



Third Edition

RISK MANAGEMENT

**Understanding, Forecasting,
Prevention, Protection, Planning,
Preparedness**

20 - 27 July 2025



URBAN REGENERATION PROJECT OF CASTELLUCCIO DI NORCIA: PROCEDURES, TECHNIQUES AND IMPLEMENTATION

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TODI

July 22nd 2025

CURRENT SITUATION - POST EARTHQUAKE 2016

Castelluccio, 1452 m above sea level, is a hamlet of the **Municipality of Norcia**, located in the easternmost part of the territory, between the mountain ranges of Monte Vettore (2470 m) and Monte Patino (1885 m).

Below the town lies the Castelluccio basin, a large depression at an altitude of between 1250 and 1350 meters, surrounded by the slopes of particularly high reliefs, which make the area unique and a major tourist attraction.



The buildings of Castelluccio are almost entirely destroyed: the extensive damage caused by the earthquakes of 2016 caused the collapse of a large part of the buildings and caused instability in the surviving portions of the buildings, which required their mandatory demolition and prohibited access to the area.

CURRENT SITUATION - POST EARTHQUAKE 2016



CURRENT SITUATION - POST EARTHQUAKE 2016



CURRENT SITUATION - POST EARTHQUAKE 2016

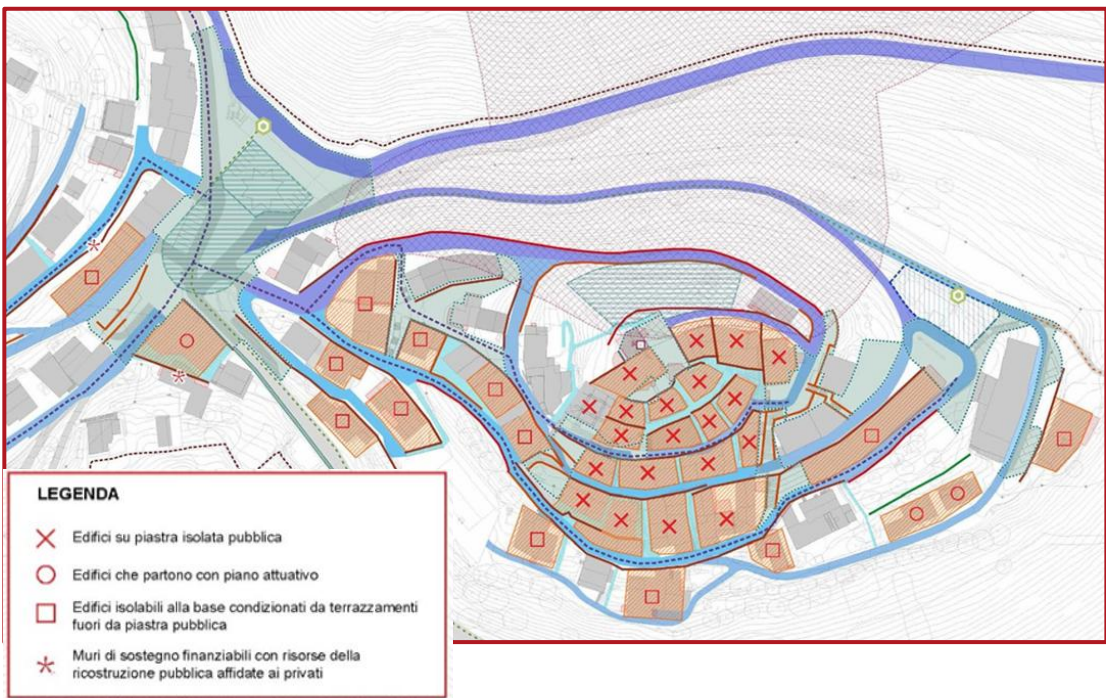
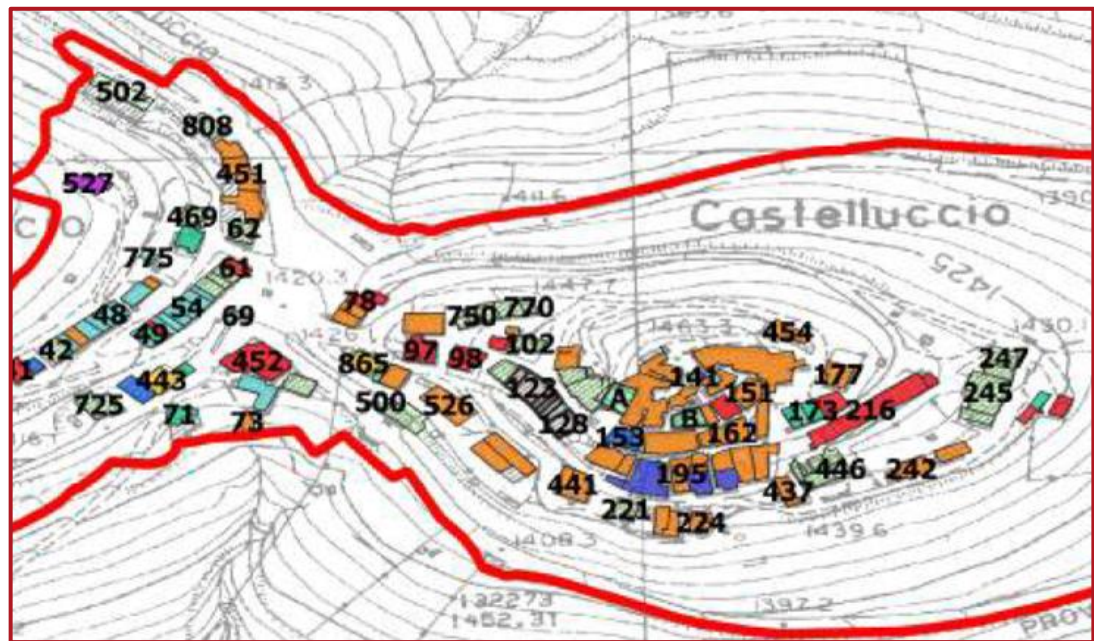


CURRENT SITUATION - POST EARTHQUAKE 2016



CURRENT SITUATION - POST EARTHQUAKE 2016

Delimitation of centers and cells of particular interest that are most affected by the seismic events that occurred starting from 24 August 2016. Ordinance C.S.R. n. 25/2017



LEGENDA
PERIMETRAZIONE NUCLEO ai sensi ORDINANZA C.S.R. n. 25/2017
UNITA' STRUTTURALI CASTELLUCCIO
ESITI AEDES A
ESITI AEDES AF
ESITI AEDES BF
ESITI AEDES C
ESITI AEDES DF
ESITI AEDES E
ESITI AEDES EF
EDIFICIO INAGIBILE
EDIFICIO CROLLATO
EDIFICI/U.S. ESCLUSI DALLA PERIMETRAZIONE A CONDIZIONE CHE NON SIANO PREVISTI INTERVENTI DI DEMOLIZIONE E RICOSTRUZIONE

8-B Esito di agibilità		
A	Edificio AGIBILE (*)	<input type="radio"/>
B	Edificio TEMPORANEAMENTE INAGIBILE (in tutto o in parte) ma AGIBILE con provvedimenti di P.I. (1)	<input type="radio"/>
C	Edificio PARZIALMENTE INAGIBILE (2)	<input type="radio"/>
D	Edificio TEMPORANEAMENTE INAGIBILE da rivedere con approfondimento (3)	<input type="radio"/>
E	Edificio INAGIBILE (4)	<input type="radio"/>
F	Edificio INAGIBILE per rischio esterno (5)	<input type="checkbox"/>

Total AeDES forms filled out **87**
Percentage of uninhabitable buildings **85%**

THE COMMISSIONER'S DEROGATION POWERS

SIMPLIFICATION DECREE
(DL 16 JULY 2020 n.76 converted with
amendments by L. 11 September 2020 n. 120)

Special ordinances pursuant to Article 11,
paragraph 2, of Legislative Decree 76 of 2020

OBJECTIVES OF SPECIAL ORDINANCES (paragraph 4, art.1, C.O. n. 110/2020)

- 1 Identification of the public and private works that are urgent and of particularly critical, along with the respective schedules
- 2 Identification of the actuator suitable for the realization of the intervention
U.S.R. UMBRIA (Special ordinance n.18/2021)
- 3 Determination of the accelerated methods of realization of the intervention by the actuator (a negotiated procedure without prior publication of the tender notice (art. 63 D.lgs. n. 50/2016) for above-threshold procurement)
- 4 Identification of the competent sub-commissioner **ING. FULVIO M. SOCCODATO**
(Special ordinance n.18/2021)

THE COMMISSIONER'S DEROGATION POWERS

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(DL 16 JULY 2020 n.76 converted with
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Special ordinances pursuant to Article 11,
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OBJECTIVES OF SPECIAL ORDINANCES (paragraph 4, art.1, C.O. n. 110/2020)

5

Starting second step(art.11)
Special ordinance n.43/2021

6

Introduction of intervention n.9
Special ordinance n.43/2021

7

Economic reallocation of the amounts of the Special Ordinance n.18/2021
Special ordinance n.43/2021

8

Methods of executing interventions through framework agreement
Commissioner ordinance n.140/2023

**Economic revision of the amounts from Special ordinance n.18/2021 and
n.43/2022**

Special ordinance n.77/2024

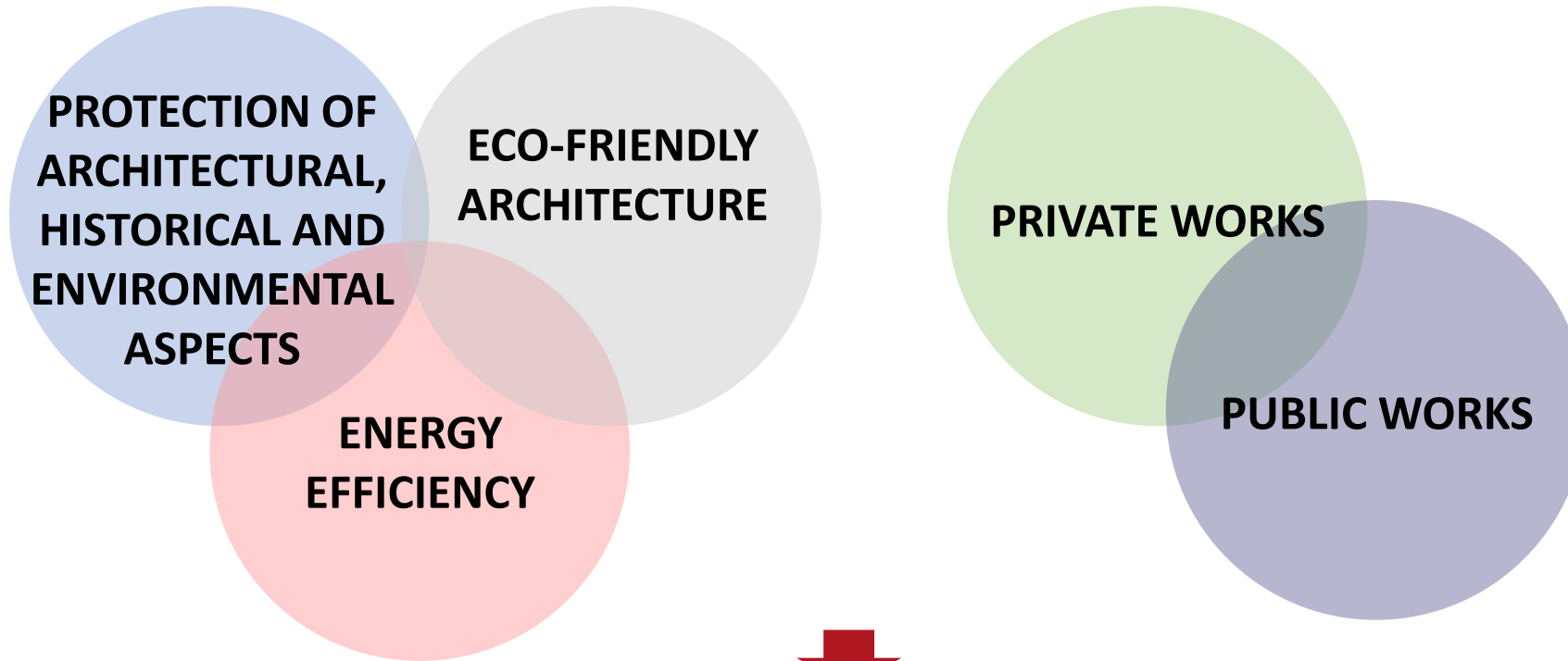
Article 2

***(Increase in the reconstruction interventions of the historic center of Castelluccio di Norcia.
Special ordinance n. 18 of 15 July 2021 and special ordinance n. 43 of 31 December 2022)***

1. For the interventions called "Restoration of the main and secondary roads of the inhabited nucleus", "Terraces of the inhabited nucleus" and "underground services of the inhabited nucleo" distinct in article 11 paragraph 2 lett. b) of the special ordinance n. 43 of 31 December 2022, sites in the municipality of Norcia, With an estimated amount of € 14,913,788.00, an increase in the contribution for an amount equal to € 8,112,048.88.

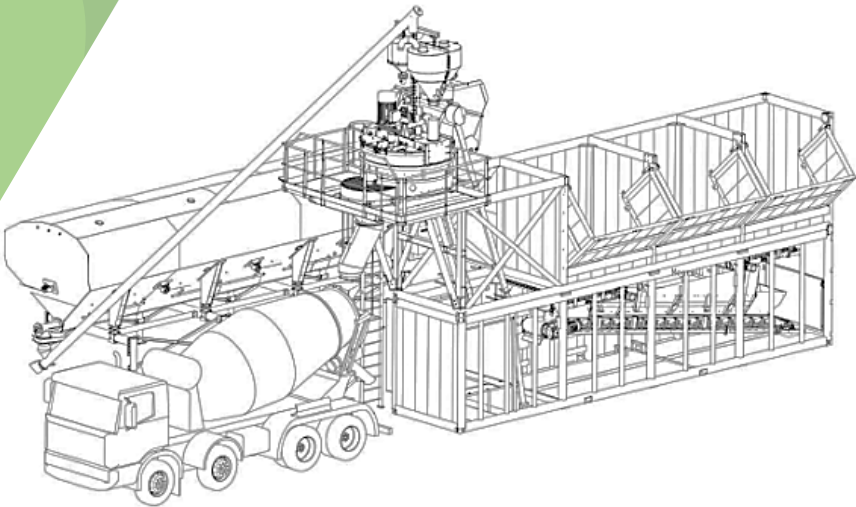
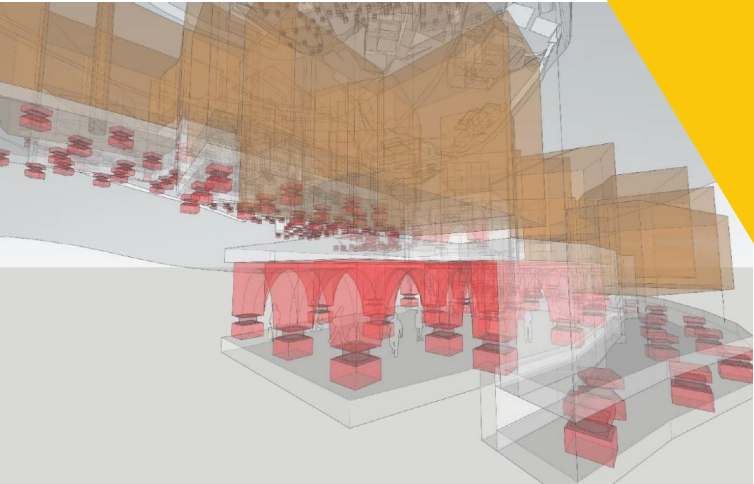
GOALS OF RECONSTRUCTION

Reconstruction of CASTELLUCCIO DI NORCIA based on the council resolution n.31 of 24 May 2021 of the Municipality of Norcia



RECONSTRUCTION AIMED AT RESTORING THE URBAN FABRIC OF THE TOWN WHICH WAS COMPLETELY DESTROYED BY THE EARTHQUAKE. PURSUES THE AIM OF CREATING A RESILIENT VILLAGE BY PROMOTING A SUSTAINABLE, SMART AND EFFICIENT URBAN MODEL

GOALS OF RECONSTRUCTION



PRIORITY PUBLIC WORKS

START 1 Special ordinance n.18/2021

awarding of the DESIGN services for the reconstruction
of the village and the INTEGRATED INTERVENTION

Framework Agreement(ex Art.54 c.3 D.Lgs. 50/2016 – unique e.o.)

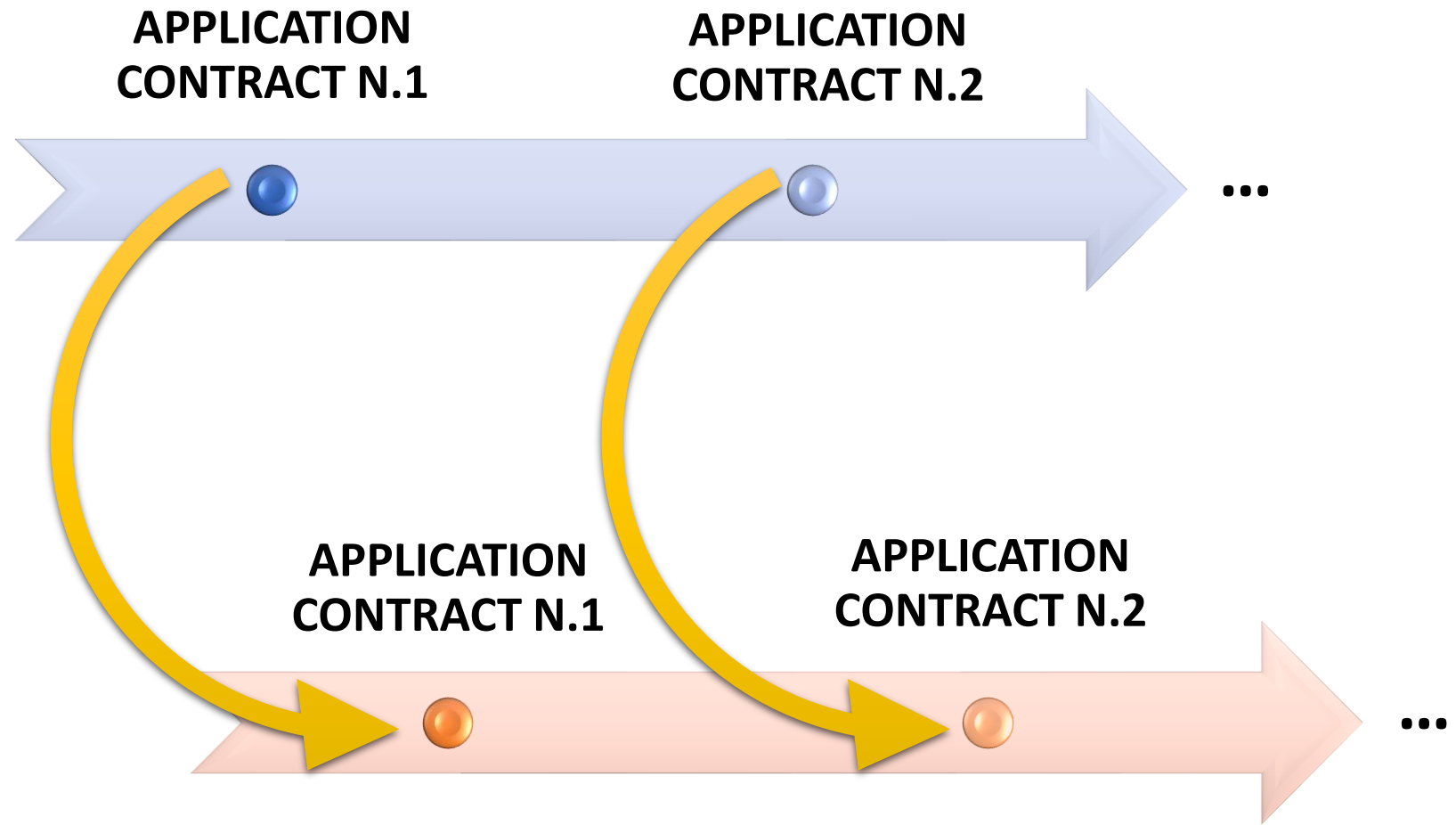
START 2 Special ordinances n.18/2021 and n.43/2022

implementation of public interventions identified as functional and necessary
works for the recovery of the village also through the integrated intervention

- ✓ **RESTORATION OF MAIN AND SECONDARY ROADS** IN THE INHABITED CENTER
- ✓ **TERRACING** IN THE INHABITED CENTER
- ✓ **SUBSERVICES** IN THE INHABITED CENTER
- ✓ **CREATION OF PUBLIC SPACES**
- ✓ **CONSTRUCTION OF UNDERGROUND PARKING**
- ✓ **CREATION OF PEDESTRIAN AND SAFETY ROUTES**
- ✓ **FOUNDATION PLATE WITH SEISMIC ISOLATORS**

**FRAMEWORK AGREEMENT
FOR ENGINEERING AND
ARCHITECTURAL
SERVICES(Design)**

**FRAMEWORK AGREEMENT
FOR WORKS**



INTERVENTION AMOUNT

	DESCRIPTION	AMOUNT
A)	AMOUNT OF WORK (SUBJECT TO REDUCTION)	€ 50.121.091,95
B)	SECURITY COSTS (SUBJECT TO REDUCTION)	€ 1.754.238,22
	TOTAL	€ 51.875.330,17
C)	AMOUNTS AVAILABLE	€ 16.124.669,83
A)+B)+C)	INTERVENTION VALUE	€ 68.000.000,00

THE ECONOMIC OPERATORS OF THE FRAMEWORK AGREEMENT

DESIGN

D.D. n. 2302 del 03/11/2022

TGP COMPOSED OF:

☐ MANDATORY: S.A.G.I. SRL

☐ MANDANTS:

- TPS INGEGNERIA SRL
- HYDEA S.P.A.
- TREND PROJECT SRL UNIPERSONALE
- D.S.D. DEZI STEEL DESIGN SRL ENGINEERING & ARCHITECTURE CONTI SRL
- M&E S.R.L. LABORATORI ARCHEOLOGICI SAN GALLO SOC. COOP.
- STUDIO DUE ESSE DI SONIA STIPA

LAVORI

D.D. n. 448 del 07/03/2024

TGC COMPOSED OF:

☐ MANDATORY: EDIL MOTER S.R.L.

☐ MANDANTS:

- TADDEI S.P.A.
- DAVA S.R.L.

COMPLETE REBUILDING WORKS OF THE VILLAGE

Together with the priority public interventions, it will be necessary to proceed with the **reconstruction of the entire building heritage**, through the repair and reconstruction of the aggregates, private buildings and places of worship, through a **single recovery program** that includes the **restoration of public buildings** and **private residential fabric**, **together with the restoration of the related infrastructures and sub-services**.

RECONFIGURATION OF THE “FORMA URBIS” THROUGH AN INTEGRATED INTERVENTION



PUBLIC RECONSTRUCTION OF PUBLIC AND PRIVATE BUILDINGS COMBINED WITH THE WORKS OF RESTORATION OF THE MORPHOLOGY OF THE LAND AND CONFIGURATION OF BOTH PUBLIC AND PRIVATE SPACES

The overall reconstruction works of the village not included in Special ordinances n.18/2021 and n.43/2022 and, therefore, subject to subsequent planning and financing through Special ordinances consist of:

- **17 BUILDING CLUSTERS**
- **2 CHURCHES (Santa Maria Assunta and Oratory SS. Sacramento)**
- **CONCRETE MIXING PLANT**

APPROVAL OF PRIVATE INDIVIDUALS AND ENTRUSTING TO THE IMPLEMENTING ENTITY

CITIZEN APPROVAL

dichiara sin d'ora

- di prestare il consenso, come in effetti presta con la sottoscrizione del presente atto, alla progettazione unitaria dell'intervento di ricostruzione, comprensiva dell'intervento pubblico di realizzazione delle "piastre fondali" per garantire la sicurezza antisismica, nonché alla realizzazione unitaria dei lavori affidando all'USR della Regione Umbria i compiti di soggetto attuatore e delegando, ad ogni effetto di legge, il medesimo USR ad eseguire i lavori utilizzando a tal fine il finanziamento degli interventi privati previsto dal decreto legge n.189 del 2016 tramite credito d'imposta, nonché il finanziamento pubblico ai sensi dell'articolo 4 del medesimo decreto legge per la realizzazione delle piastre fondali e dei lavori pubblici connessi;
- di delegare, ad ogni effetto di legge, il Presidente del Consorzio "....." a rappresentare la propria volontà, così come espressa al punto che precede, assumendo tutte le iniziative legali in tal senso.

Il/la sottoscritto/a dichiara inoltre di essere informato/a, ai sensi del D.Lgs. n° 196/2003 (codice in materia di protezione dei dati personali) che i dati personali raccolti saranno trattati, anche con strumenti informatici, esclusivamente nell'ambito del procedimento per il quale la presente dichiarazione viene resa, autorizzando sin d'ora il trattamento dei dati coperti e tutelati dalla legge sulla Privacy italiana e dal GDPR - Regolamento Generale sulla Protezione Dati, in vigore in tutti i paesi dell'Unione Europea dal 25 maggio 2018 (*General Data Protection Regulation* - Regolamento UE n. 2016/679).

Il/la sottoscritto/a dichiara che le attestazioni contenute nel presente atto sono rese ai sensi degli articoli 46 e 47 del D.P.R. 28 dicembre 2000, n. 445, consapevole delle sanzioni in caso di dichiarazioni false ai sensi degli articoli 75 e 76 del medesimo Decreto.

_____, li _____ 2021

Firma del dichiarante*

DOUBLE APPROVAL



APPROVAL OF PRIVATE PARTIES FOR CONSORTIUM ESTABLISHMENT



APPROVAL OF CONSORTIA TO IMPLEMENTING ENTITIES

APPROVAL OF THE CONSORTIA

* * *

Tutto ciò premesso, in relazione alla ricostruzione del centro storico di Castelluccio di Norcia di cui alla ordinanza n.18 del 2021, il/la sottoscritto/a, in qualità di Presidente del Consorzio denominato ".....", relativo alle unità immobiliari site nel Comune di Norcia (PG) - Loc. Castelluccio di Norcia, identificate nell'Allegato A al presente atto, ai sensi della delibera del (Consorzio/Comune) n.....,

esprime

il consenso, con la sottoscrizione del presente atto e ad ogni effetto di legge, del Consorzio ".....", sulla base della delibera sopra richiamata, alla realizzazione dell'"intervento unitario pubblico-privato" di ricostruzione del complesso delle unità immobiliari del medesimo Consorzio, meglio identificato nell'allegato A facente parte integrante del presente atto (doc. 1), secondo le modalità stabilite nell'ordinanza commissariale n..... del nonché sulla base del progetto allegato al presente atto (doc.2).

delega

l'USR della Regione Umbria, in qualità di soggetto attuatore, all'affidamento ed alla esecuzione dei lavori previsti dal progetto di cui all'allegato (doc. 2), e alle successive sue elaborazioni, anche attraverso lotti funzionali o prestazionali, curando il tempestivo svolgimento delle procedure di gara e/o di affidamento, anche attraverso centrali di committenza, al fine della realizzazione unitaria degli interventi di ricostruzione degli edifici privati e dell'intervento pubblico consistente nella esecuzione delle piastre fondali e dei lavori connessi, da realizzarsi sulla base del finanziamento derivante dalla contabilità speciale ai sensi dell'articolo 4 del decreto legge n. 189 del 2016.

Esprime altresì il consenso del Consorzio ".....", ed a tal fine delega l'USR della Regione Umbria all'utilizzo del finanziamento derivante dal credito d'imposta per la ricostruzione degli edifici privati del Consorzio medesimo, senza alcun aggravio di costi per il Consorzio e per i singoli proprietari, allo scopo della realizzazione unitaria dell'"intervento pubblico-privato" di ricostruzione.

Economic Management through the logic of the REAL ESTATE COMPENDIUM (art.1 C.O. 111/2020)

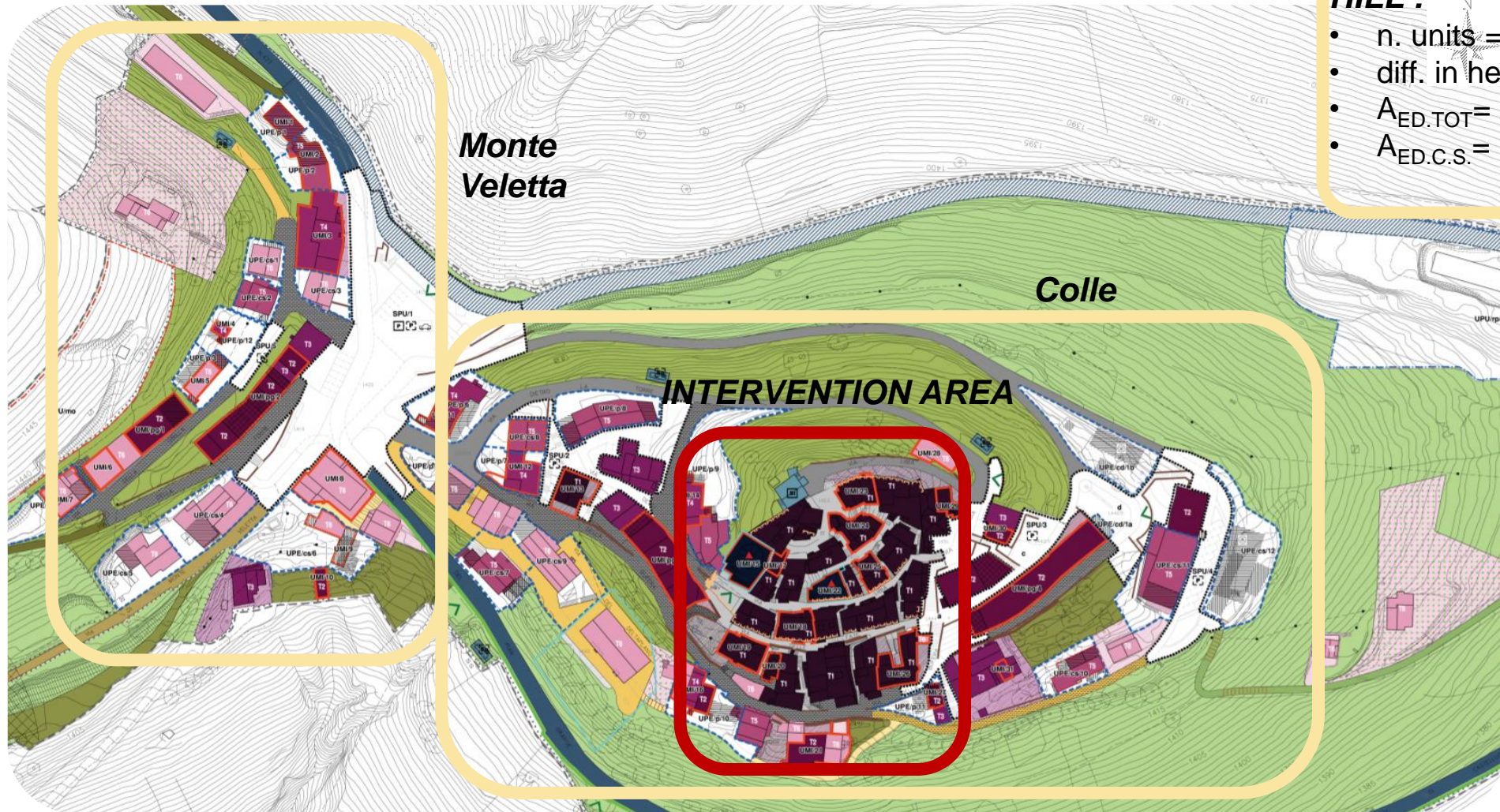
ASSOCIATIVE FORM BETWEEN CONSORTIA (art. 15-quinquies C.O. 19/2017)

APPROVAL OF PRIVATE INDIVIDUALS AND ENTRUSTING TO THE IMPLEMENTING ENTITY



INFORMED CONSENT		
Building cluster	PROT.	Date
AR 14	4490	15/02/2023
AR 16	6371	01/03/2023
AR 18	6372	01/03/2023
AR 21	6373	01/03/2023
AR 26	6374	01/03/2023
AR 28	6375	01/03/2023
AR 12	6390	01/03/2023
AR 23	6391	01/03/2023
AR 17	6392	01/03/2023
AR 13	6393	01/03/2023
AR 15	6403	01/03/2023
AR 19	6404	01/03/2023
AR 20	6405	01/03/2023
AR 22	6406	01/03/2023
AR 27	6418	01/03/2023
AR 24	6453	02/03/2023
AR 14	11065	11/04/2023
AR 25	11067	11/04/2023

INTERVENTION AREA

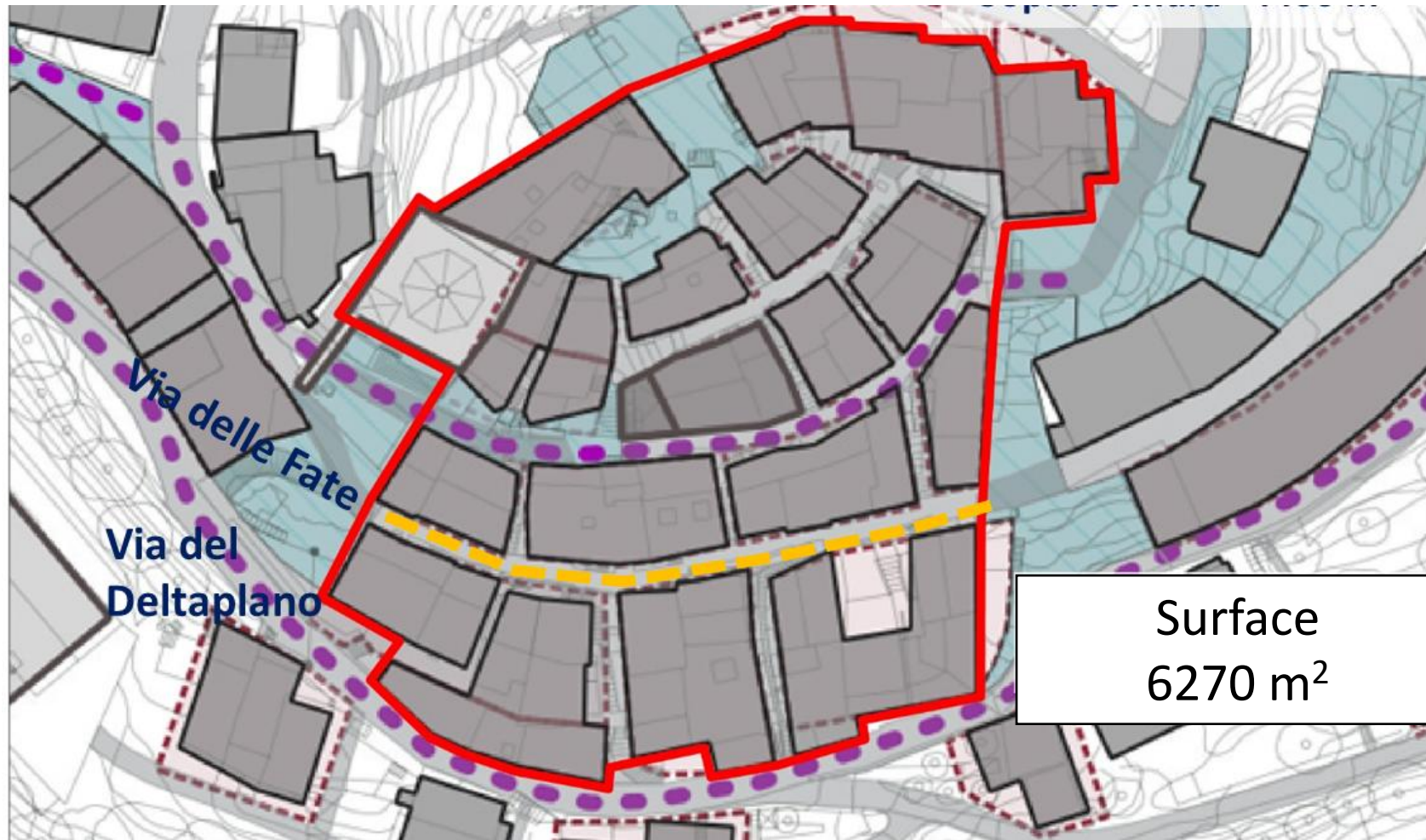


PORTION ABOVE THE HILL :

- n. units = 124;
- diff. in height > 30m;
- $A_{ED.TOT} = 27024.08 \text{ m}^2$;
- $A_{ED.C.S.} = 16171.25 \text{ m}^2$;

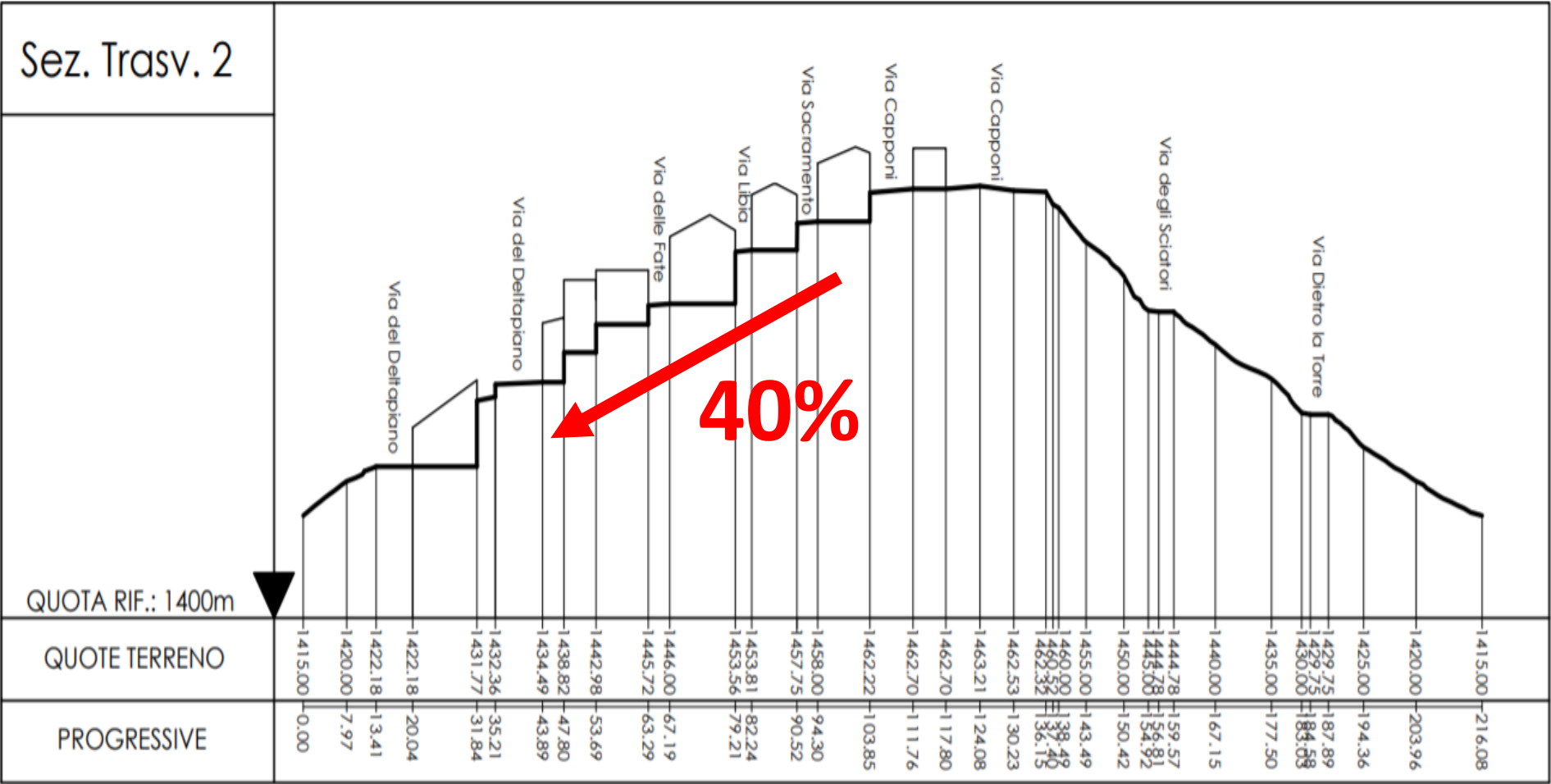
Research agreement on an "Application study of a seismic ground isolation solution for the seismically safe urban restitution of Castelluccio di Norcia" between the Umbria Region, the USR Umbria, the Municipality of Norcia and the University of Perugia - Department of Civil and Environmental Engineering University of Perugia

INSULATED PLATE



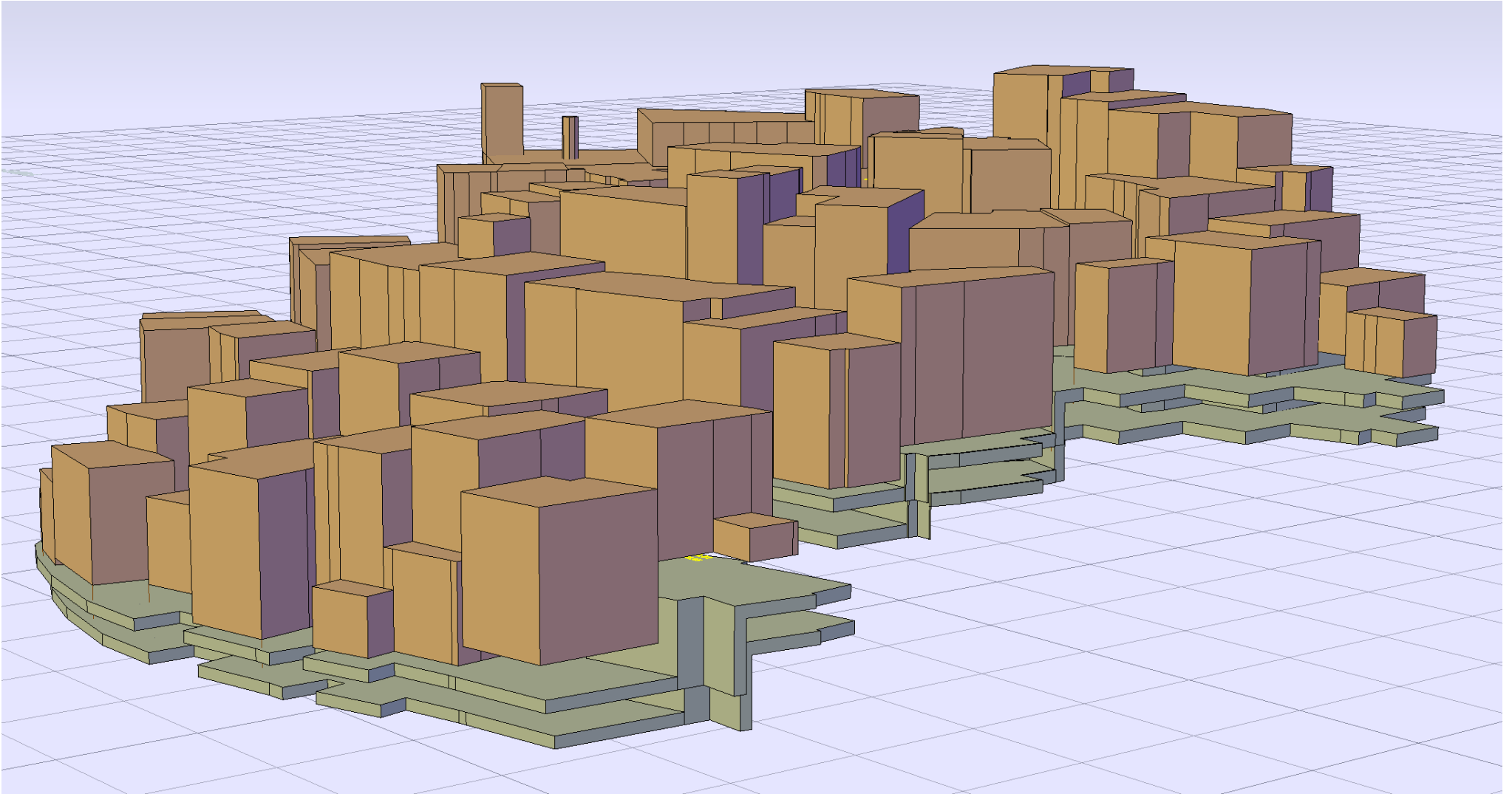
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SITE FEATURES



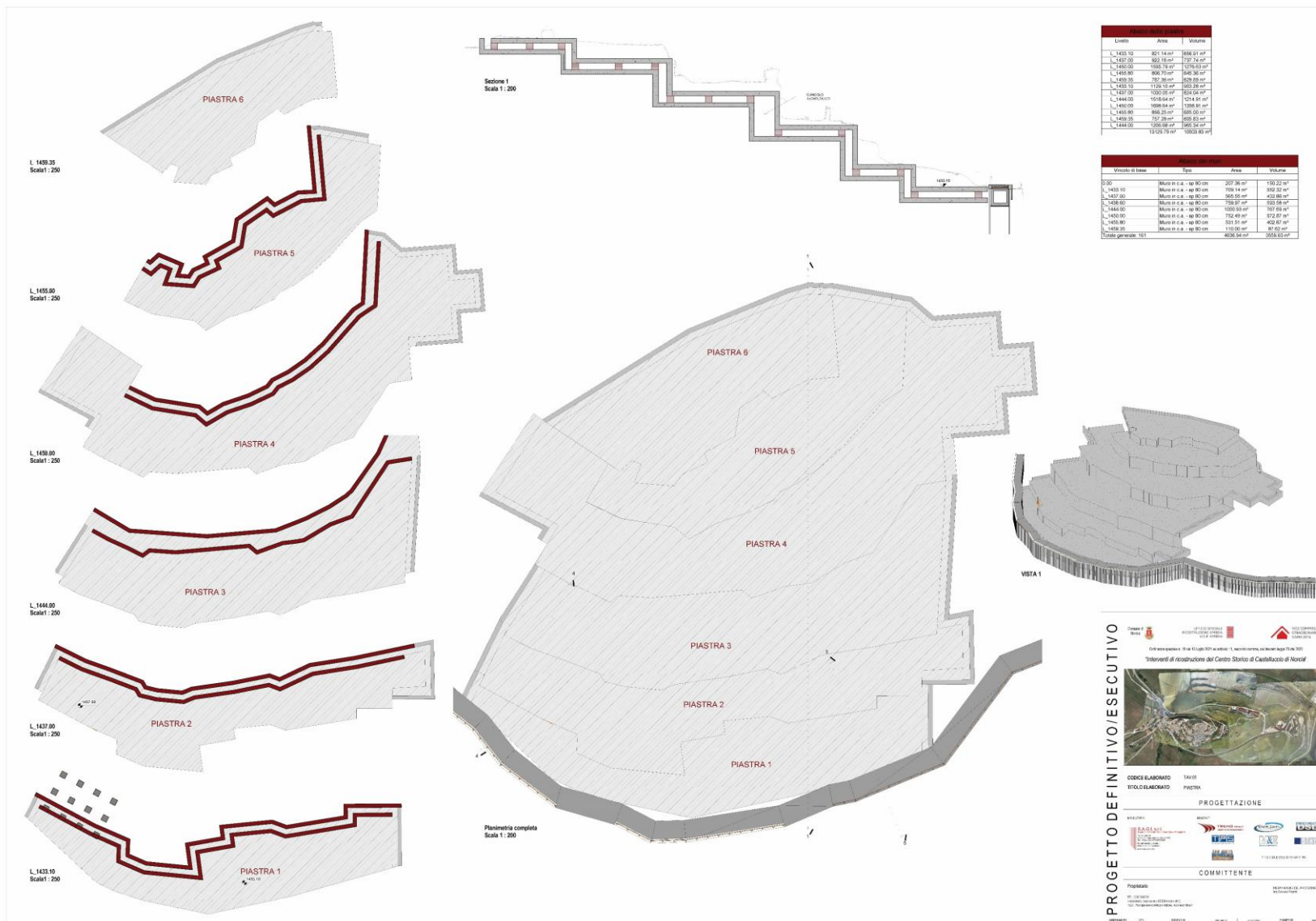
SLOPES
40% NS direction (transverse)
25% EW direction (longitudinal)

SOLUTION: GROUND ISOLATION



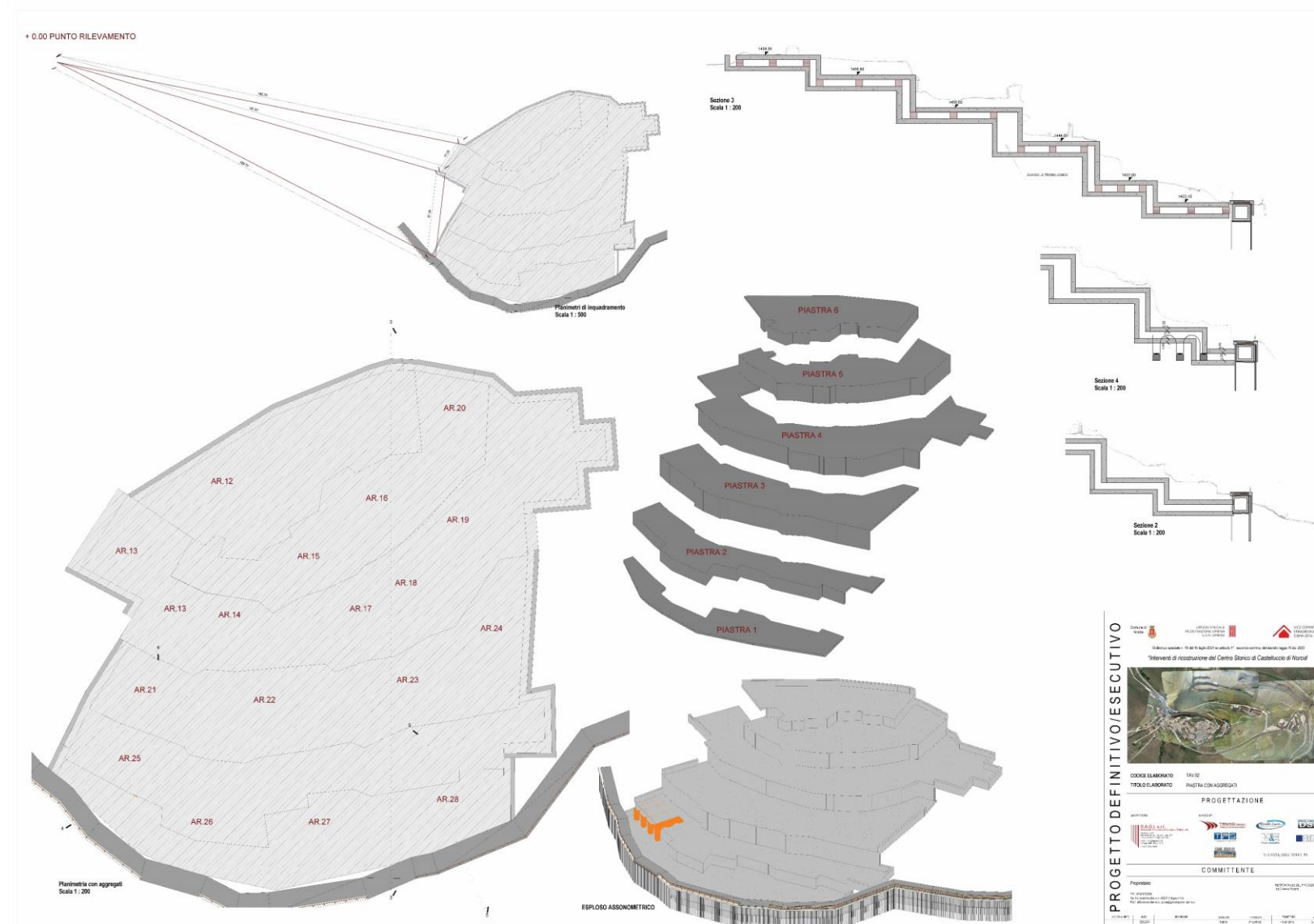
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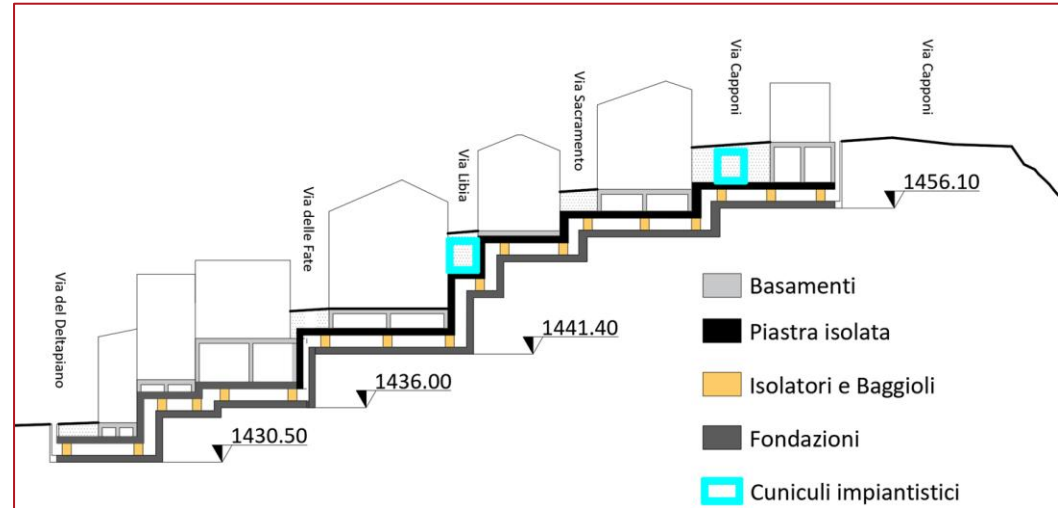
RECONSTRUCTION OF THE URBAN FABRIC AND AGGREGATES IN THE FORMWORK PROPOSED SOLUTION for the central nucleus of the historical settlement called «CASSERO»: SEISMIC ISOLATION “GROUND ISOLATION”

TARGET:

increase the seismic protection of structures and their contents with a drastic reduction in seismic forces acting on the structure.

“GROUND ISOLATION”

A stepped slab of large surface development, seismically isolated from the underlying ground by means of the interposition of seismic isolators, on which the constructions are built.



The construction typologies that are considered most appropriate are those of confined or reinforced masonry:

1. high rigidity of the structural system and better decoupling associated with the isolation system;
2. high capacity with respect to the increased vertical actions associated with the vertical components of the seismic input;
3. adaptation to the planimetric irregularity of the individual aggregates.

PLATE:

$V_N = 100$ years

Use class IV CU = 2

V_R 200 years

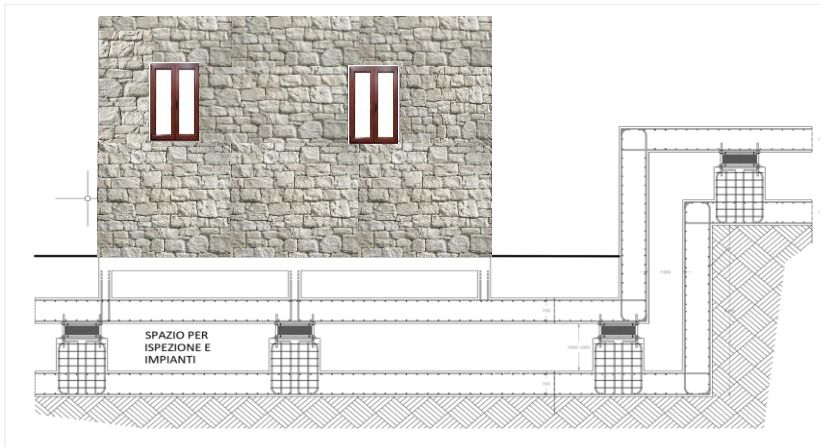
T_R seismic action equal to 2475 years

BUILDING:

SLV checks = base-isolated buildings, for the most severe condition between:

- 1) the **SLD** of the "fixed base" scheme, corresponding to:
 - $V_R = 50$ years for buildings of use class II
 - $V_R = 75$ years for use class III (places of worship)
- 2) the **SLV** of the "isolated" scheme, corresponding to $V_R = 200$ years.

N.B. Independent checks possibility of future interventions on individual buildings through independent design.



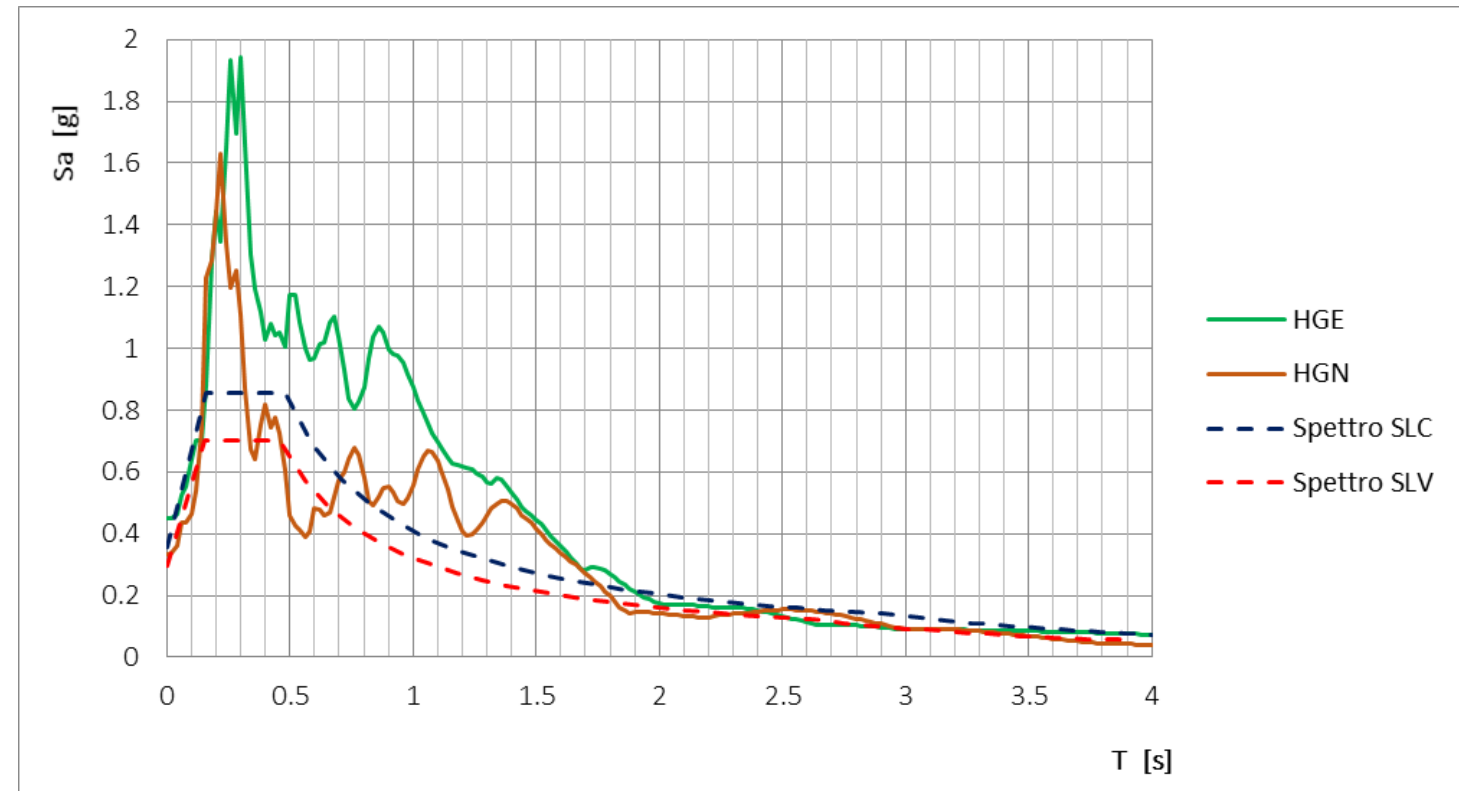
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The elastic acceleration response spectra of the two horizontal components of the event are larger than the SLV site spectrum provided by the code.

In order to analyze the actual seismic response of the isolated compartment, **nonlinear dynamic analyses** were performed using as input the accelerograms recorded (in Norcia) in the destructive seismic event of October 30, 2016.

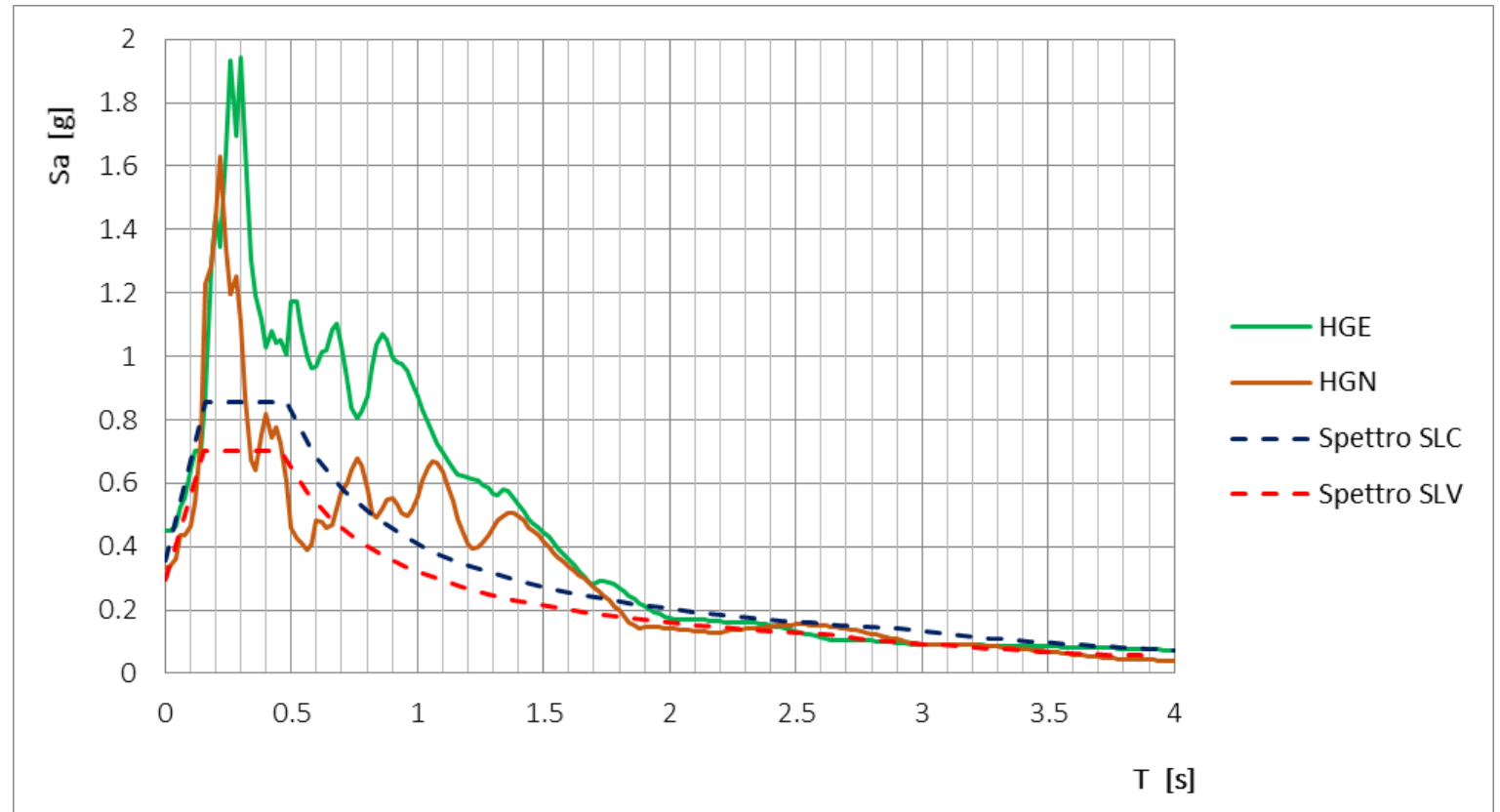
The values of the peak accelerations for the three components corresponding to X (EW), Y (NS) and Z (VERT) of the model are respectively equal to 0.420 g, 0.634 g and **0.801 g**.



In the range of fundamental periods of ordinary masonry and reinforced concrete structures (between 0.1 s and 0.5 s), the values of the spectral accelerations double those of the SLC site spectrum, reaching values of **2.00 g**.

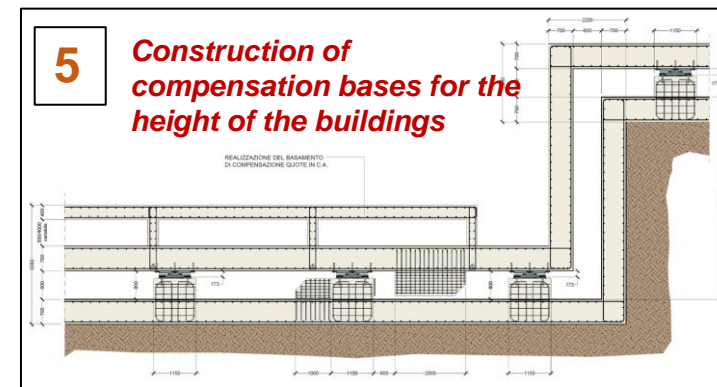
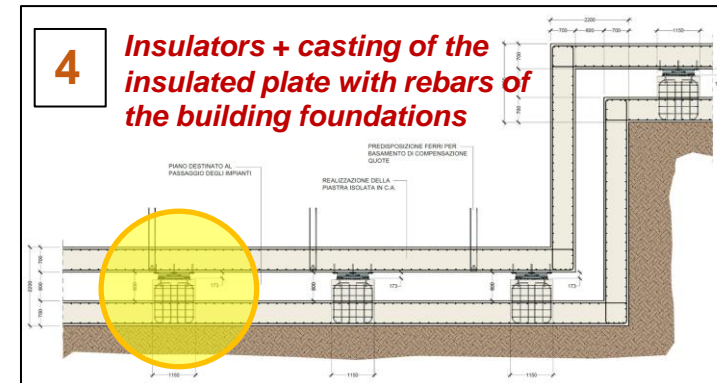
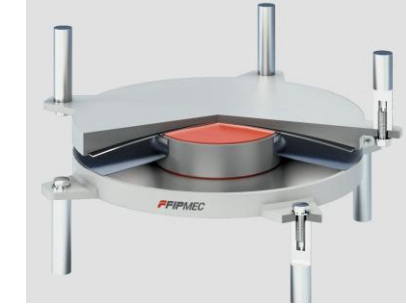
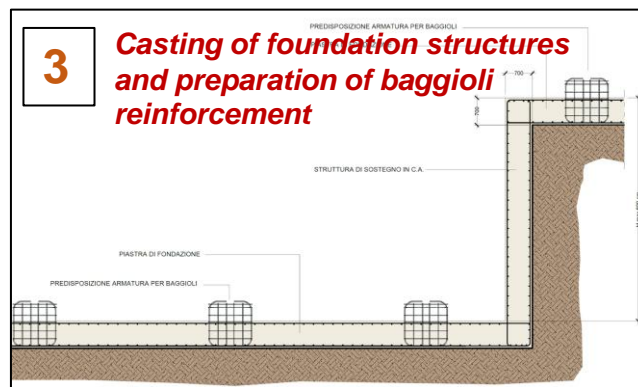
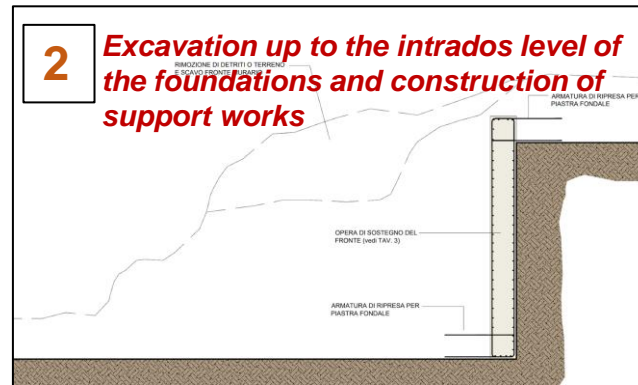
RECONSTRUCTION OF THE URBAN FABRIC AND AGGREGATES IN THE FORMWORKPROPOSED SOLUTION for the central nucleus of the historical settlement called «CASSERO»: SEISMIC ISOLATION “GROUND ISOLATION”

In the range of **oscillation periods typical of seismically isolated systems** (> 3.00 s), the **spectral accelerations of the recordings are lower than those predicted by the standard spectrum**, with values around 0.10-0.15 g. Therefore, considering the event of 30 October 2016, **the reduction of the response spectral accelerations** of the isolated-base systems compared to the fixed-base ones is about **15 times**.



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THE PROPOSED SOLUTION

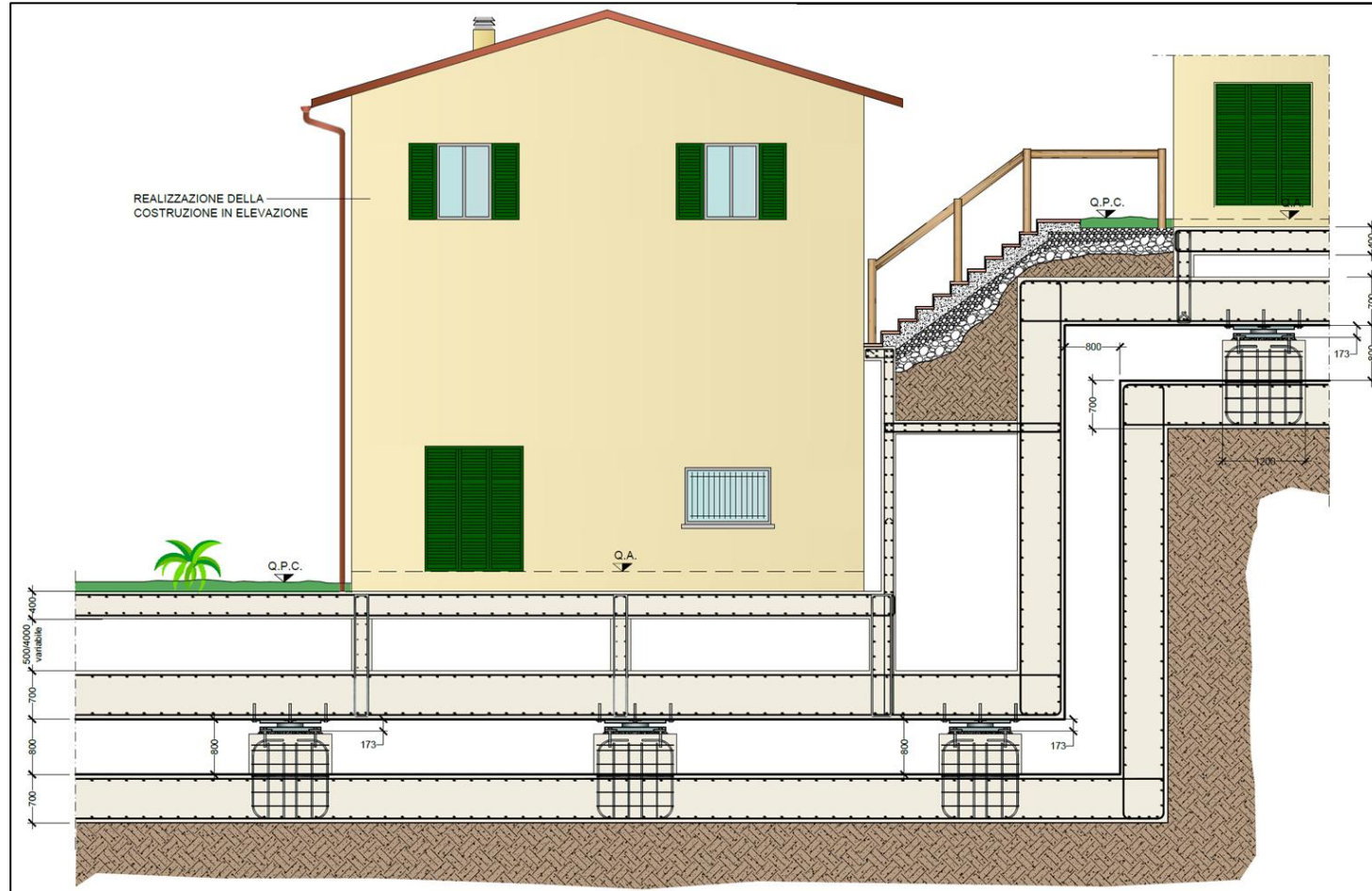


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THE PROPOSED SOLUTION

6

Construction of buildings

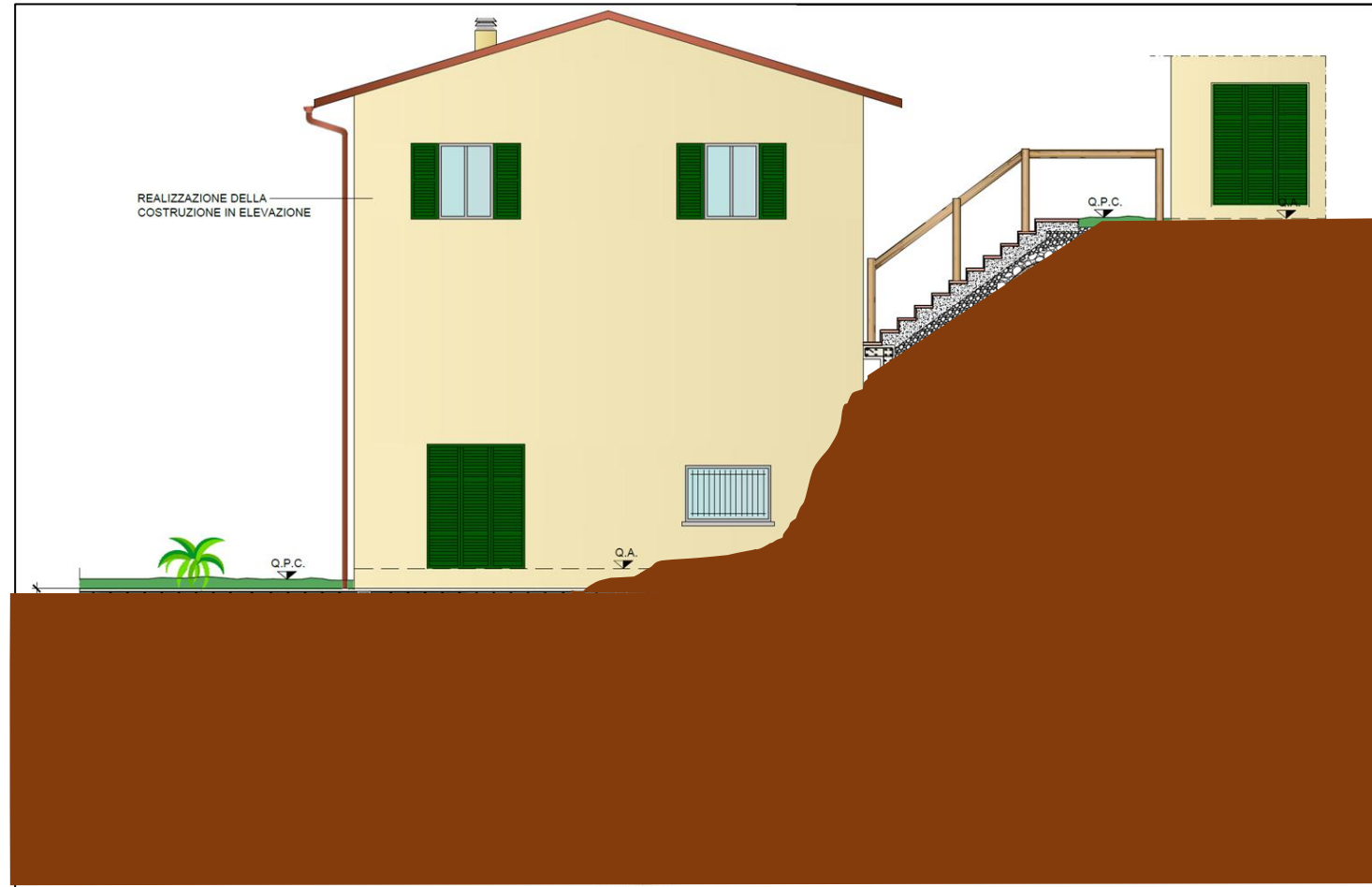


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THE PROPOSED SOLUTION

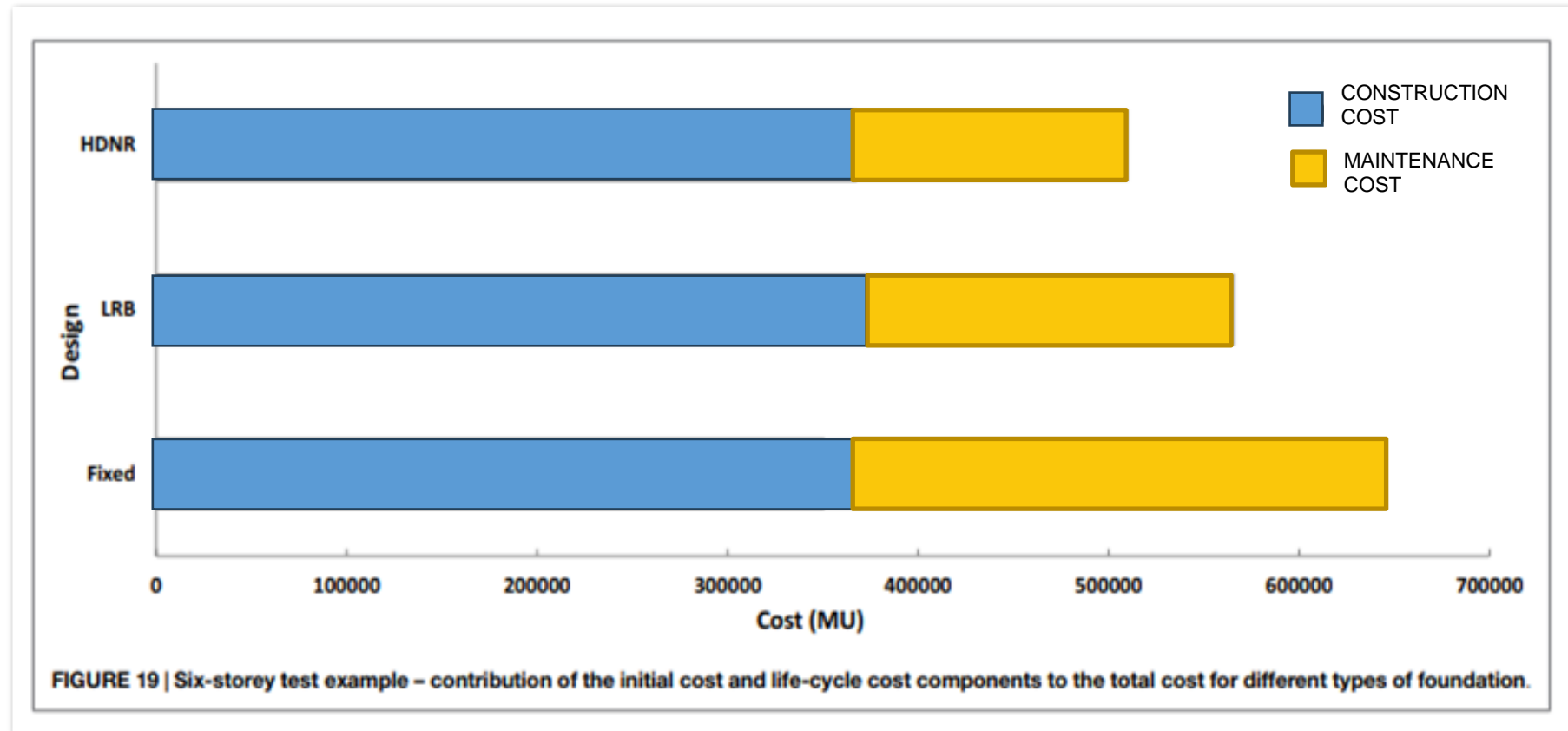
6

Construction of buildings



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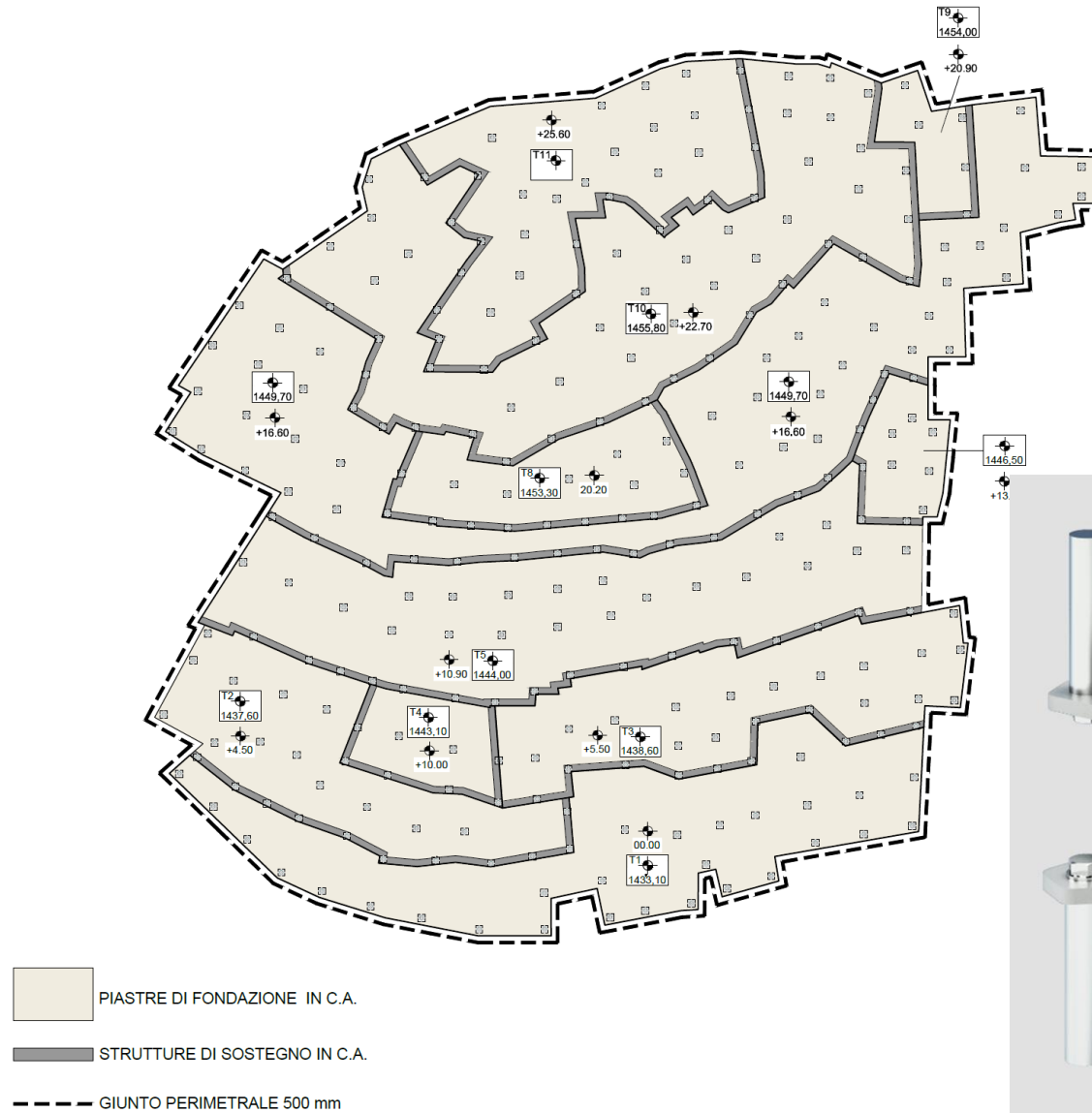
THE PROPOSED SOLUTION



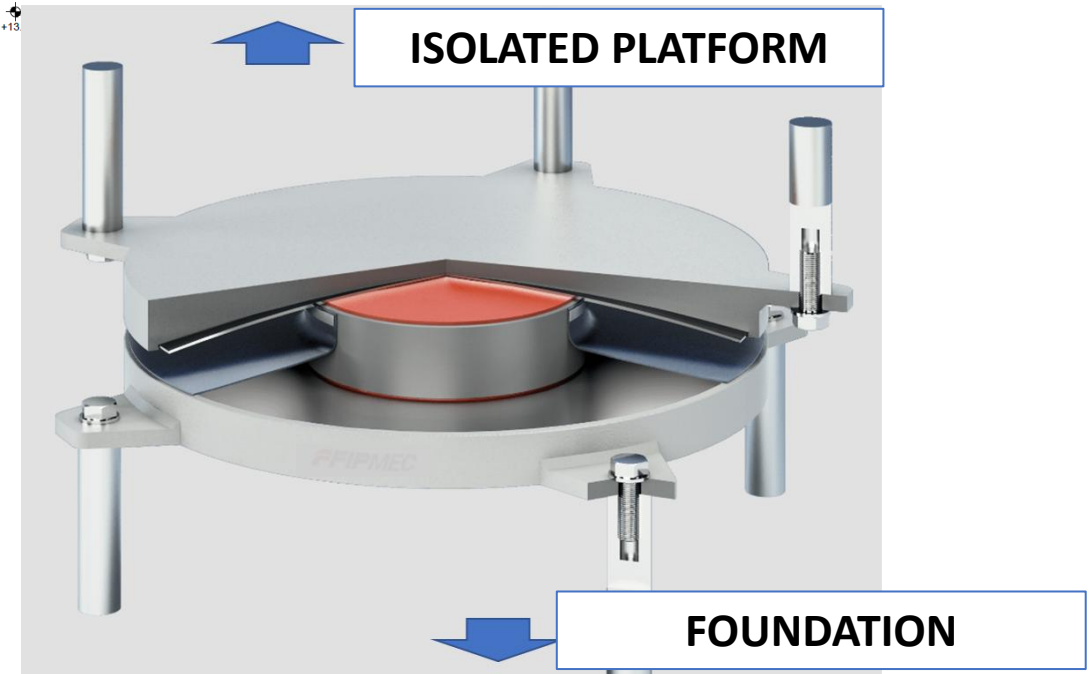
“Life-Cycle Cost Model and Design Optimization of Base-Isolated Building Structures” Department of Structural Engineering, Institute of Structural Analysis and Antiseismic Research, School of Civil Engineering, National Technical University of Athens, Athens, Greece

The additional costs associated with the use of the ground isolation technique (4-5% of the total intervention costs in earthquake-stricken areas) are **two to three times lower than the costs expected over the useful life of buildings rebuilt according to conventional criteria.**

ARRANGEMENT OF ISOLATORS



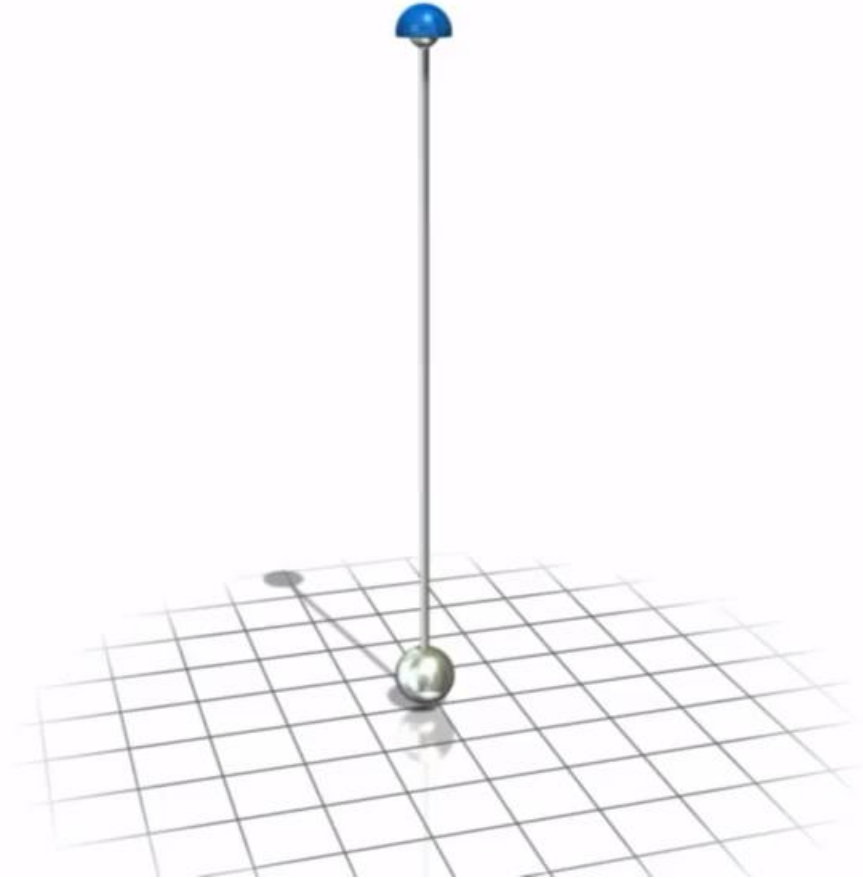
**≈300 FRICTION ISOLATORS WITH
CURVED SLIDING
SURFACE ("pendulum")**



Research agreement on an "Application study of a seismic ground isolation solution for the seismically safe urban restitution of Castelluccio di Norcia" between the Umbria Region, the USR Umbria, the Municipality of Norcia and the University of Perugia - Department of Civil and Environmental Engineering University of Perugia

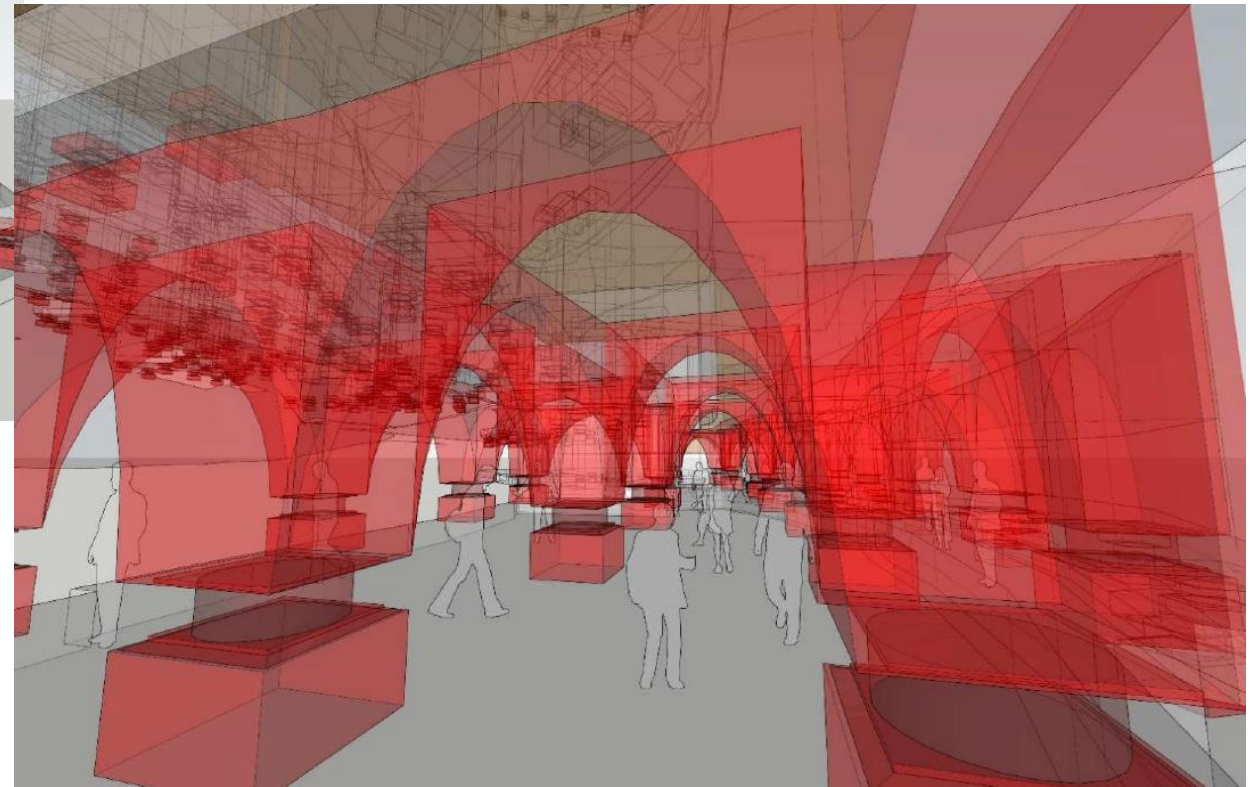
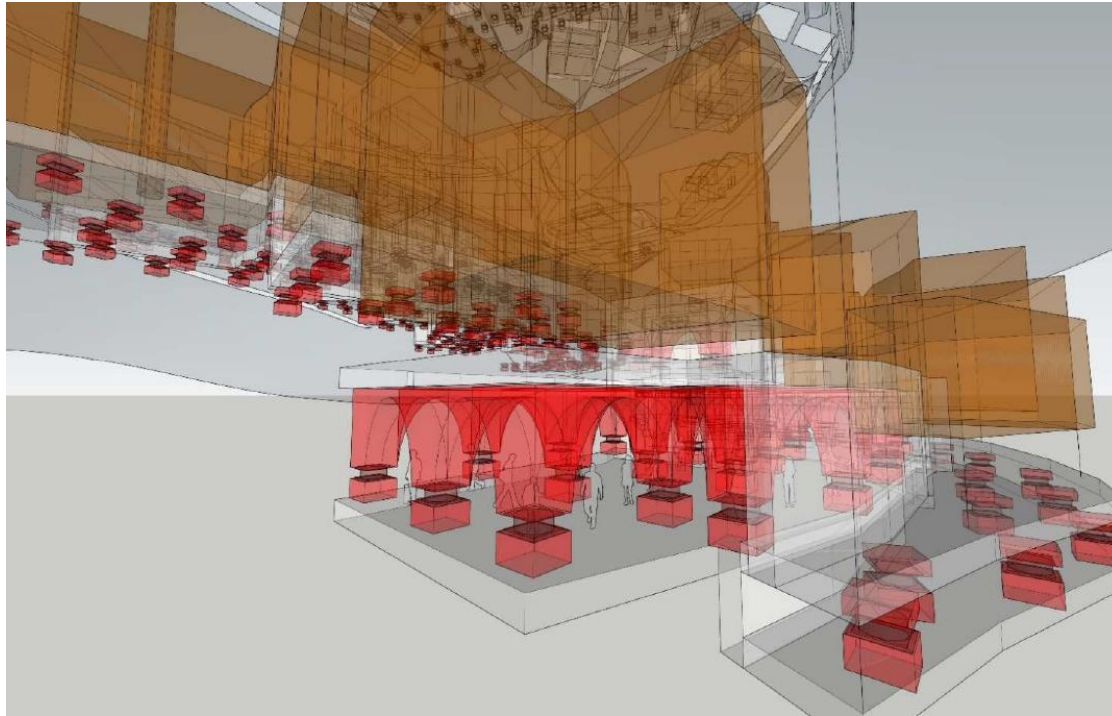
ARRANGEMENT OF ISOLATORS

***FRICTION ISOLATORS
WITH CURVED SLIDING
SURFACE("pendulum")***



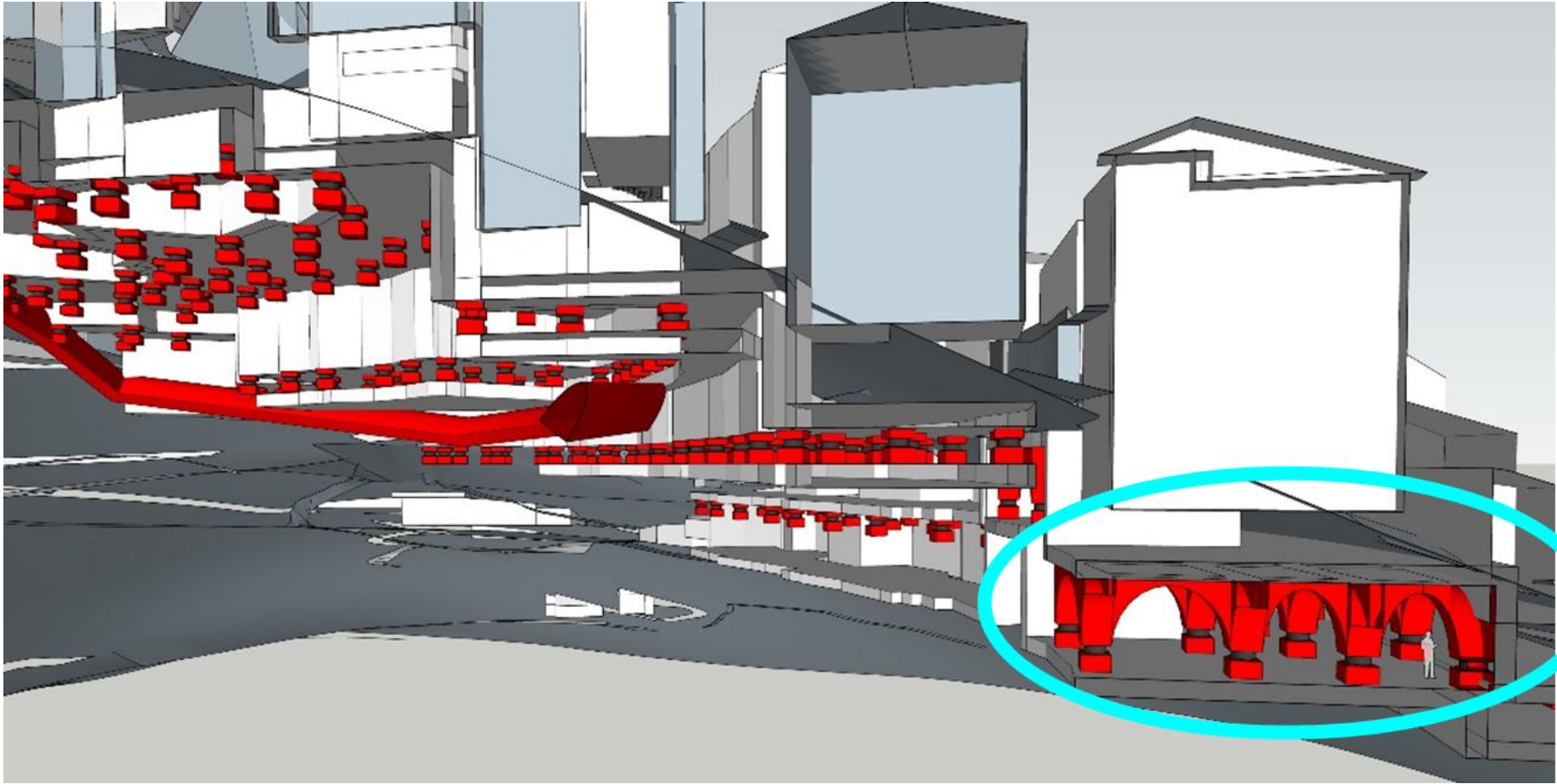
*Functioning principle of the Sliding Isolation Pendulum
(animation: courtesy of Dr. Renzo Medeot)*

ARRANGEMENT OF ISOLATORS



Research agreement on an "Application study of a seismic ground isolation solution for the seismically safe urban restitution of Castelluccio di Norcia" between the Umbria Region, the USR Umbria, the Municipality of Norcia and the University of Perugia - Department of Civil and Environmental Engineering University of Perugia

MULTI-PURPOSE UNDERGROUND SPACE



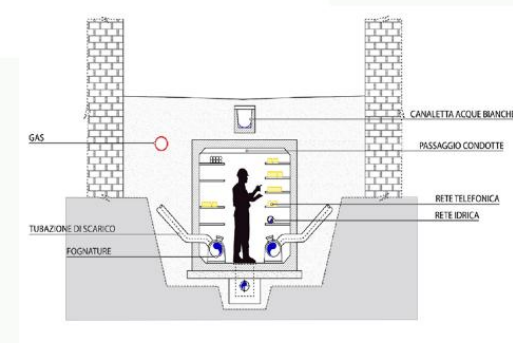
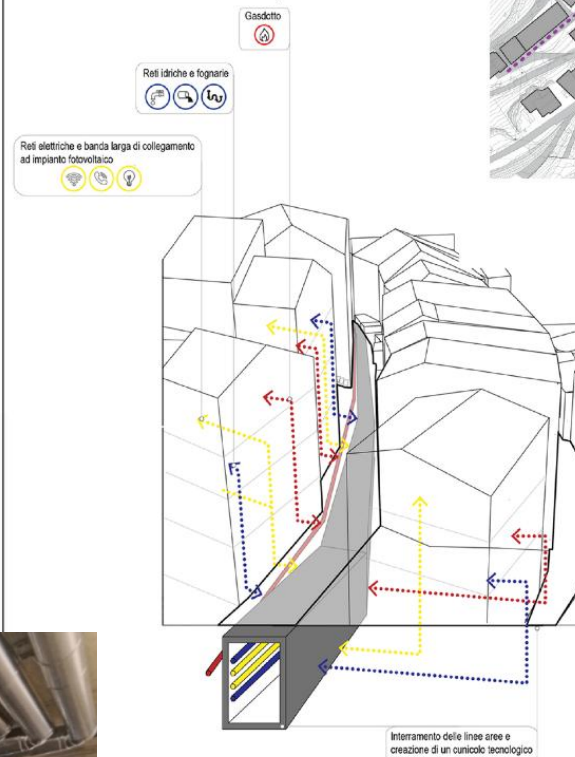
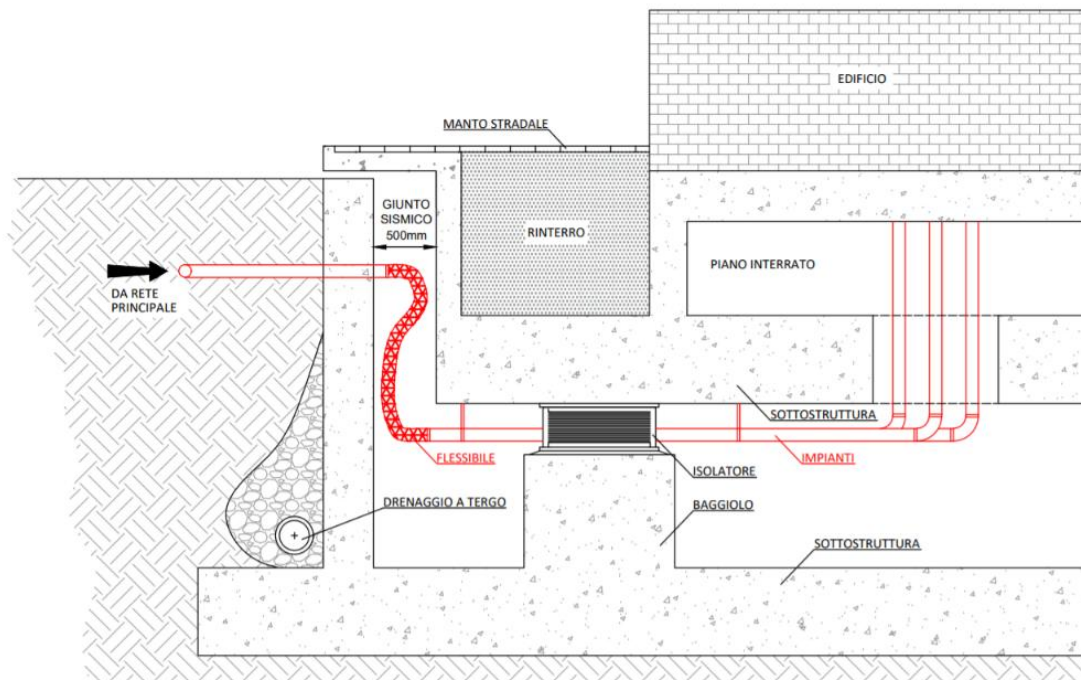
Research agreement on an "Application study of a seismic ground isolation solution for the seismically safe urban restitution of Castelluccio di Norcia" between the Umbria Region, the USR Umbria, the Municipality of Norcia and the University of Perugia - Department of Civil and Environmental Engineering University of Perugia

SYSTEM COMPATIBILITY

Cunicoli tecnologici







La realizzazione di cunicoli tecnologici a servizio della frazione garantisce l'accesso alle utenze agli edifici da ricostruire, ottimizza i costi di gestione, consente di eliminare le reti aeree e permette di implementare la funzionalità e i servizi forniti dalle reti nel tempo.

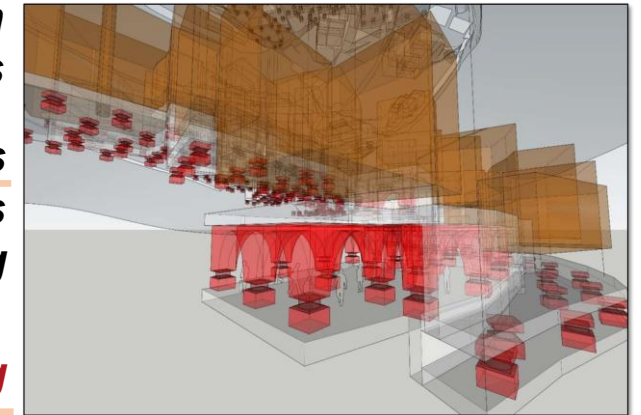
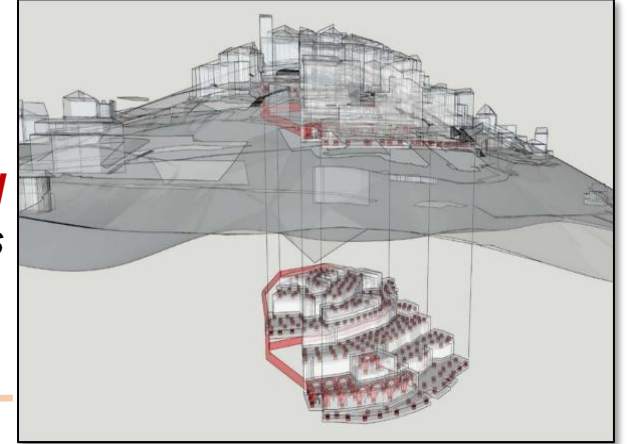
Ipotesi localizzativa del cunicolo tecnologico



INNOVATIVE TECHNIQUES FOR SEISMIC RISK PROTECTION

GROUND ISOLATION SOLUTION - ADVANTAGES

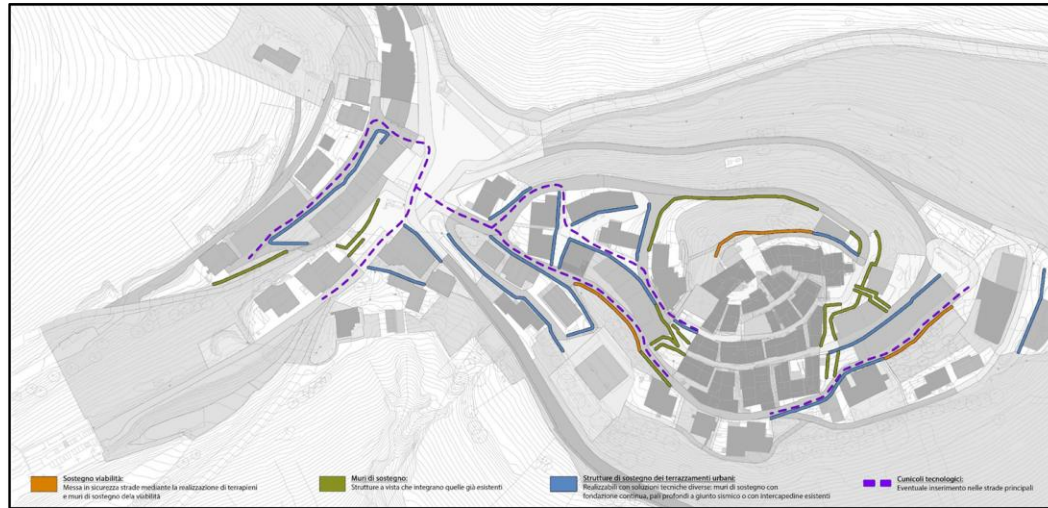
- 1  *urban restitution of the place "where and how it was"*
- 2  *integral seismic protection of the **entire isolated neighborhood** reducing the number of joints*
- 3  ***reduction of reconstruction times** and costs compared to fixed-base reconstruction for single aggregate*
- 4  *drastic **reduction** of **damages/costs/inconveniences** related to repairs/reconstruction for future seismic events also depending on the complexity of the places*
- 5  ***sustainability** recovery of rubble and excavations reuse for concrete and completion of infrastructures (crushing and screening plants and on-site concrete mixing*
- 6  ***access, maintenance and monitoring***



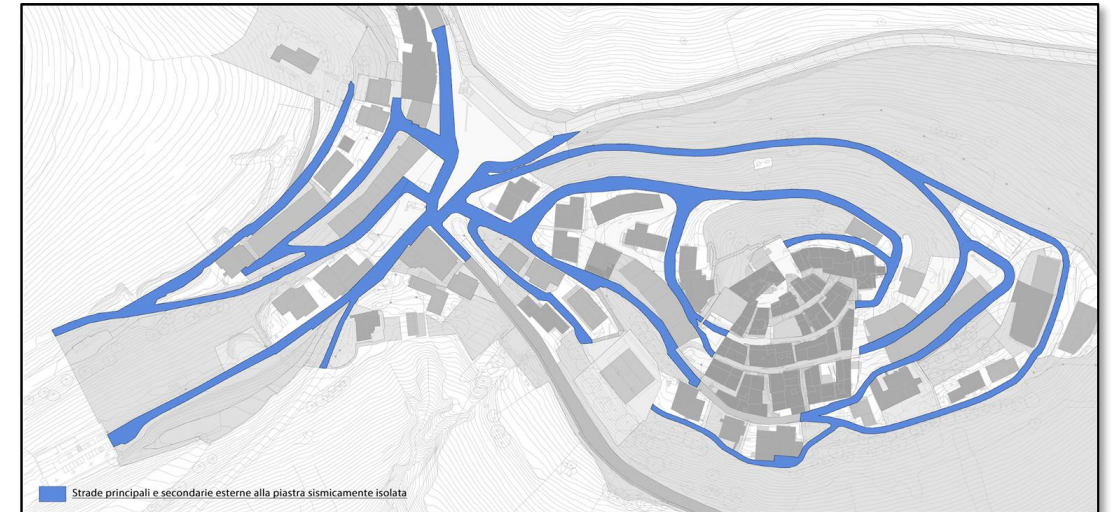
TIMETABLE IMPLEMENTATION PHASES

EXTERNAL INTERVENTIONS TO THE FORMWORK

STEP 1: CONSTRUCTION OF TERRACING AND TECHNOLOGICAL TUNNELS LIMITED TO THE PORTION IN THE INHABITED CENTER OUTSIDE THE PLATE AND SUBSEQUENT TESTING AIMED AT THE RECONSTRUCTION OF BUILDINGS

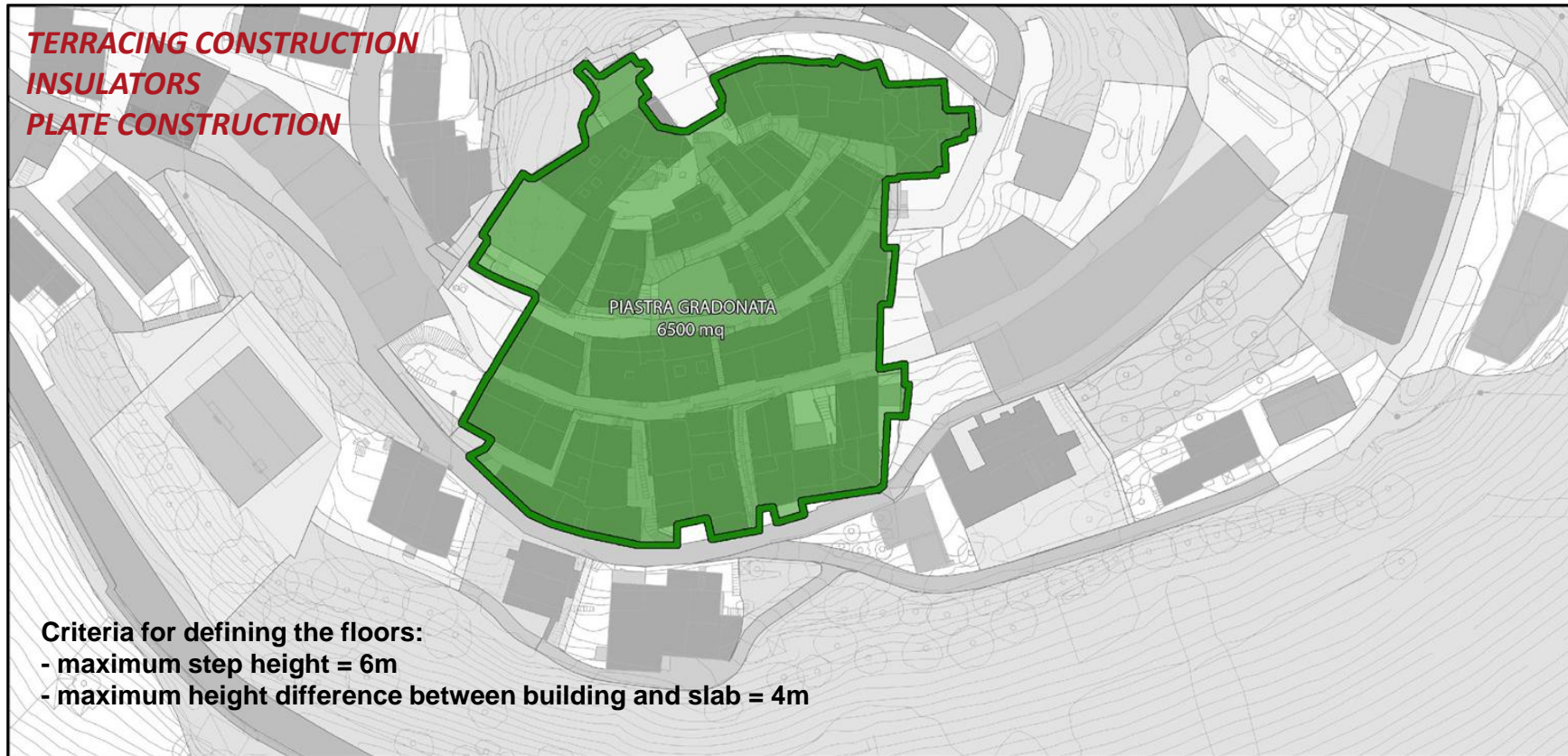


STEP 2: RESTORATION OF MAIN AND SECONDARY ROADS ON THE TERRACES OUTSIDE THE ISOLATED PLATE



TIMETABLE IMPLEMENTATION PHASES

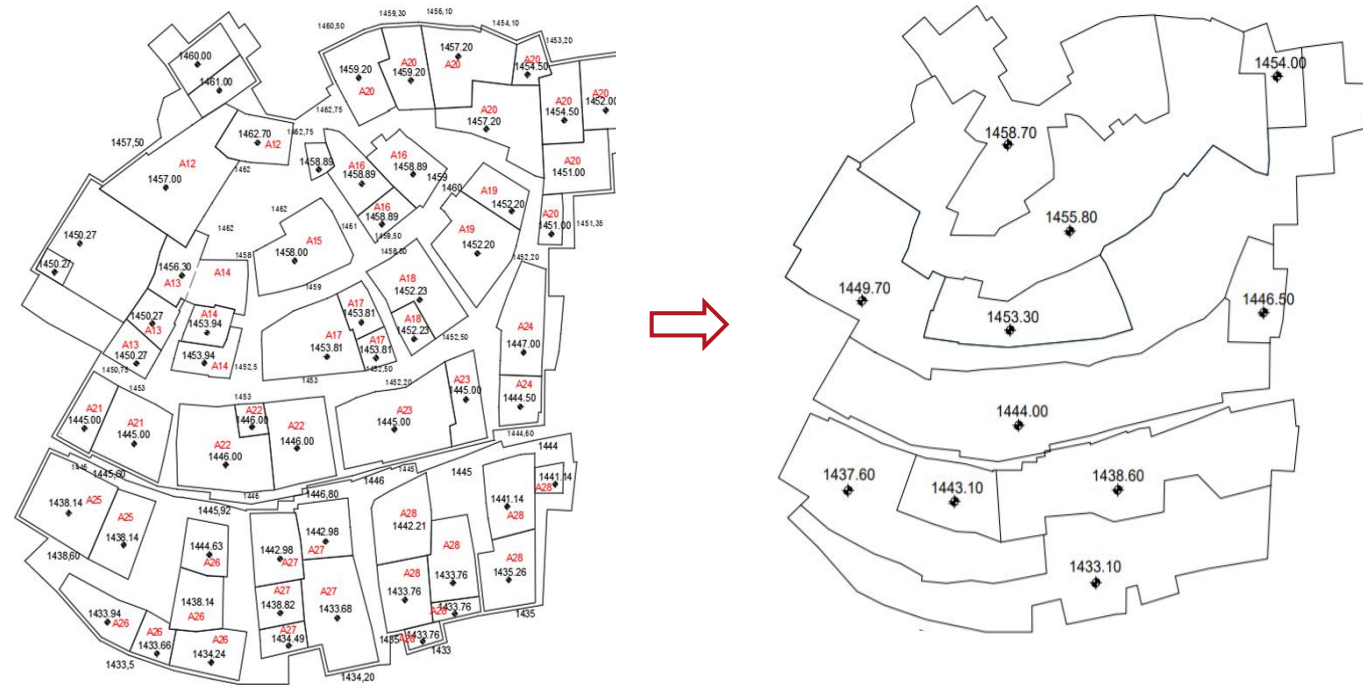
STEP 3: CONSTRUCTION OF THE ISOLATED PLATE IN THE FORMWORK AREA



TIMETABLE IMPLEMENTATION PHASES

STEP 3: CONSTRUCTION OF THE ISOLATED PLATE IN THE FORMWORK AREA

TERRACING CONSTRUCTION
INSULATORS
PLATE CONSTRUCTION



TIMETABLE IMPLEMENTATION PHASES

STEP 4: CONSTRUCTION OF AGGREGATES AND WORSHIP BUILDINGS (Cultural Heritage) IN THE CASSERO AREA



TIMETABLE IMPLEMENTATION PHASES

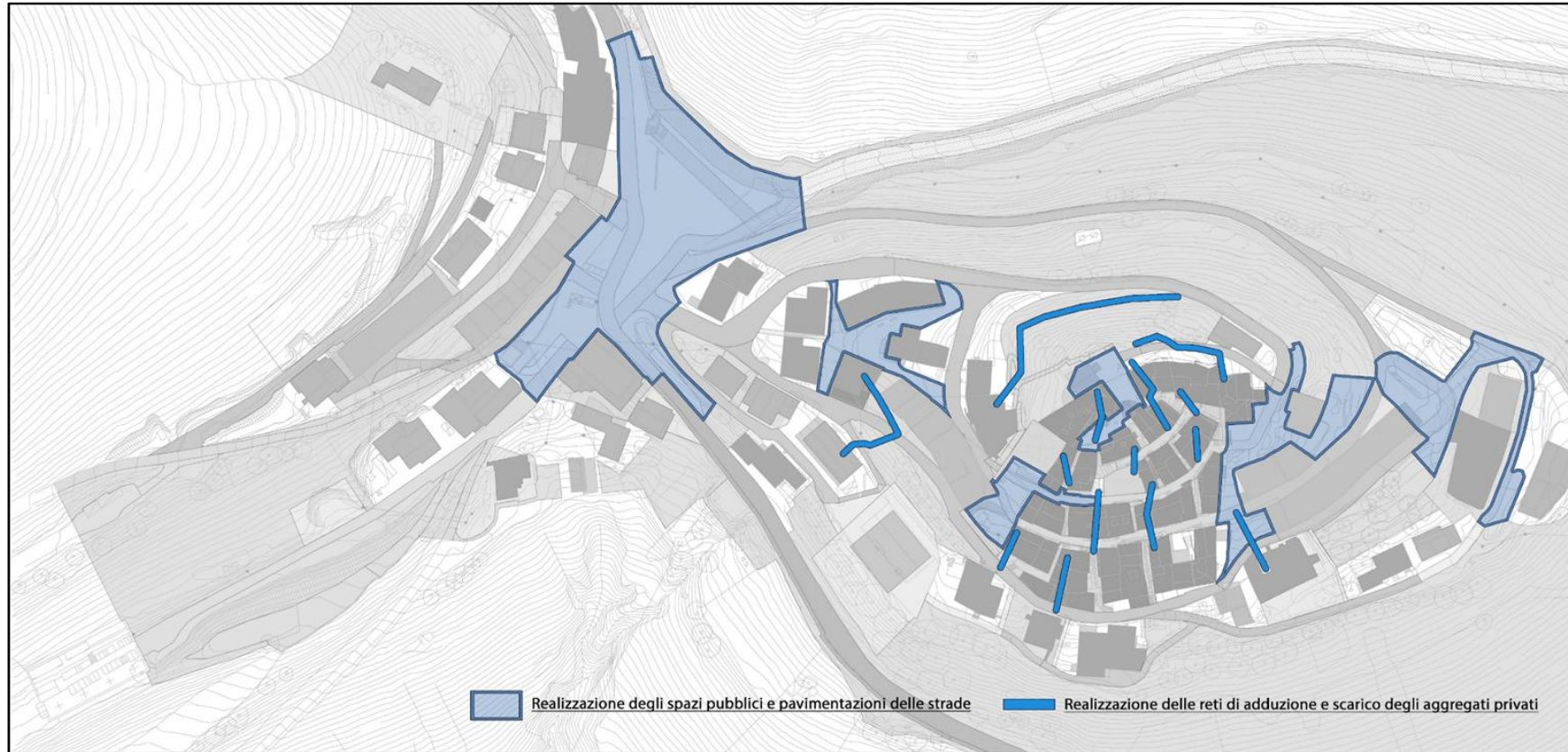
STEP 5: CONSTRUCTION OF TECHNOLOGICAL SUBSERVICES AND ROADS (excluding paving) IN CASSERO AREA



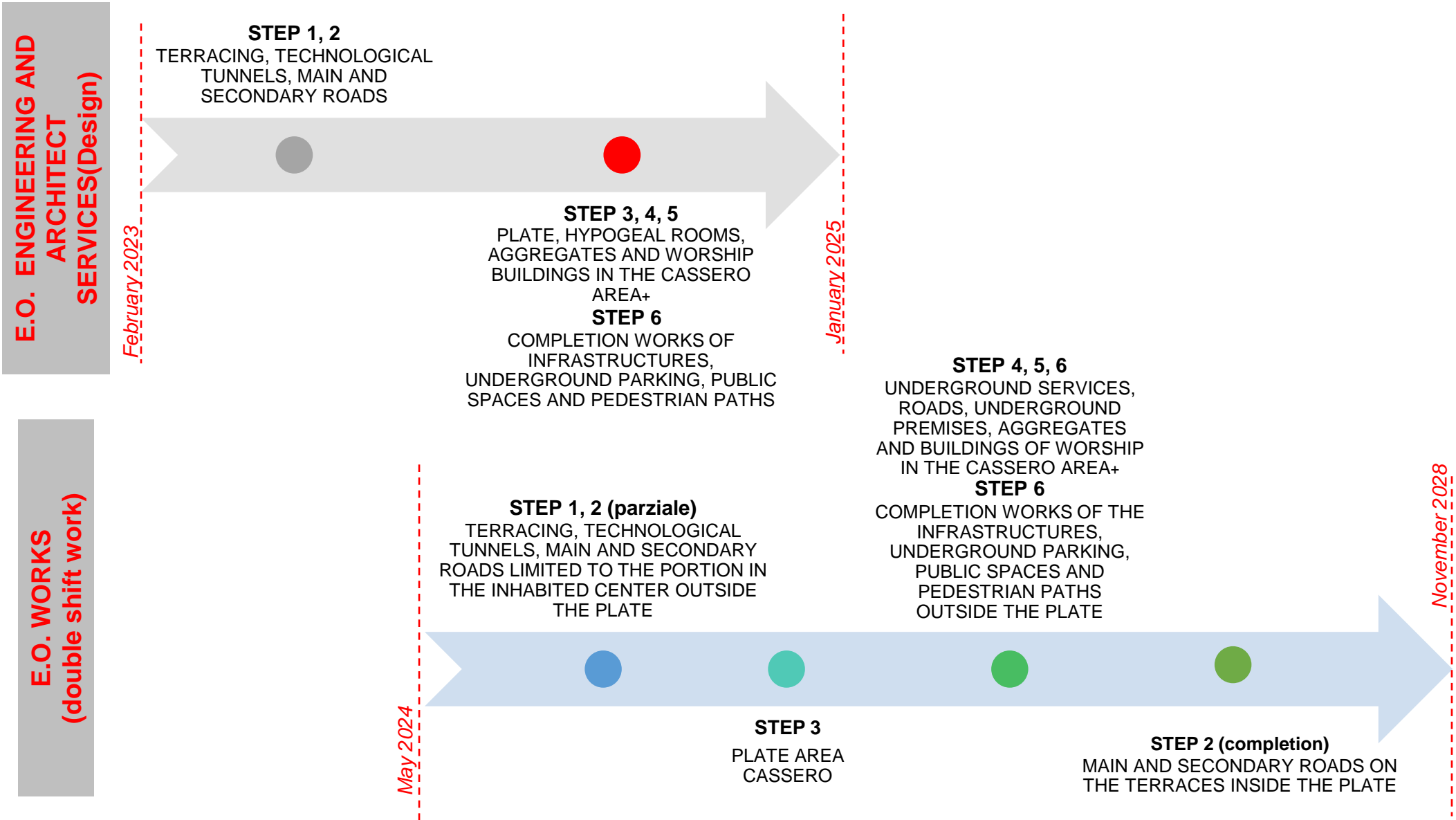
TIMETABLE IMPLEMENTATION PHASES

EXTERNAL INTERVENTIONS TO THE FORMWORK

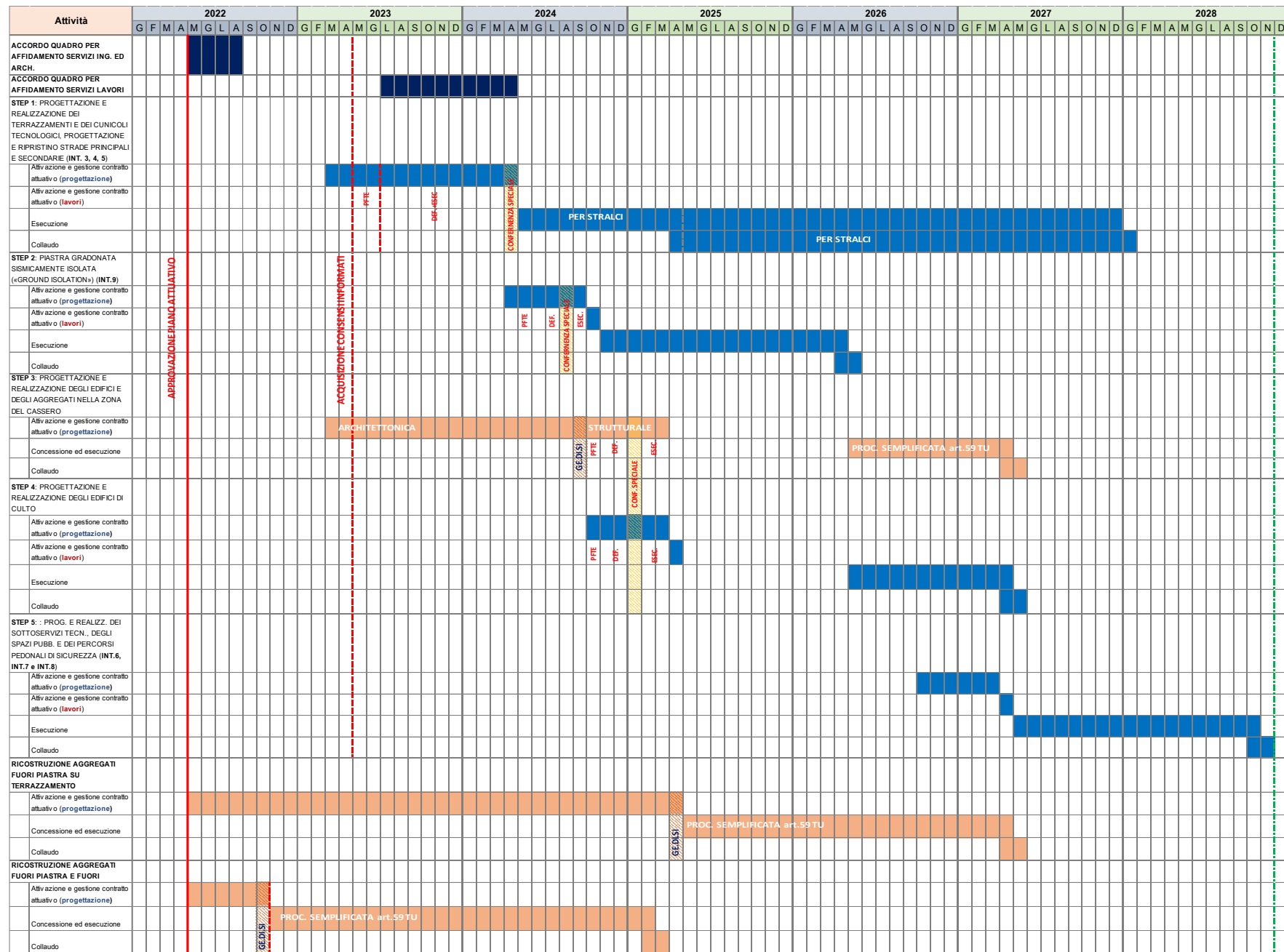
STEP 6: CONSTRUCTION OF COMPLETION WORKS FOR INFRASTRUCTURE, UNDERGROUND PARKING, PUBLIC SPACES AND PEDESTRIAN PATHS



TIMETABLE IMPLEMENTATION PHASES



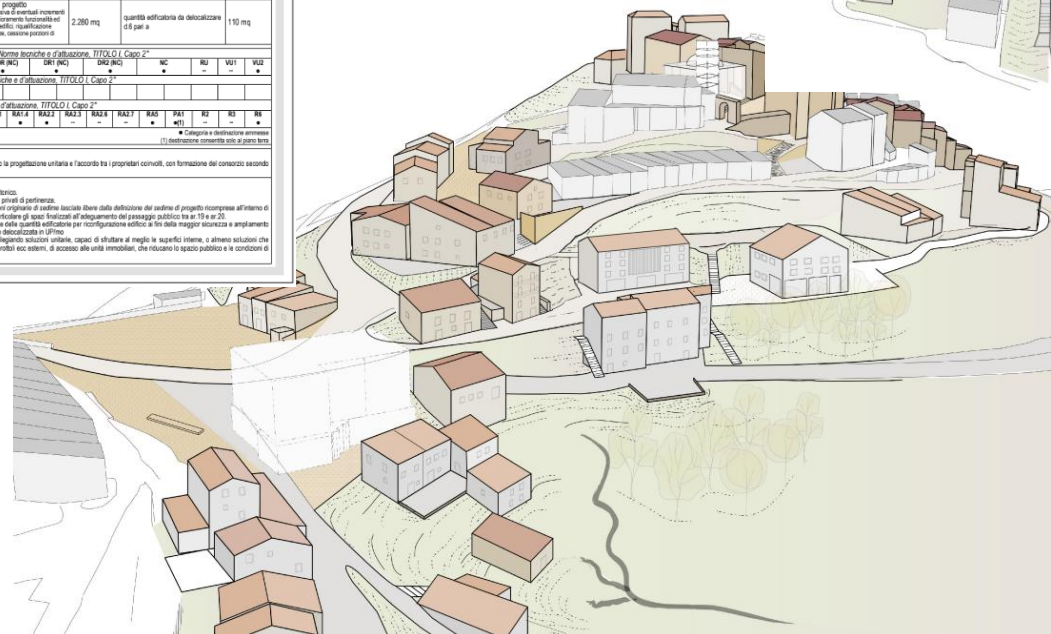
TIMETABLE IMPLEMENTATION PHASES



LEGEND:

SPECIAL
ACCOUNTING
TAX
CREDIT

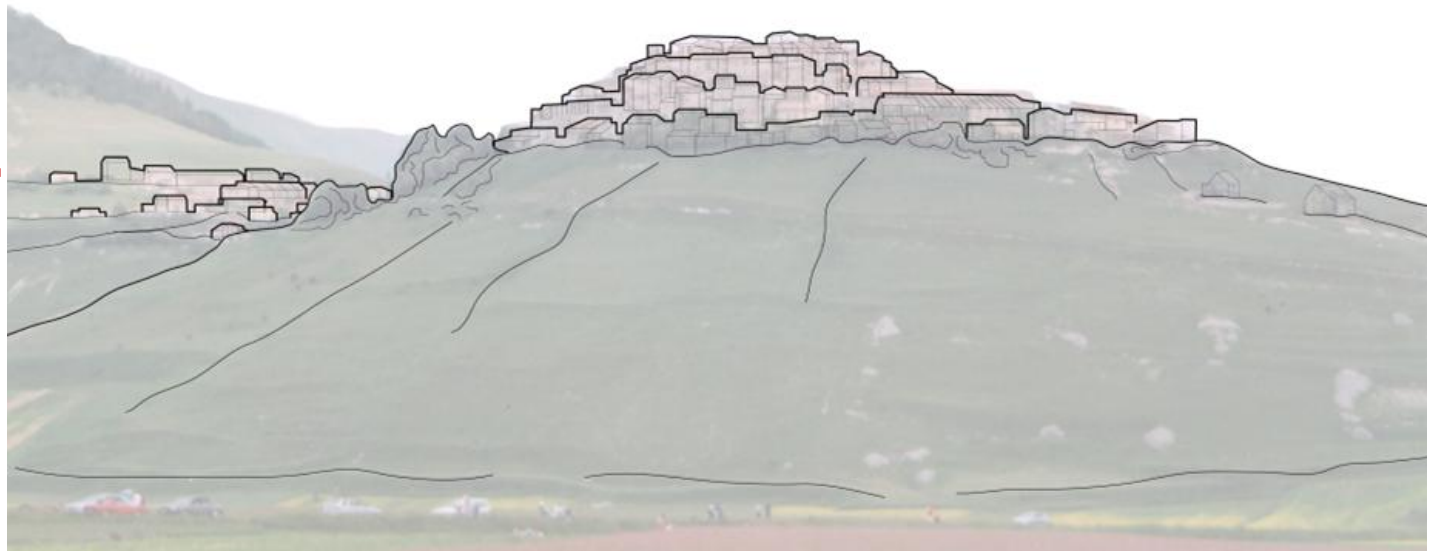
HOW IT WILL BE

[illegible]

HOW IT WAS



HOW IT WILL BE



HOW IT WAS

CASTELLUCCIO DI NORCIA - ANTE SISMA 2016



HOW IT WILL BE

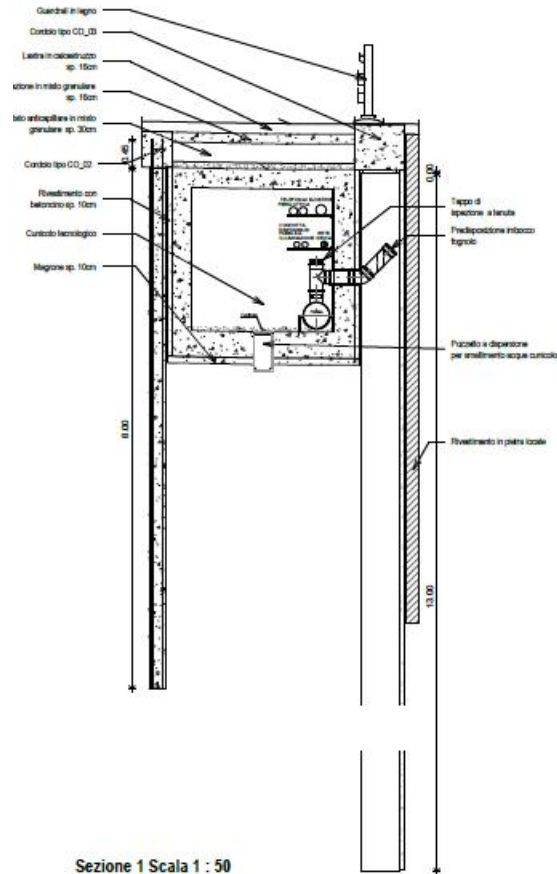
CASTELLUCCIO DI NORCIA - RICOSTRUZIONE POST SISMA 2016



HOW IT WILL BE



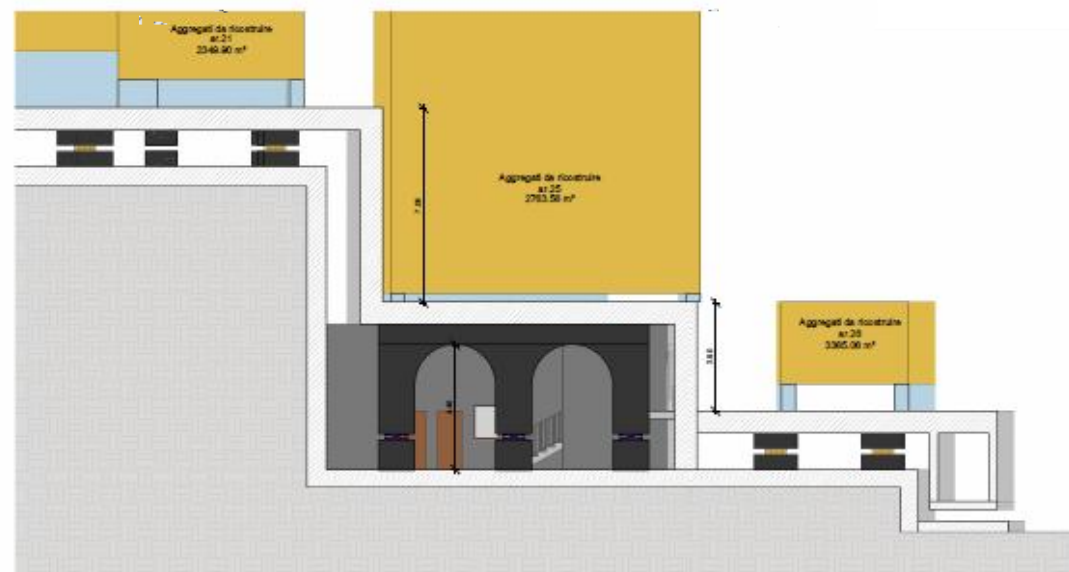
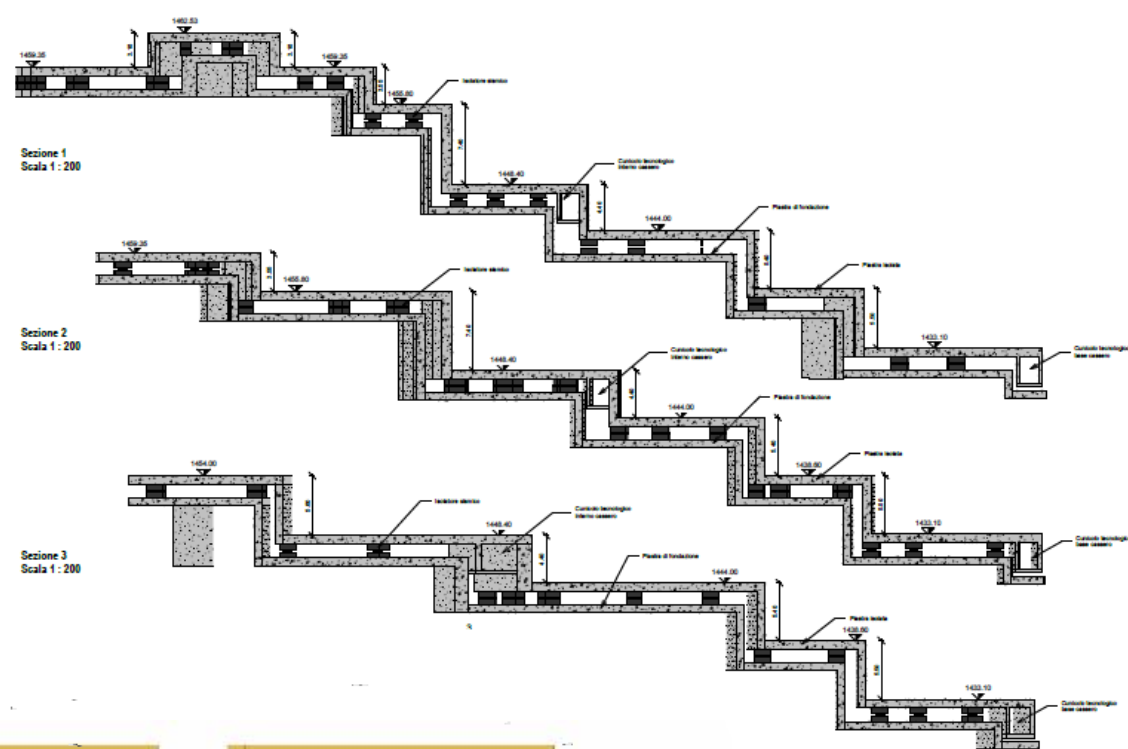
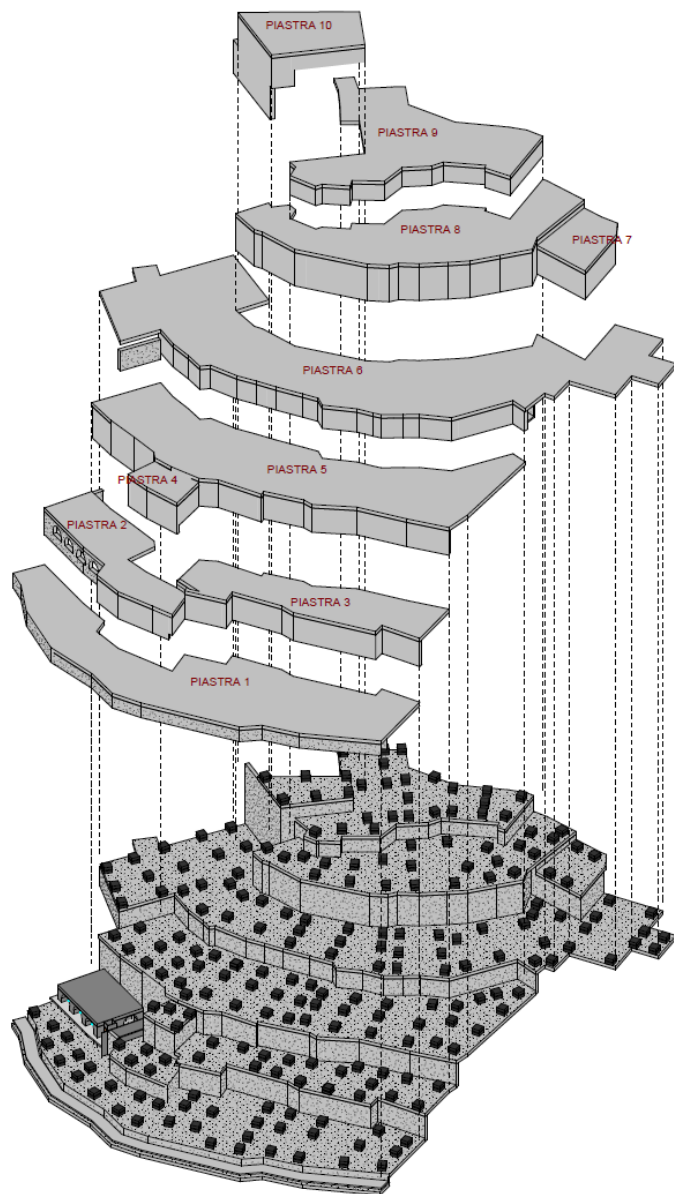
AS IT STANDS



Planimetria dei terrazzamenti su Ortofoto



HOW IT WILL BE





**THANK YOU FOR YOUR
ATTENTION**

Eng. GIANLUCA FAGOTTI
MANAGER OF PRIVATE RECONSTRUCTION SERVICE U.S.R. UMBRIA