the Committee, notification must be given by the technical office of the reports collected by the Committee on behalf of the sufferers, after which and after their examination, the technical office must compile an exact register, divided according to Communes, of the works and repairs to be executed. The register must be always posted up.

The task of defining the regions declared dangerous according to Art. 9 also belongs to the technical office.

Art. 36.—The Committee must propose, within two months, the condition and rules under which rewards are granted to new constructions, to be executed in the Commune to which the present regulations are applied.

Art. 37.—In the case (foreseen in Art. 9 of the law of 2nd March, 1884, No. 1985), that the barracks, which have been

already constructed should be presented to the Communes or to private citizens, these barracks might, at the expense and labour of the new owners, undergo a change of form or be united together according to the above mentioned building rules, in order either to be reduced into "palazzine" (villas) or to utilize a part of their intermediate spaces, which now serve as public roads.

If this is done the municipality must present a draft for the organisation of the roads of new quarters.

Art. 38.—In case of severe catastrophes, the three members of the Committee appointed by the Government must meet together and form a Special Committee, in order to propose measures to be adopted, according to the circumstances, and, if necessary, to give urgent instruction.

Art. 39.—Should experience demonstrate the necessity of modifying certain portions of these regulations, either in order to introduce new or better rules, or to change the extension of dangerous zones, or for any other motive, the president after having called together in extraordinary meeting the mayors and the leading residents of the Communes interested, according to Art. 18, might present their proposals to the government by means of the Prefect of the Province.

Art. 40.—The present regulations will come into force on the 15th of September 1884, and the Mayors will be intrusted with this publication in the usual way.

A copy of the regulations will be given gratis to every person who asks permission to construct new buildings or to repair existing ones in damaged communes.

Visa by order of His Majesty.

(Signed)

DÉPRETIS,  
Minister for Home Affairs.

GENALA,  
Minister for Public Works.

GRIMALDI,  
Minister of Agriculture Com-  
merce and Industry.