

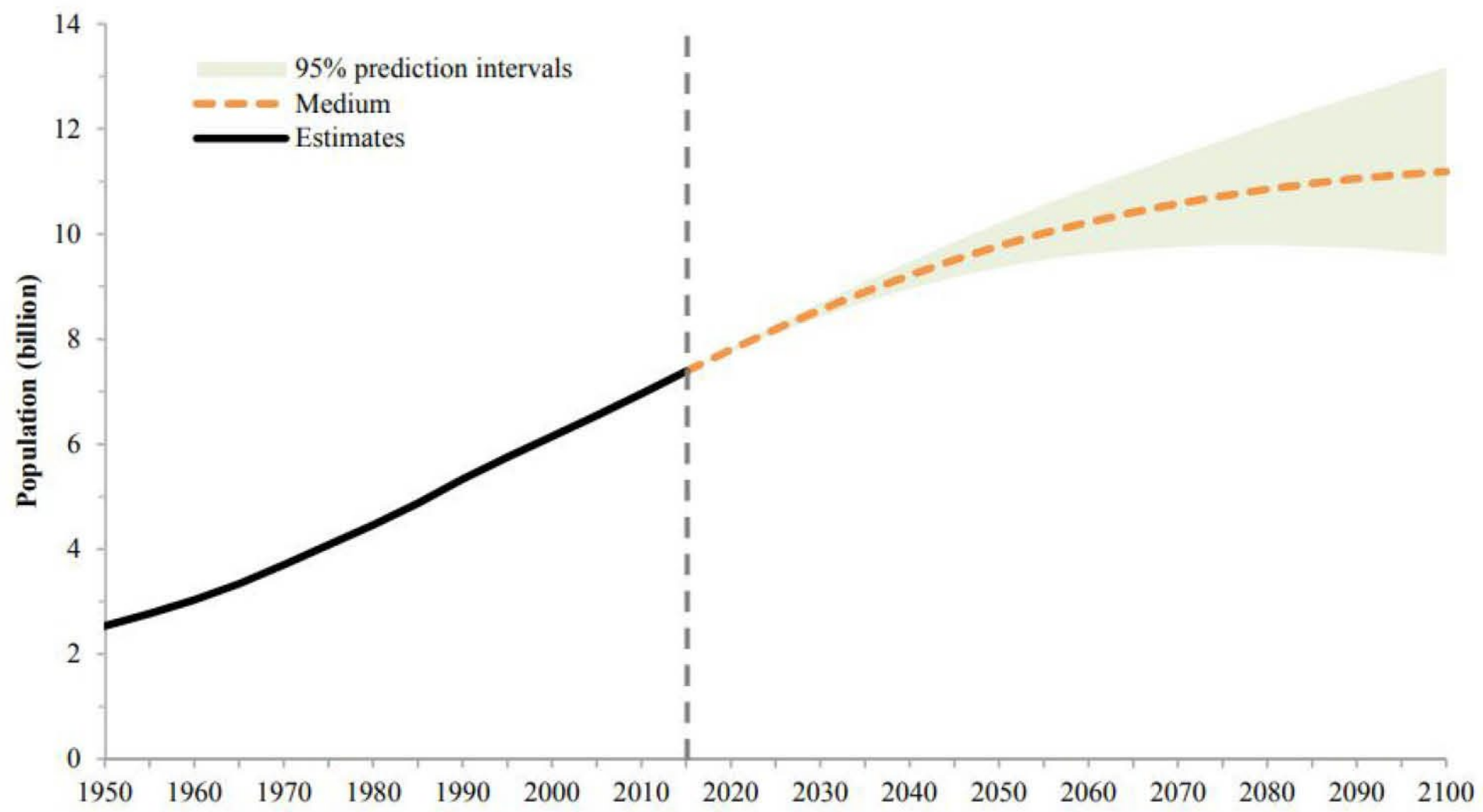
PROBLEM STATEMENT

DESIGN RESEARCH

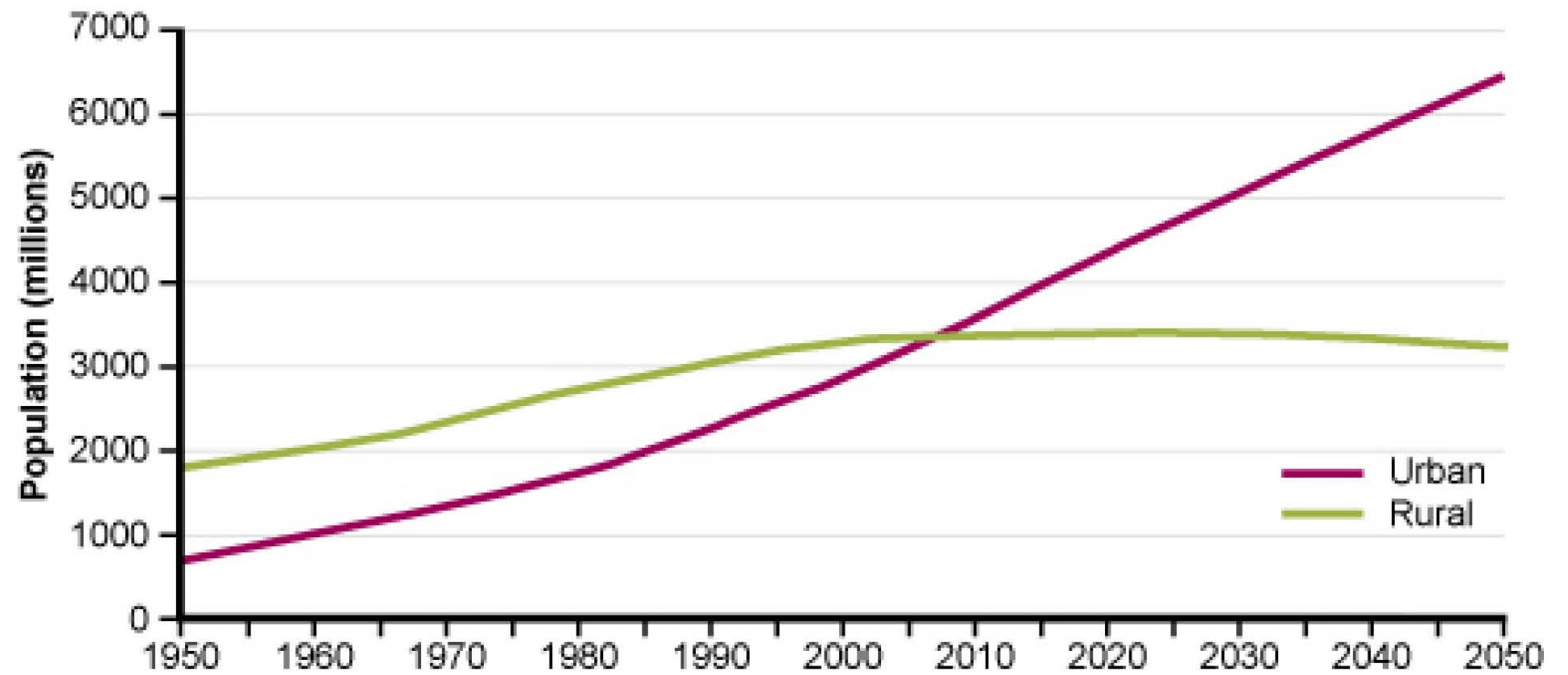
DESIGN

REFLECTION

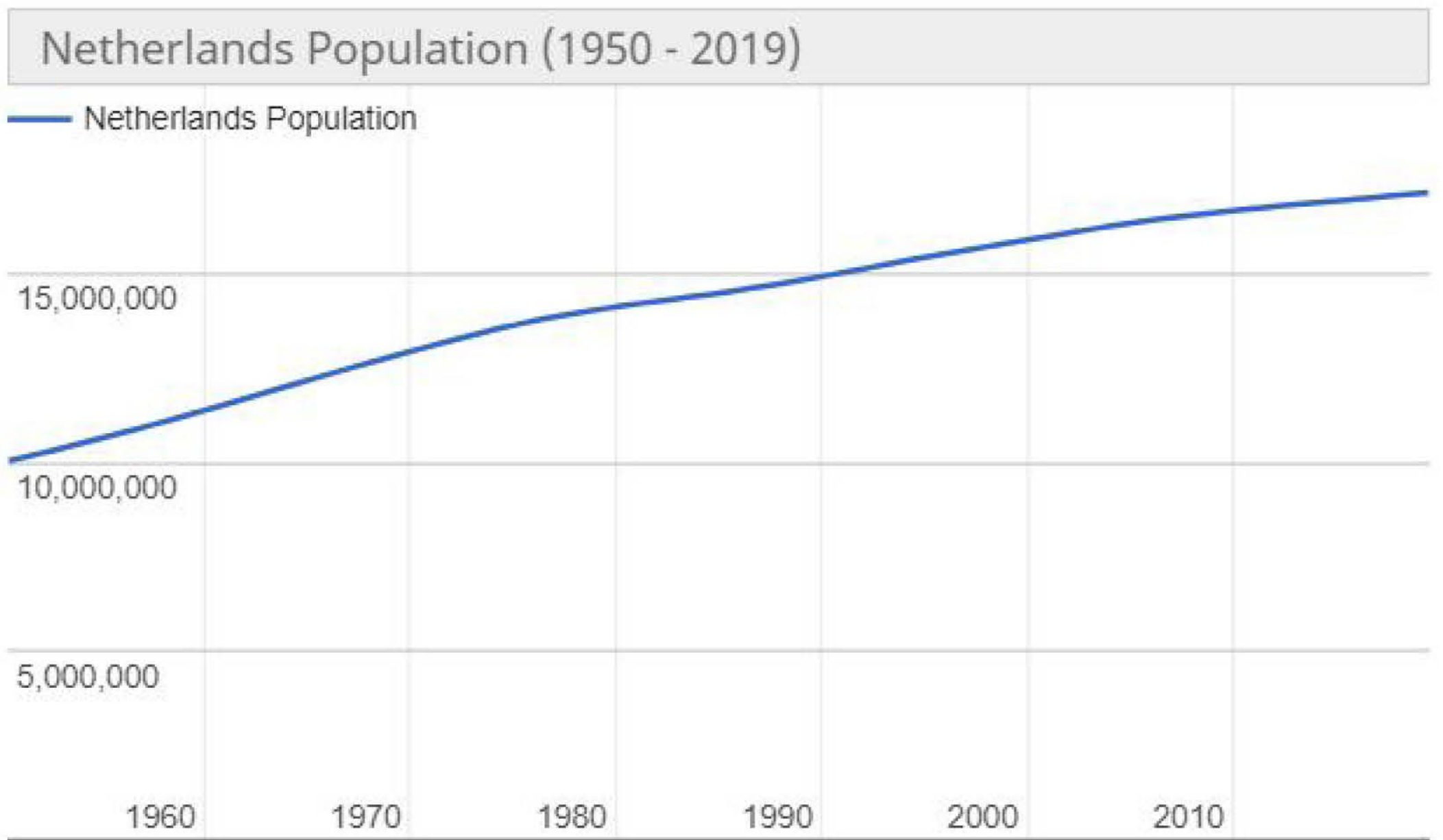
PROBLEM STATEMENT



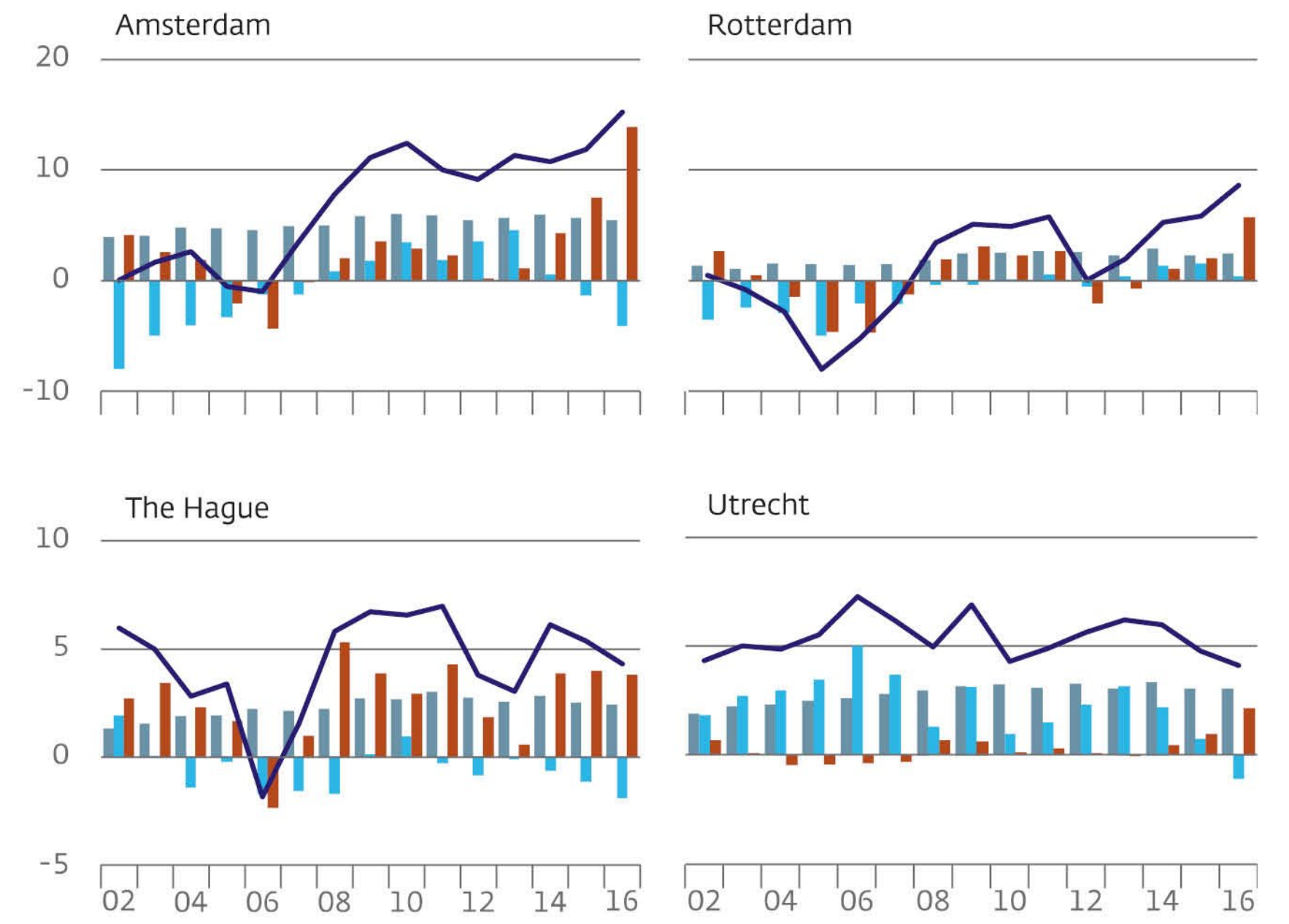
United Nations(2017).



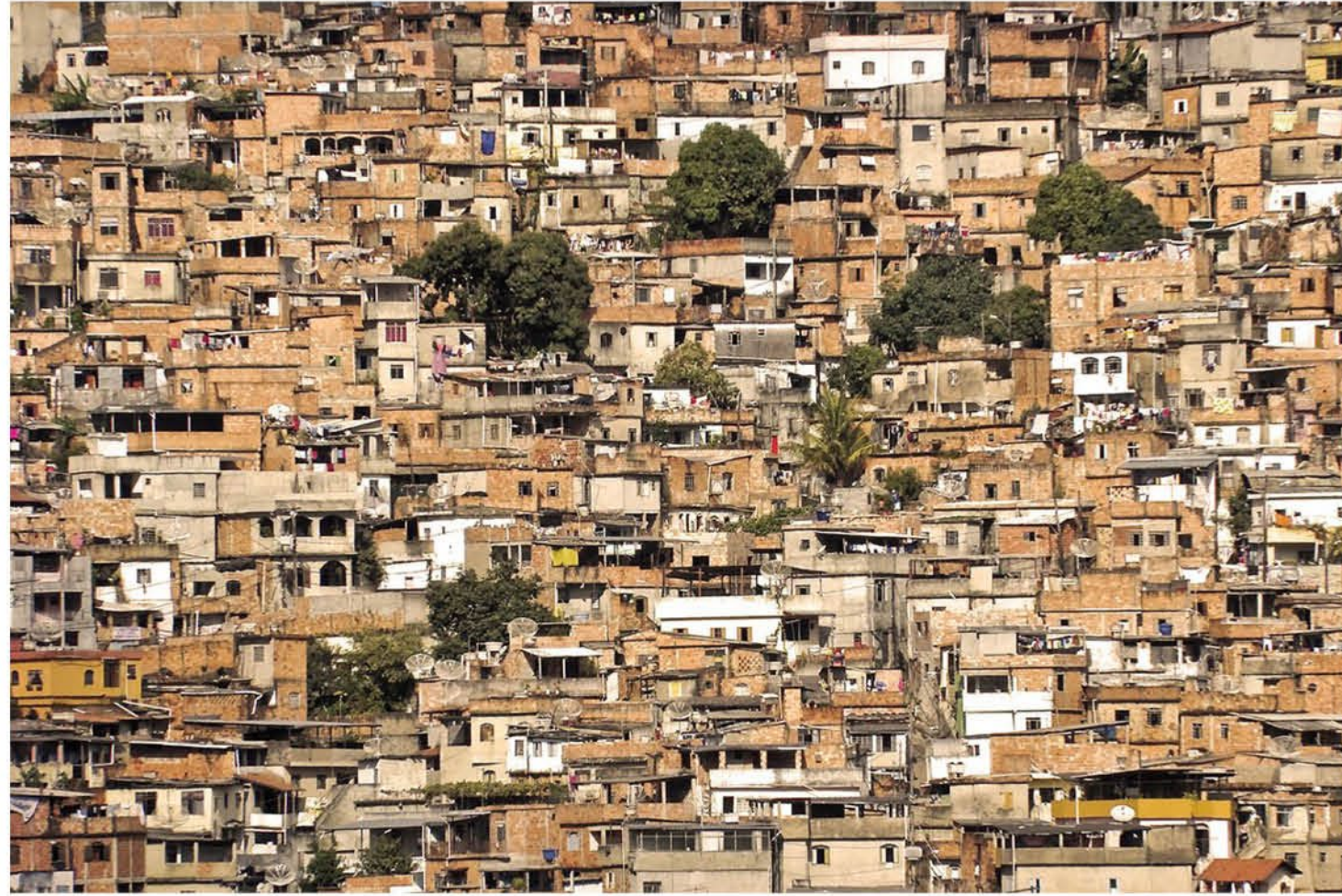
(UNDESA, 2014)



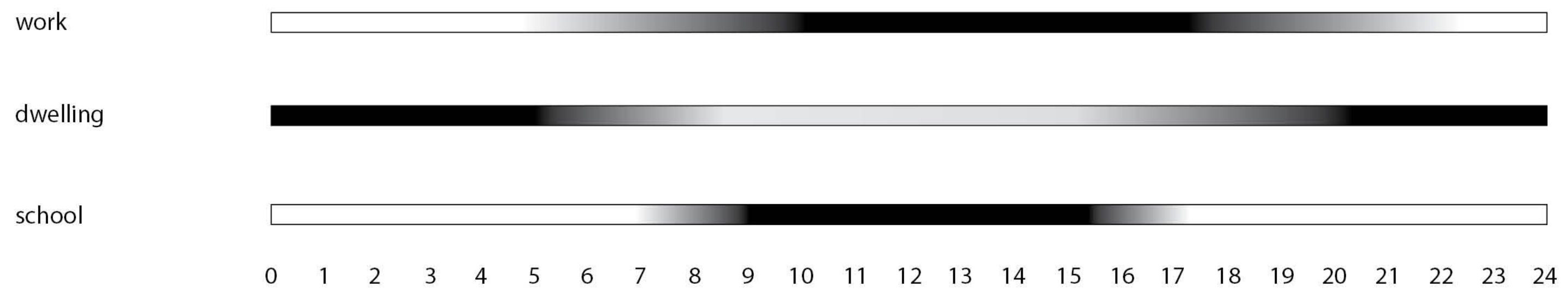
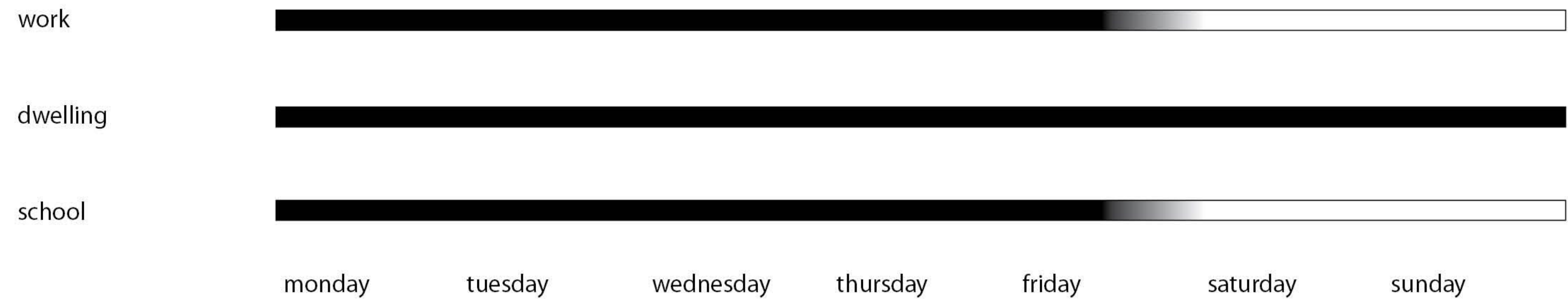
source: <http://www.worldometers.info>, 03.2019



source: DNB Public, The housing market in major Dutch cities, 2017



DESIGN RESEARCH





PKMN Architects, flat of Yolanda Pila



Gary Chang, his own flat

work



dwelling

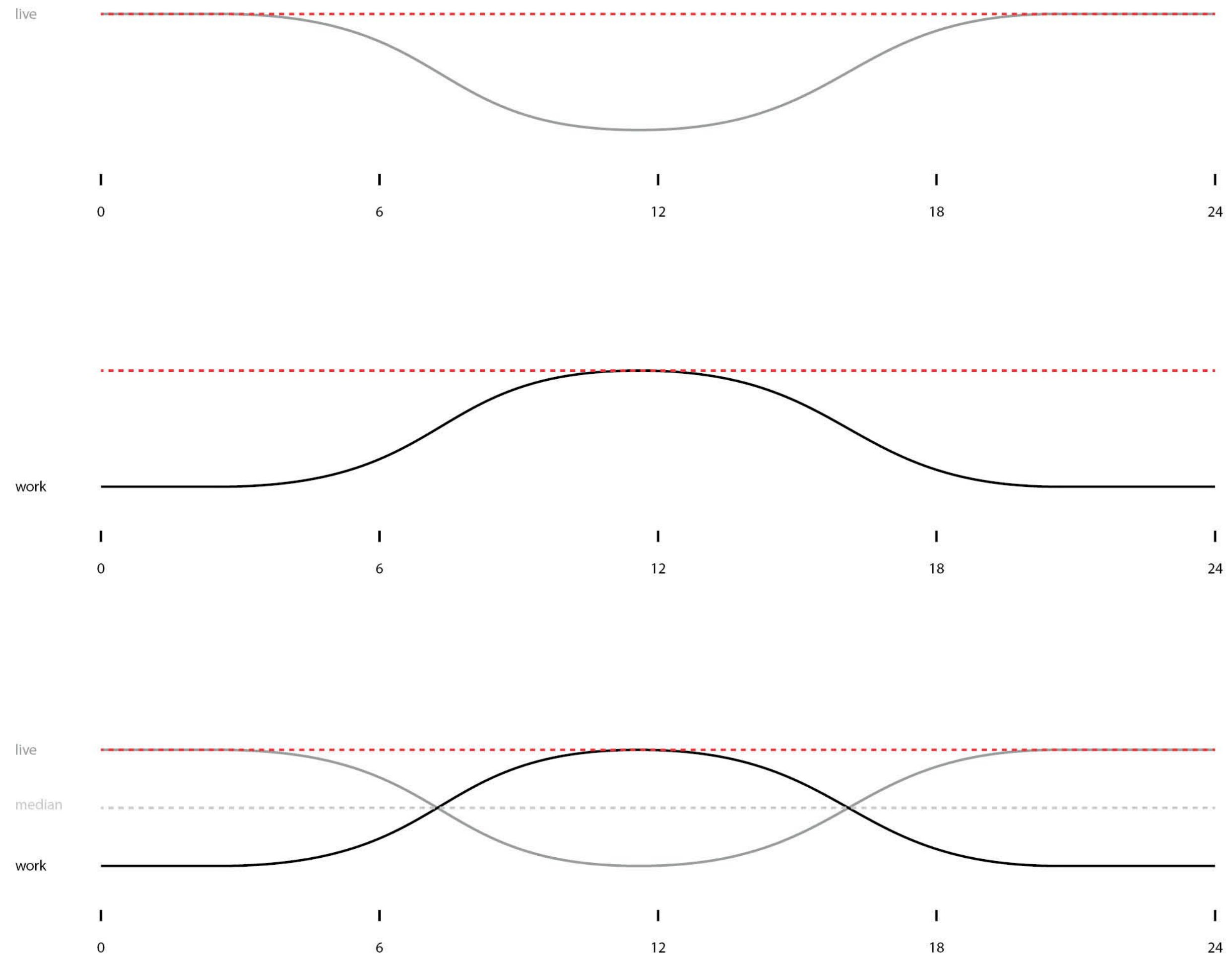


school



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

THE POTENTIAL OF SYNERGY

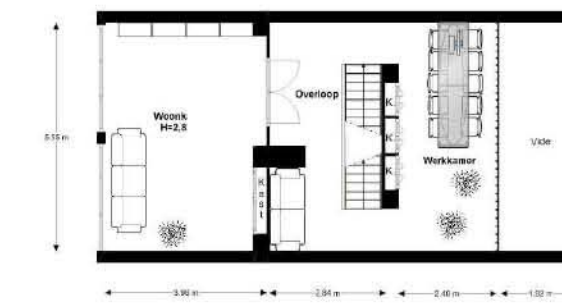
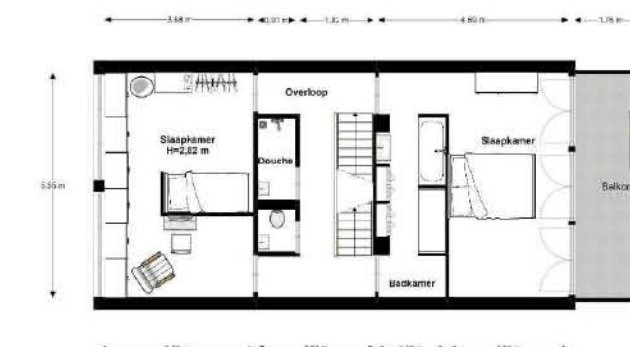
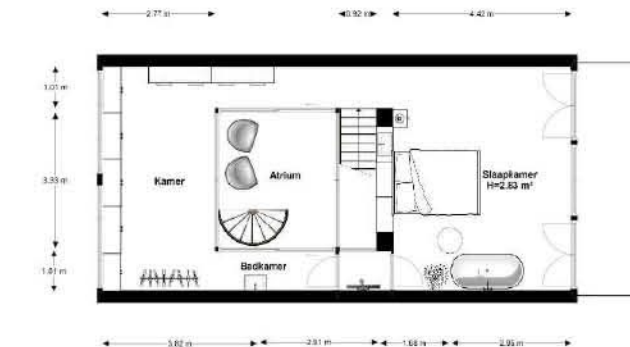




low



medium



high



$$11,8 \text{ m}^2 / 36,6 \text{ m}^2 = 32,2\%$$

32,2%

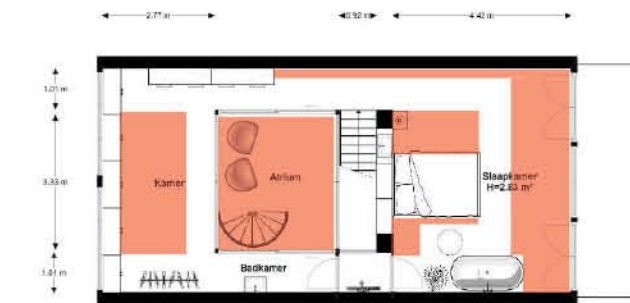


$$11,9 \text{ m}^2 / 46,6 \text{ m}^2 = 25,6\%$$

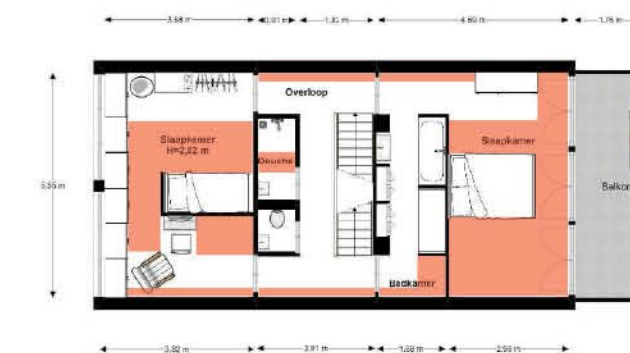


$$23,8 \text{ m}^2 / 62,4 \text{ m}^2 = 38,1\%$$

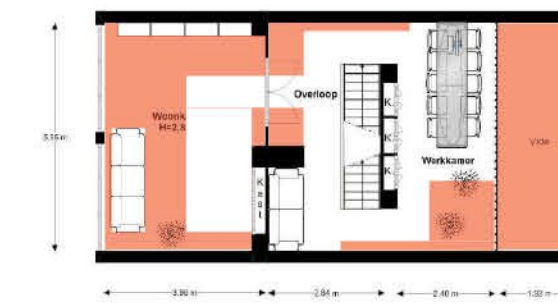
31,9%



$$27,6 \text{ m}^2 / 61,8 \text{ m}^2 = 44,7\%$$



$$20,9 \text{ m}^2 / 59,6 \text{ m}^2 = 35,1\%$$

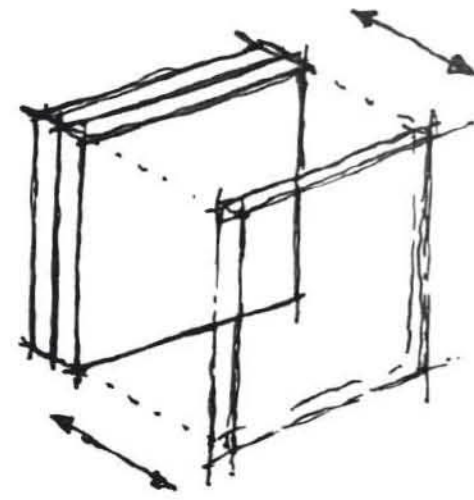
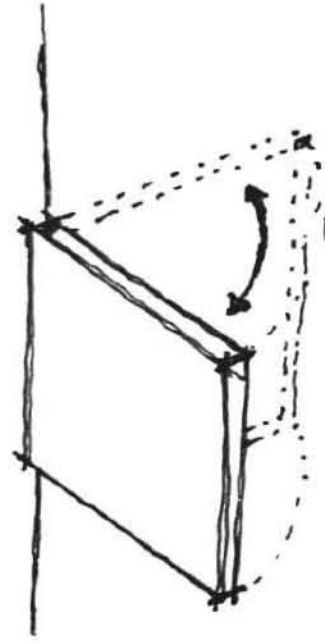
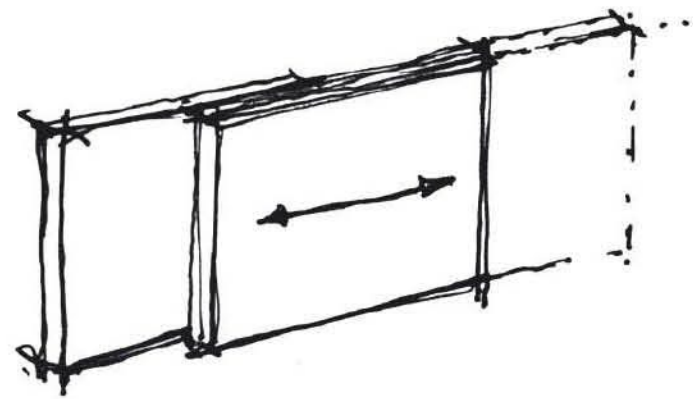


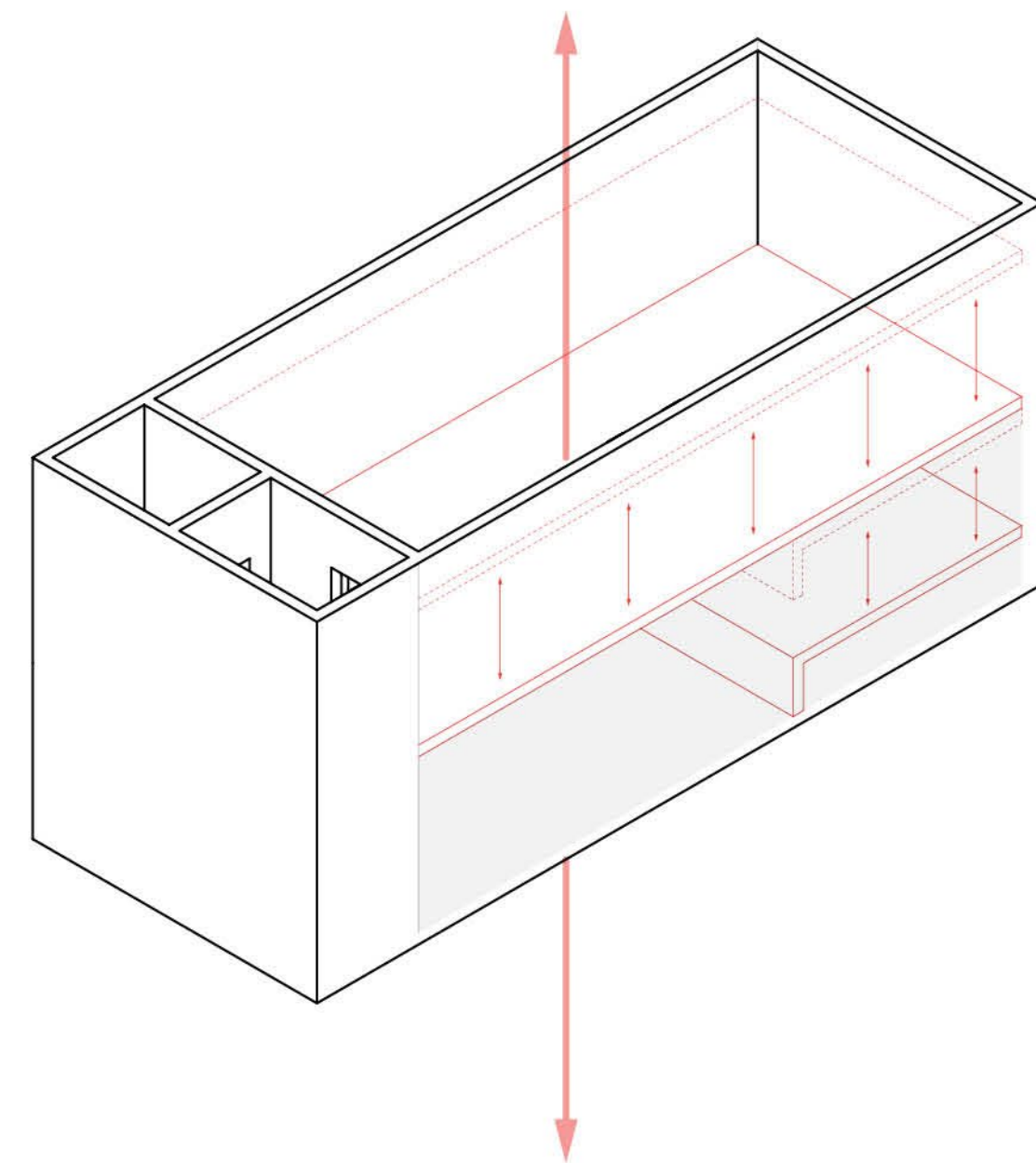
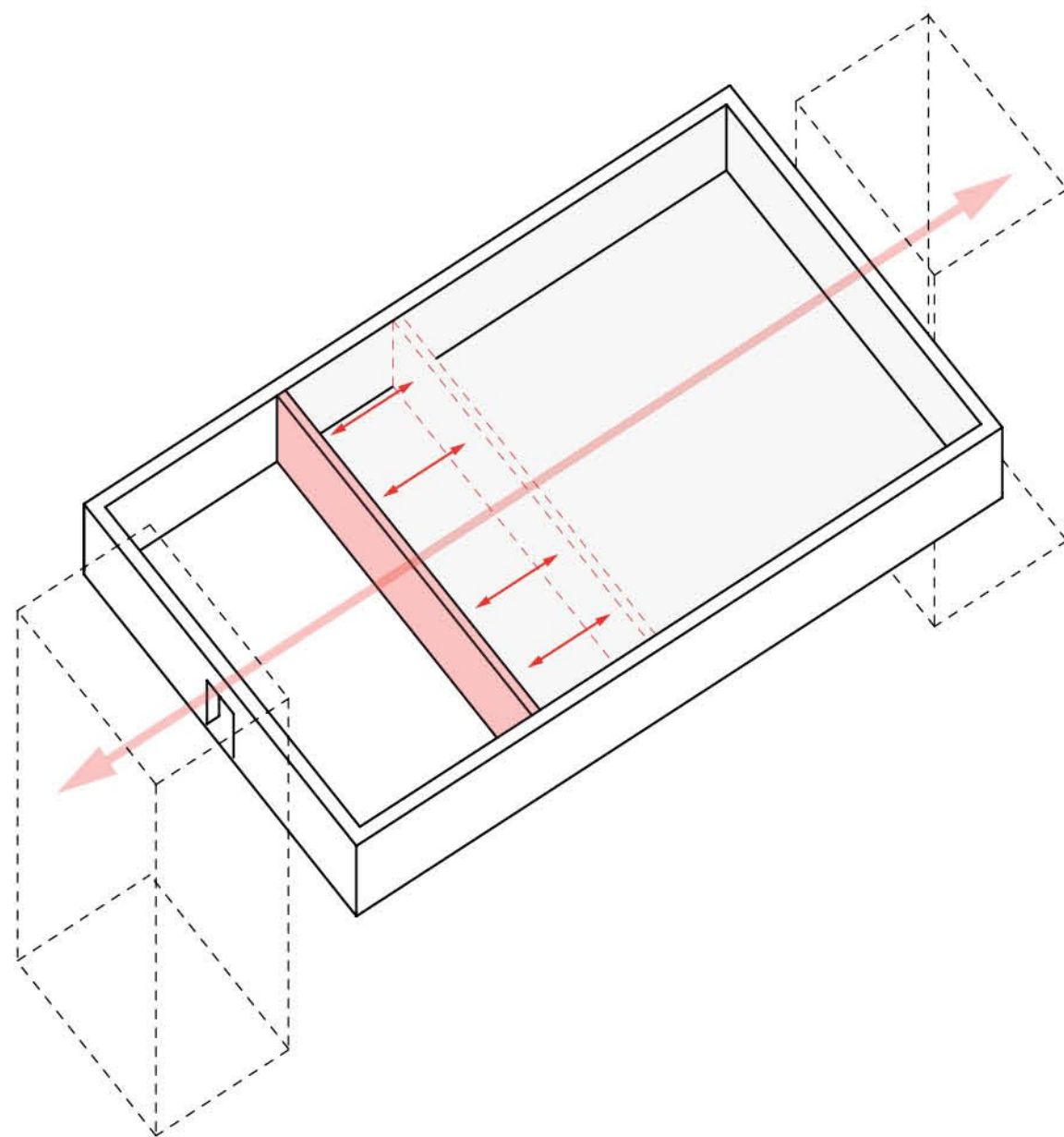
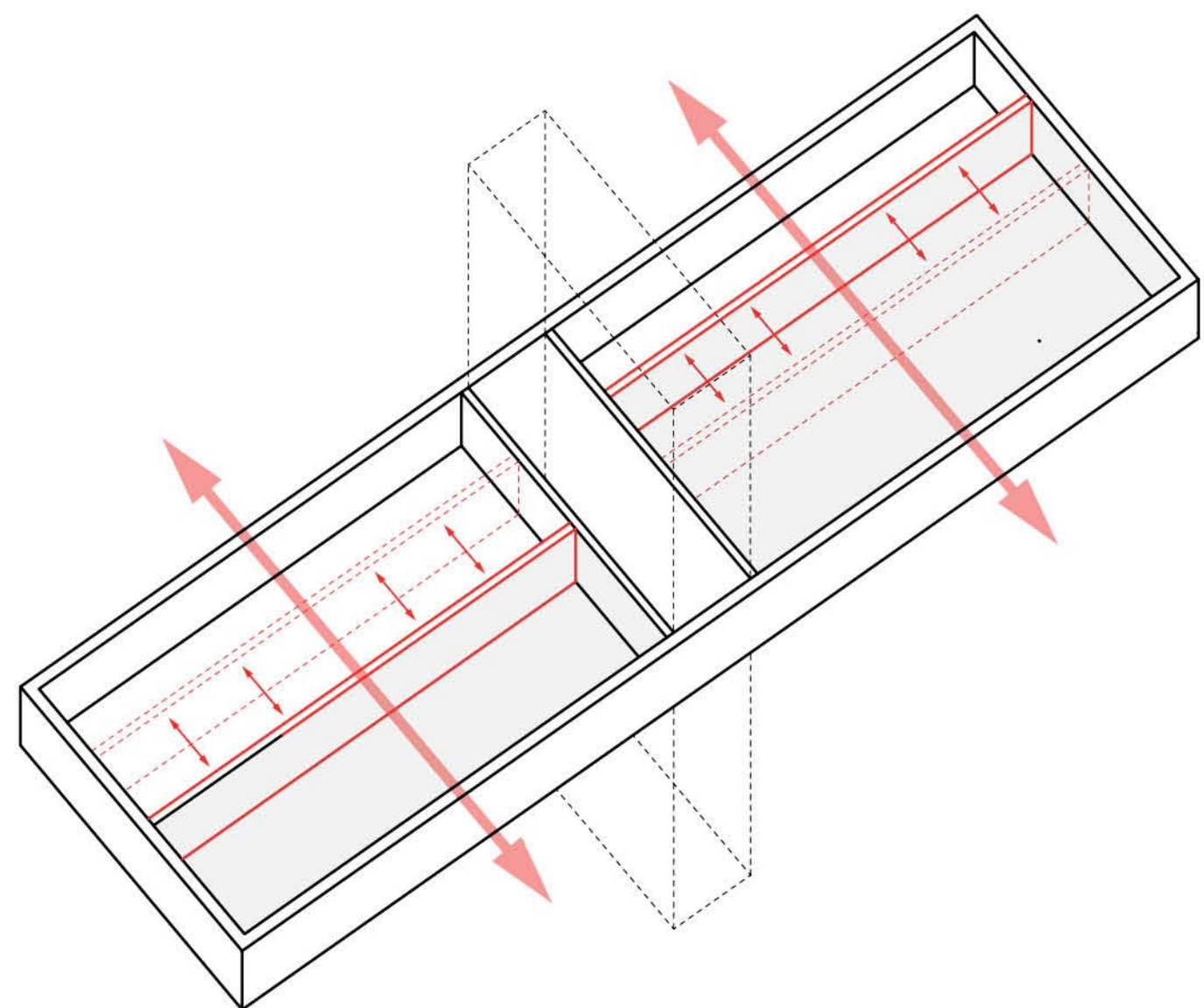
$$28,7 \text{ m}^2 / 59,4 \text{ m}^2 = 48,3\%$$

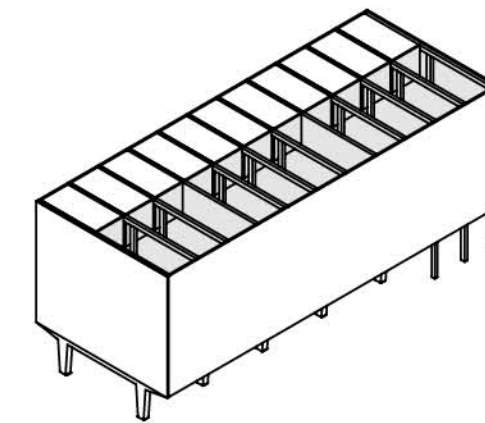
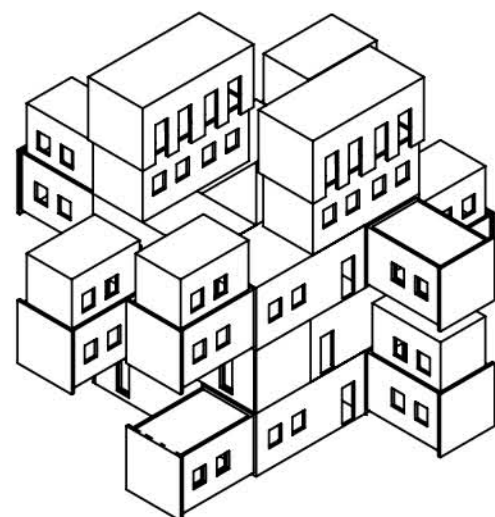
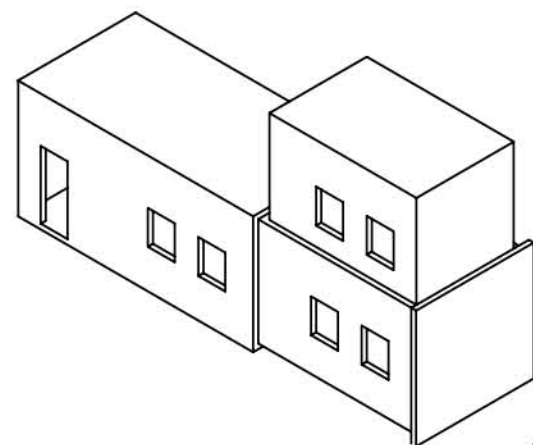
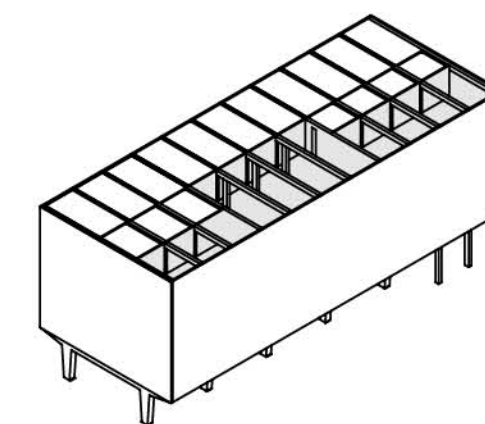
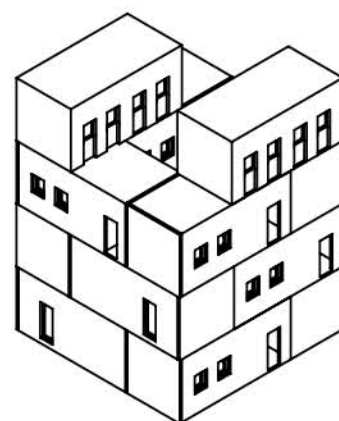
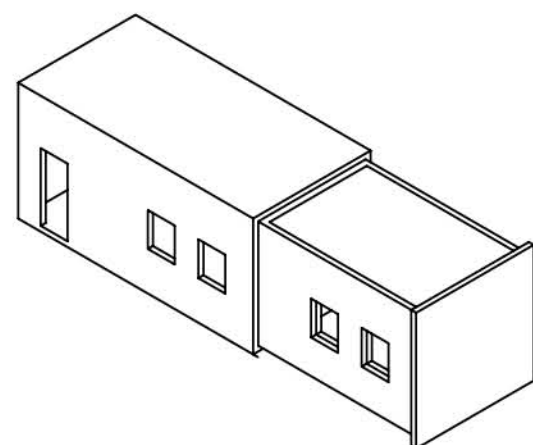
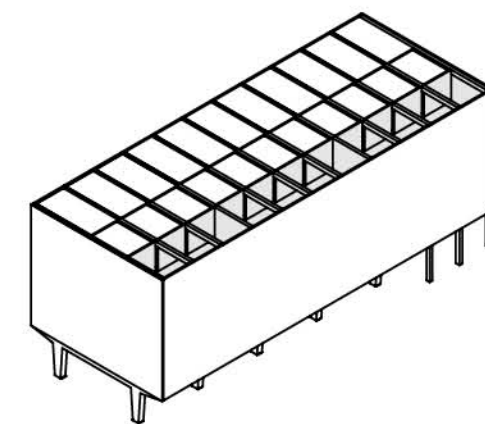
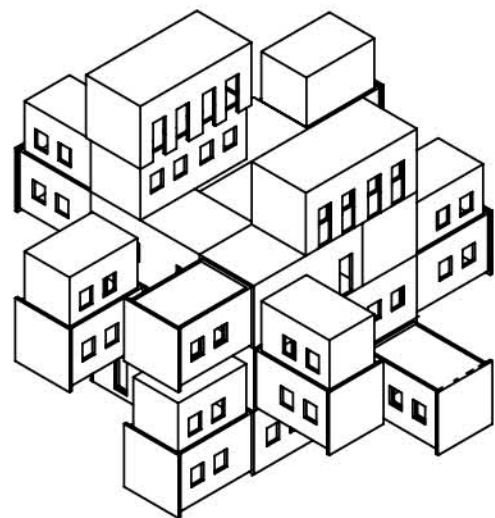
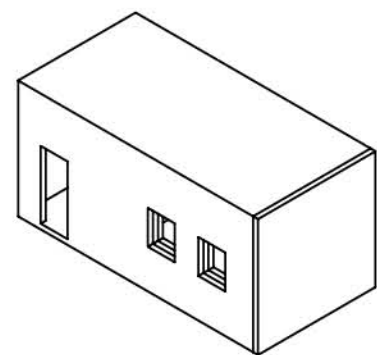


$$20,9 \text{ m}^2 / 60,4 \text{ m}^2 = 34,6\%$$

40,7%



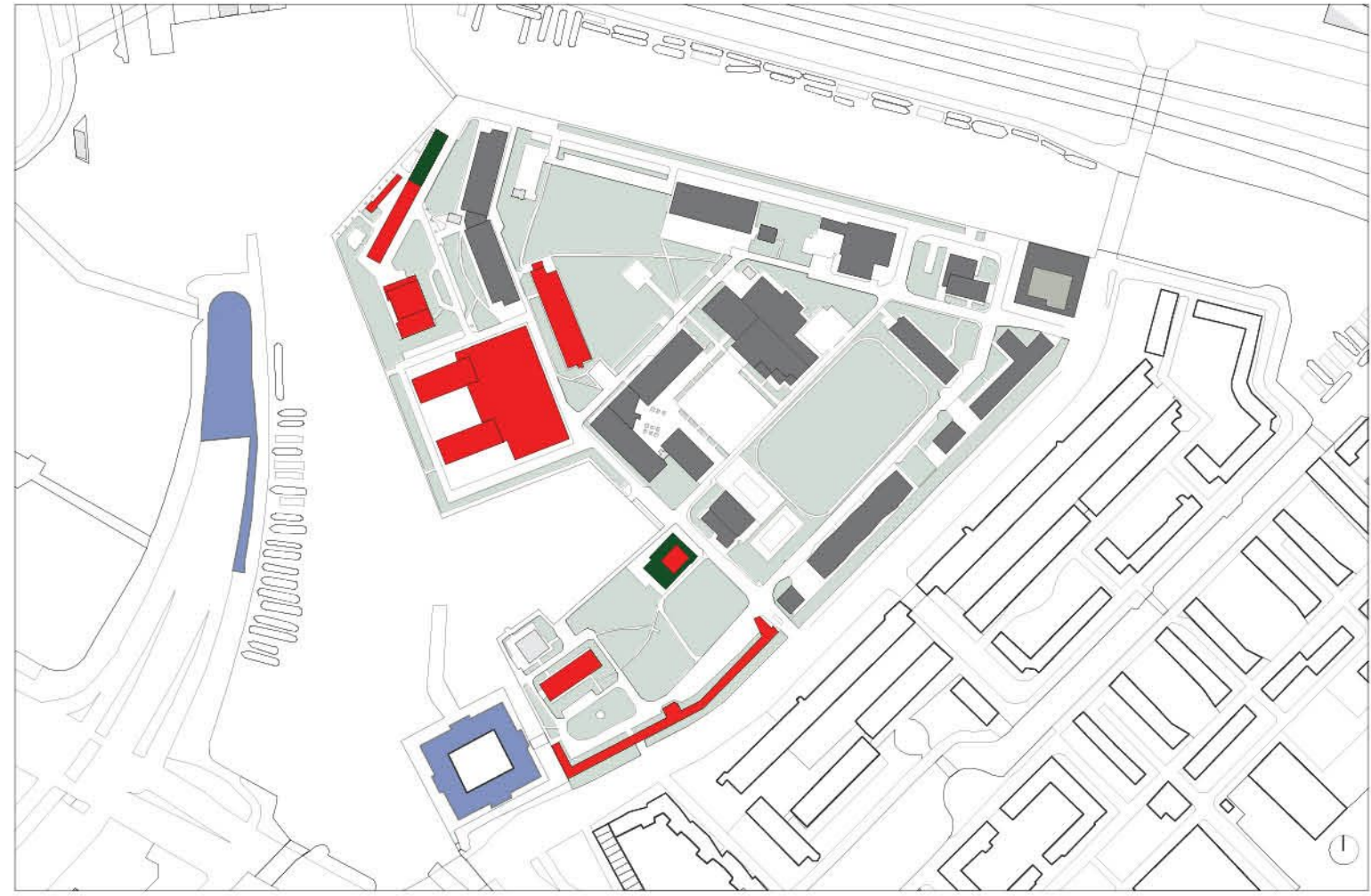
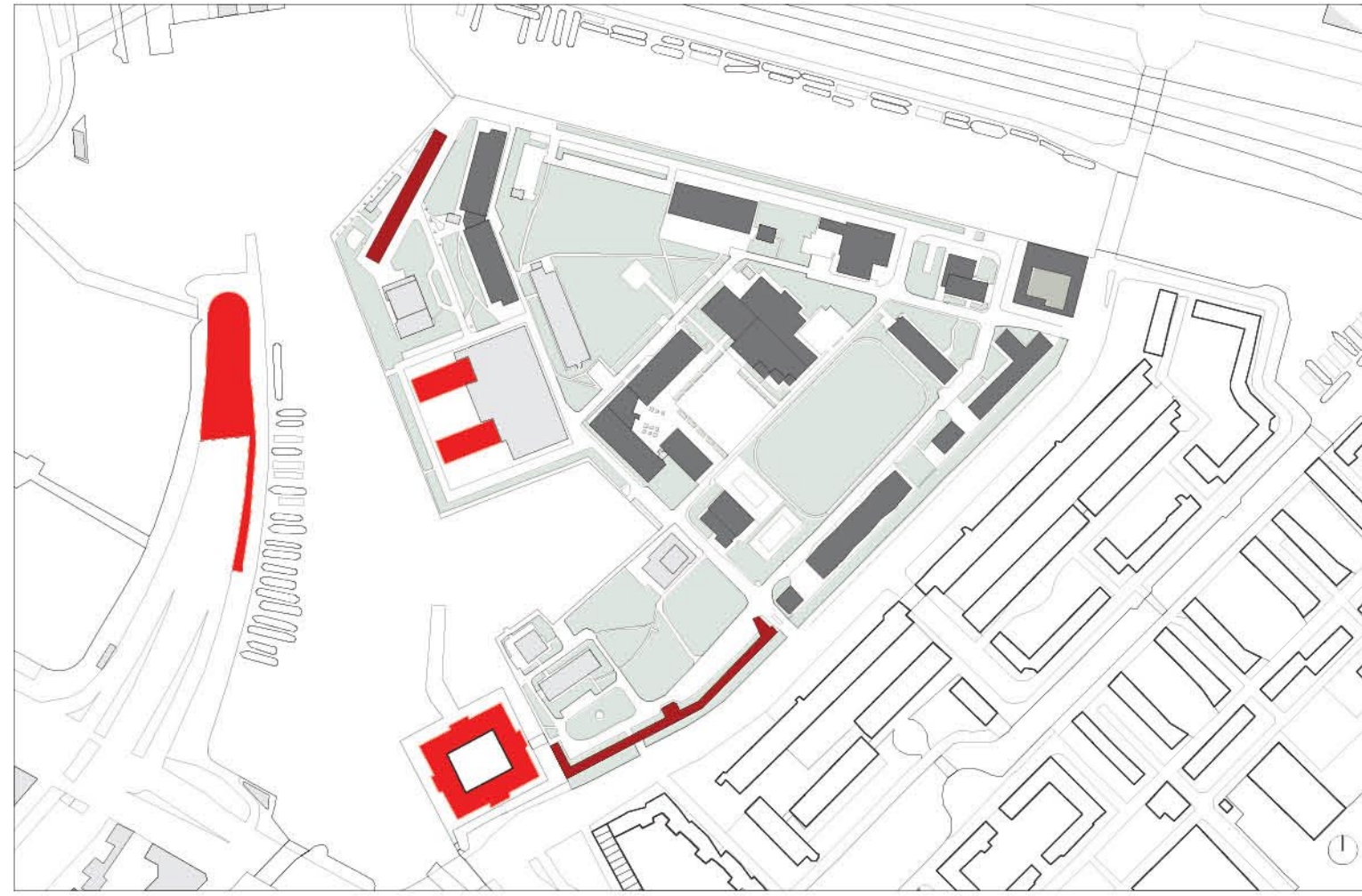
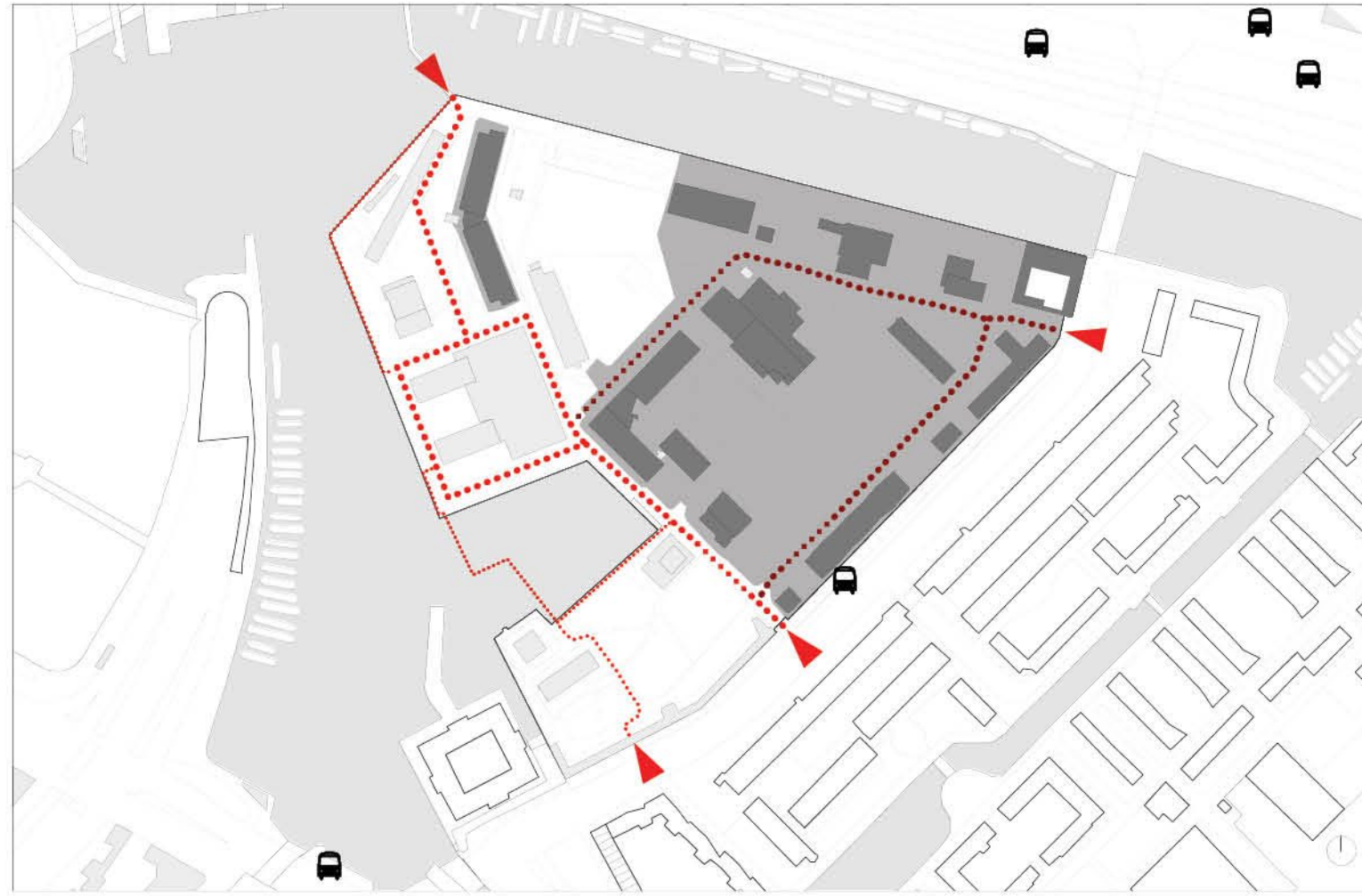


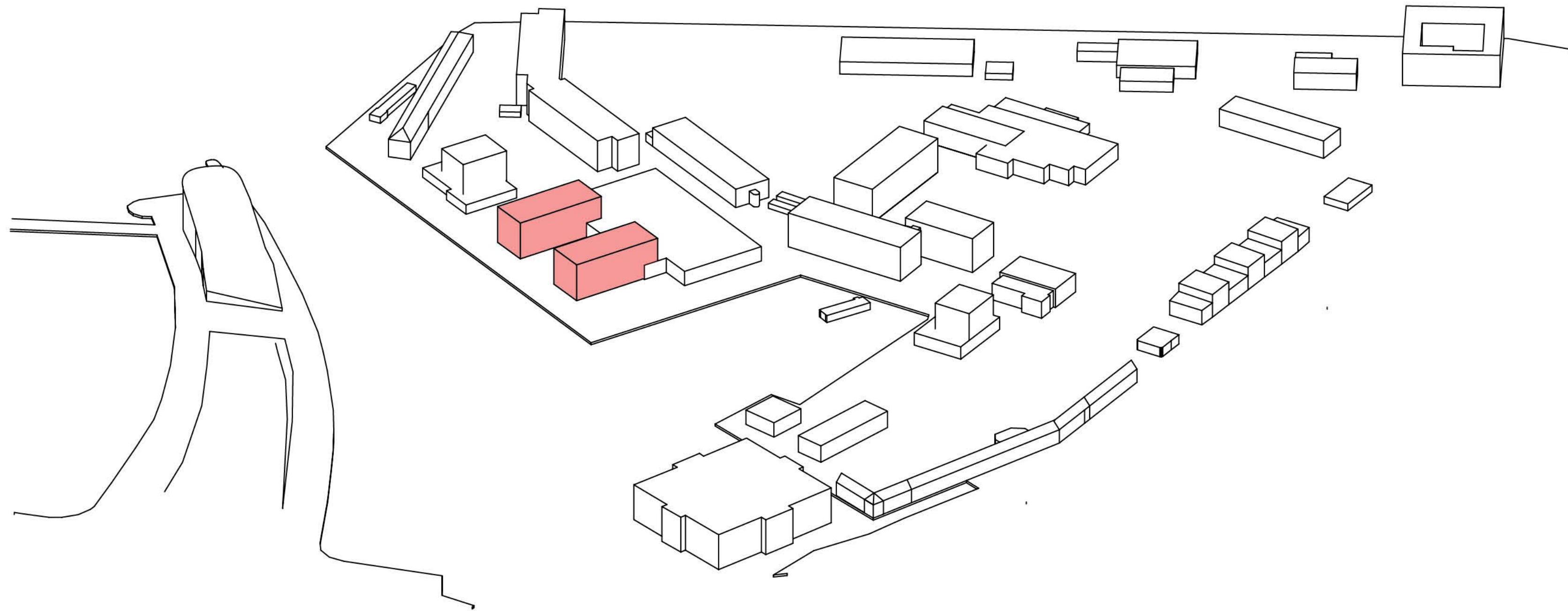


DESIGN

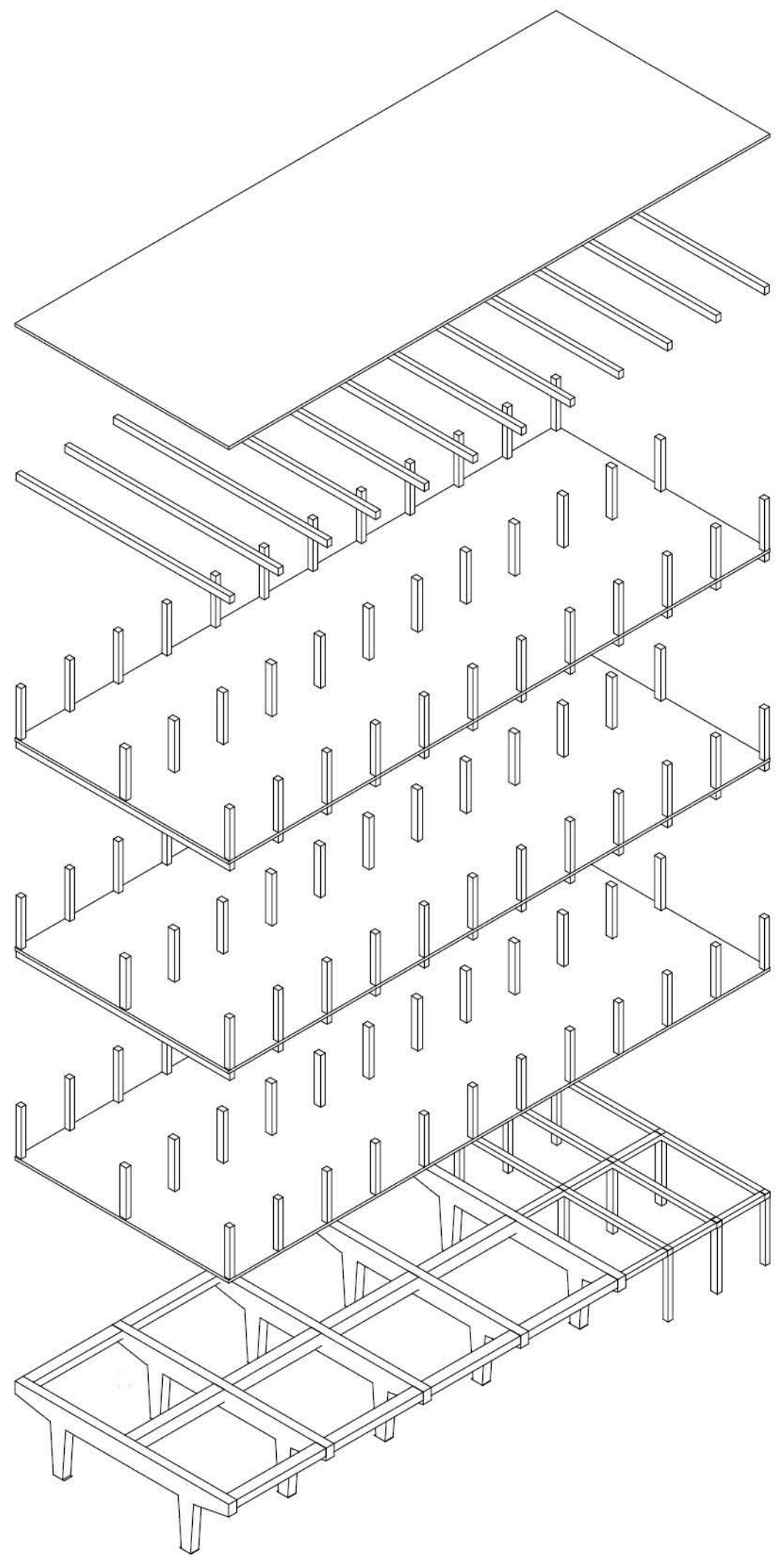


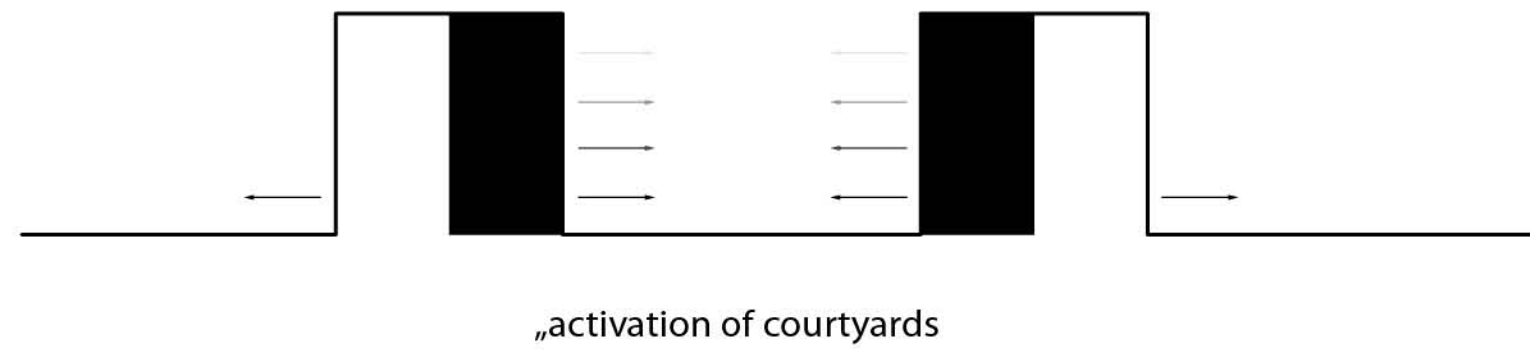
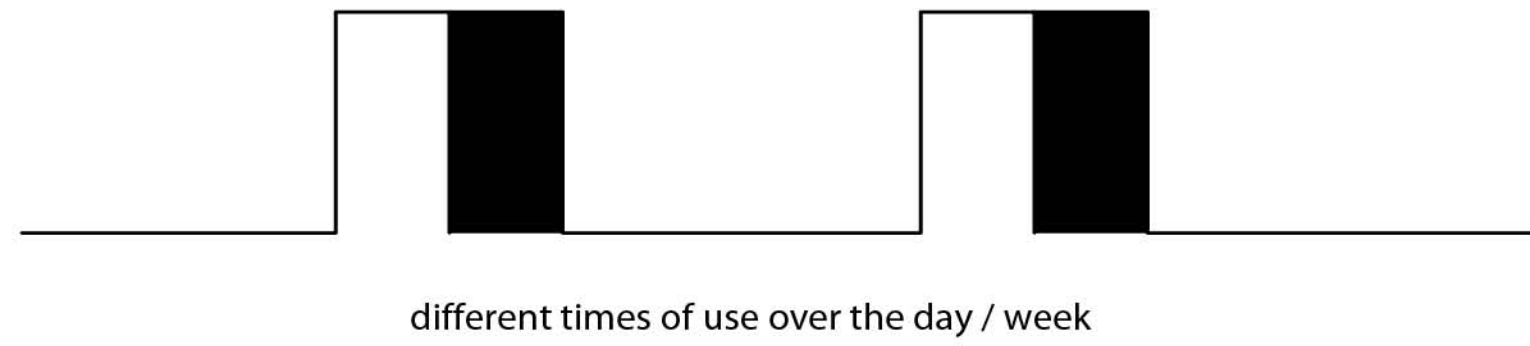
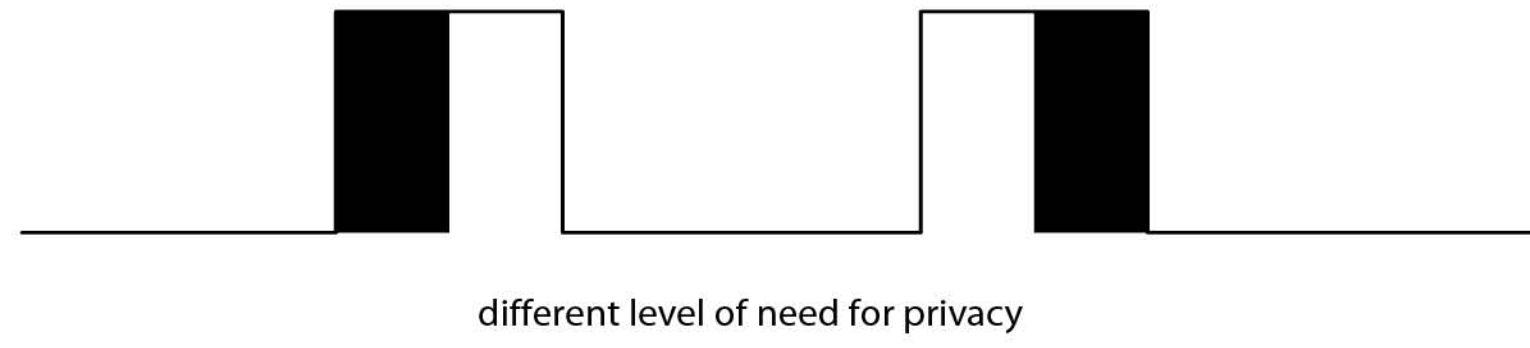
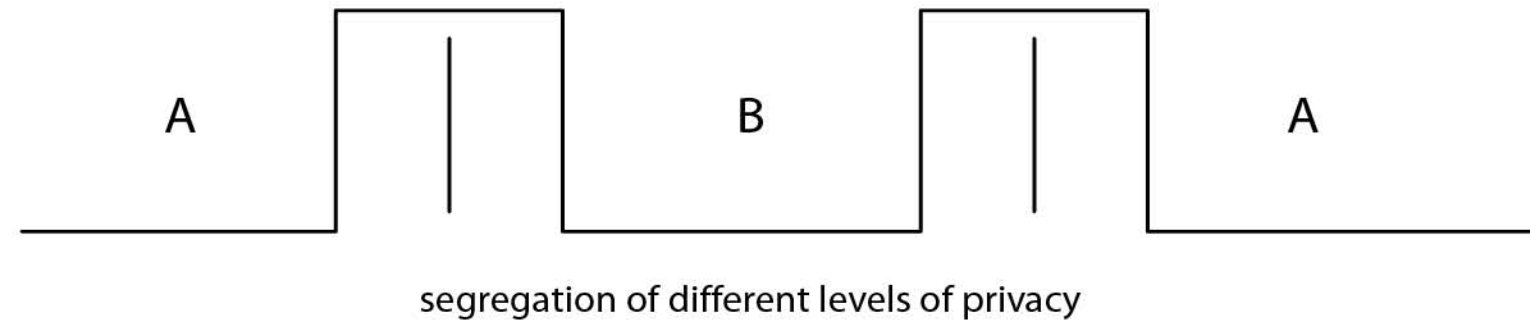


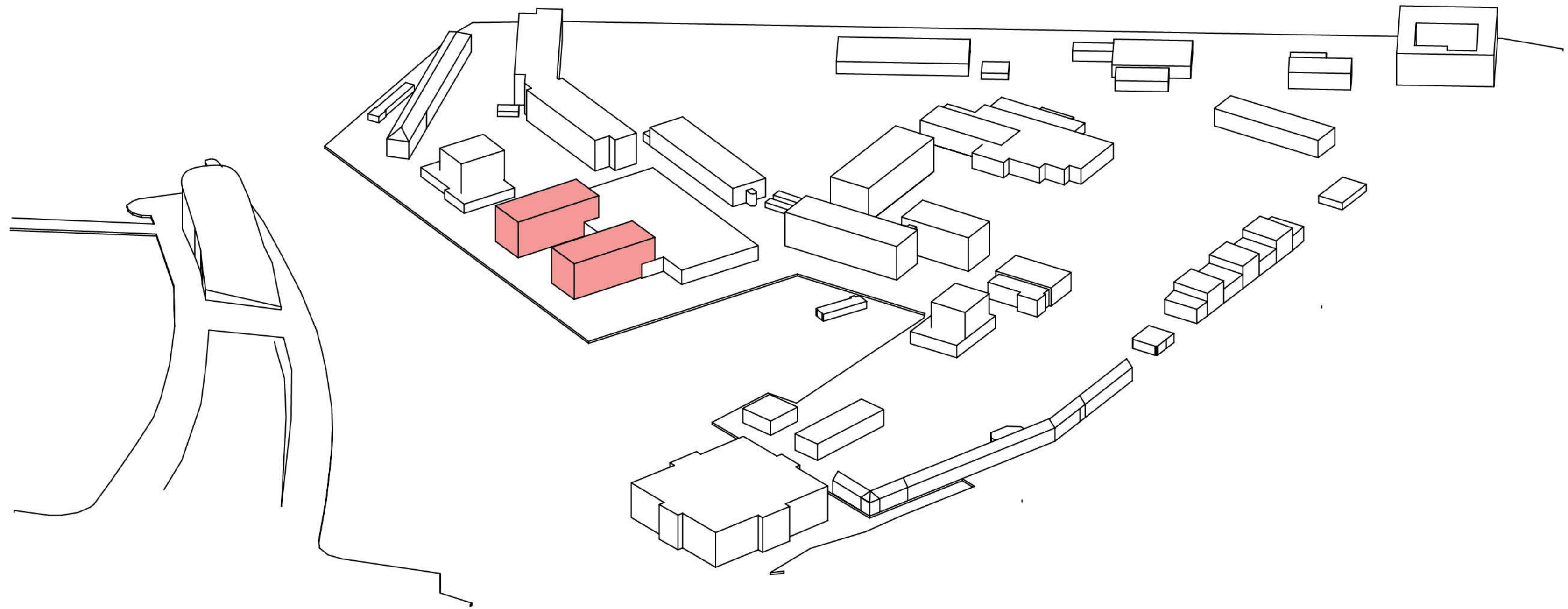


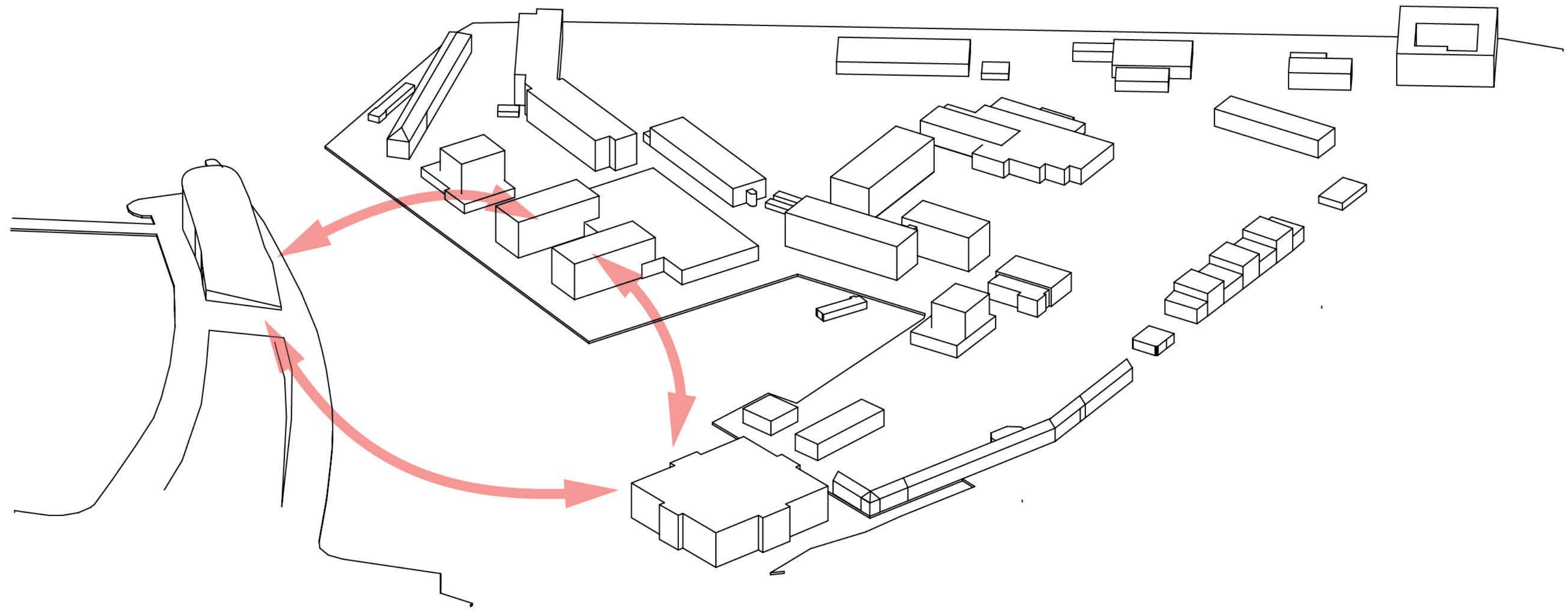


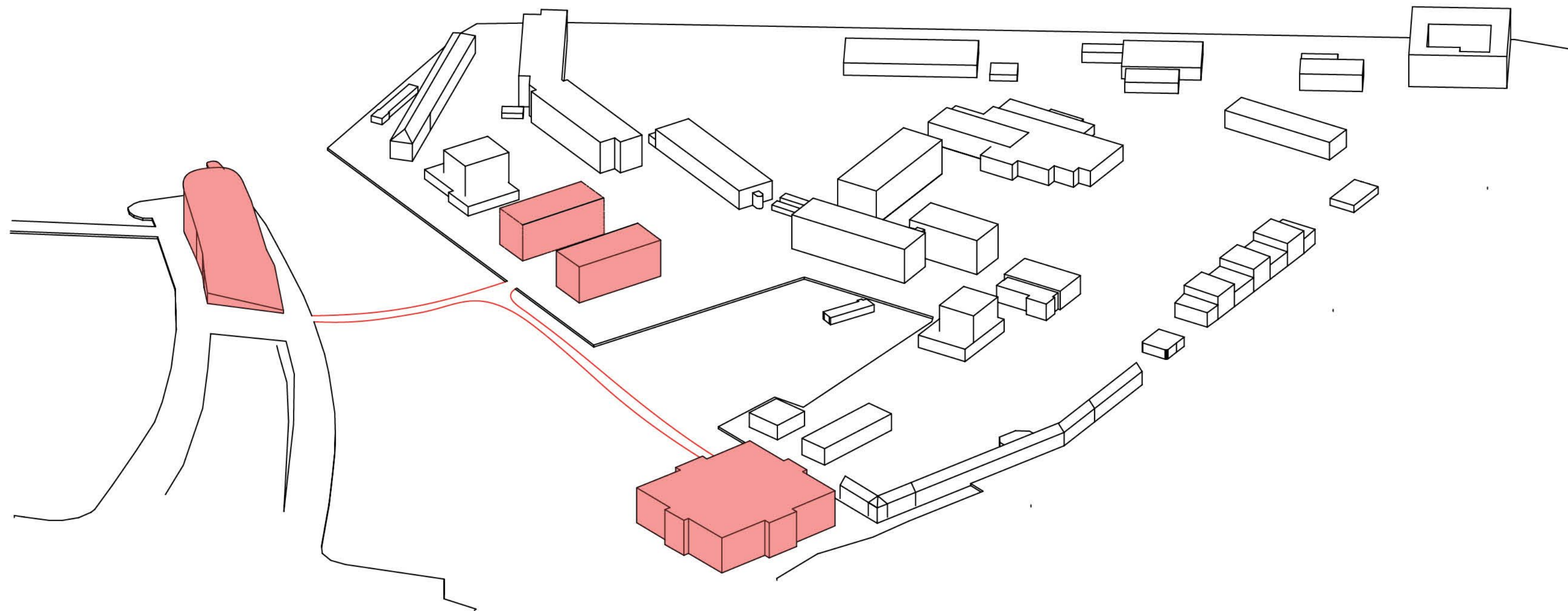


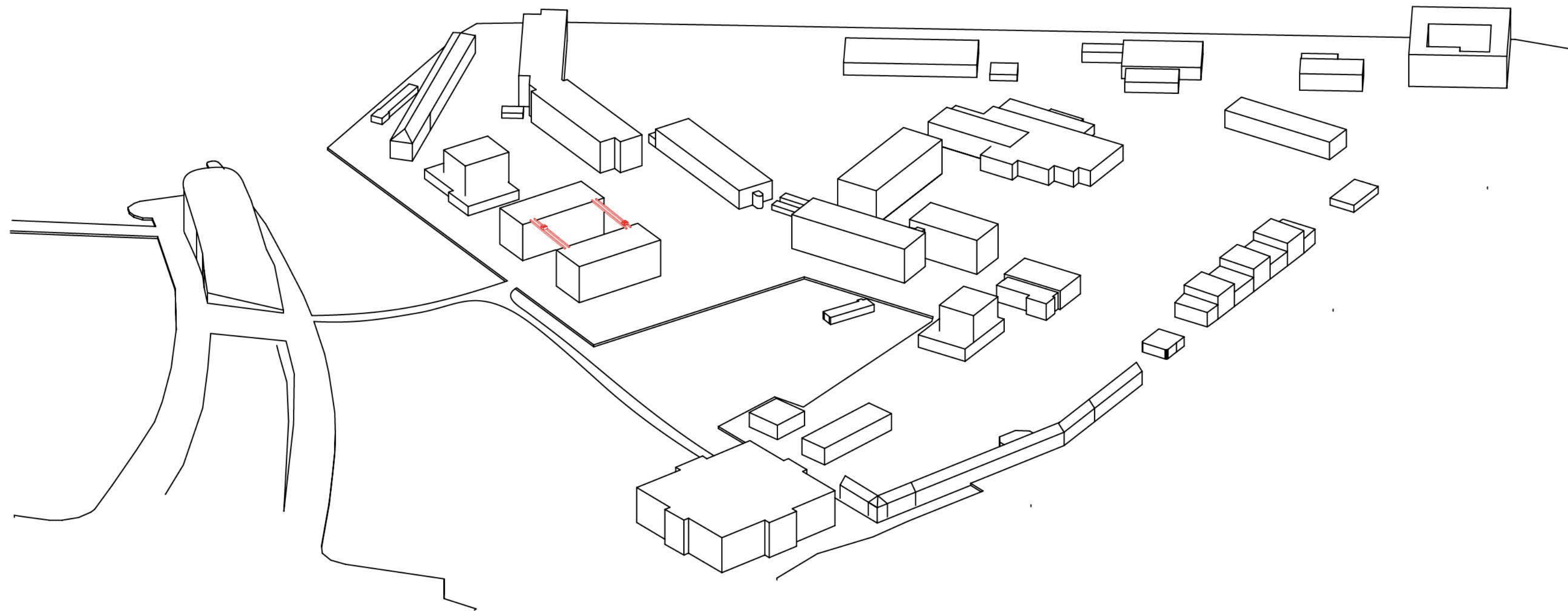


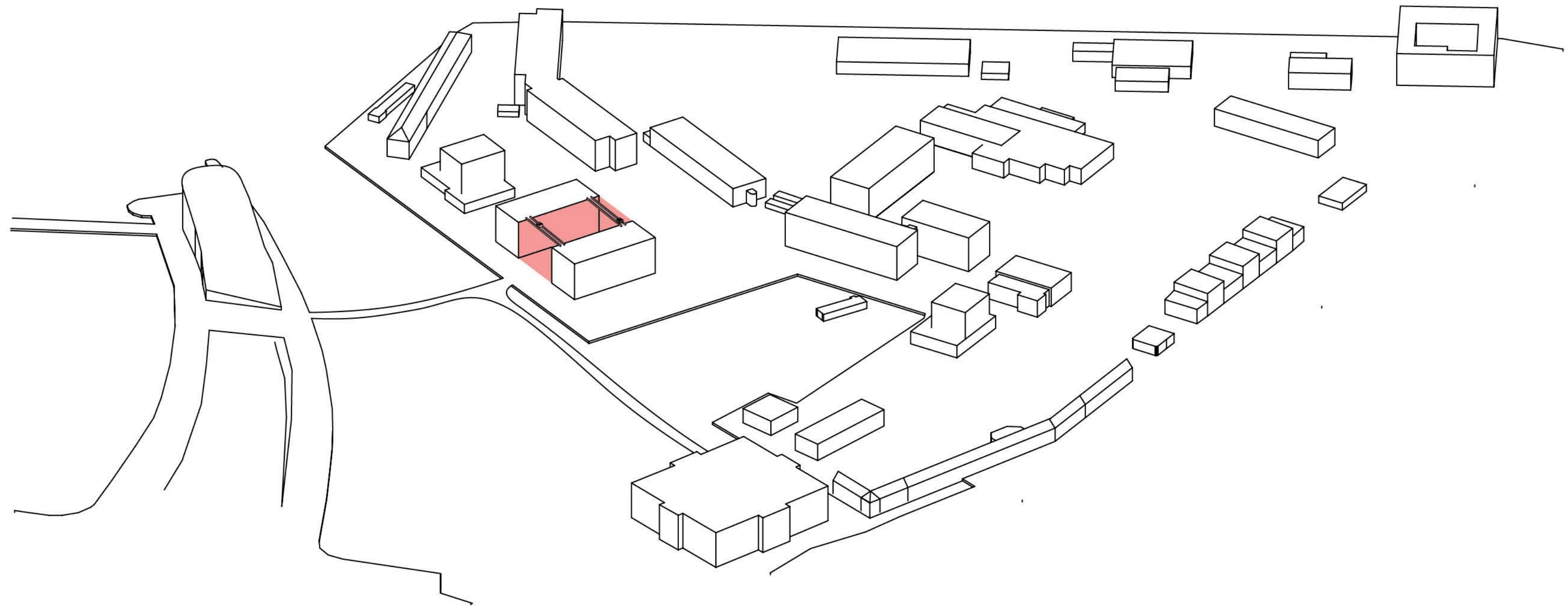


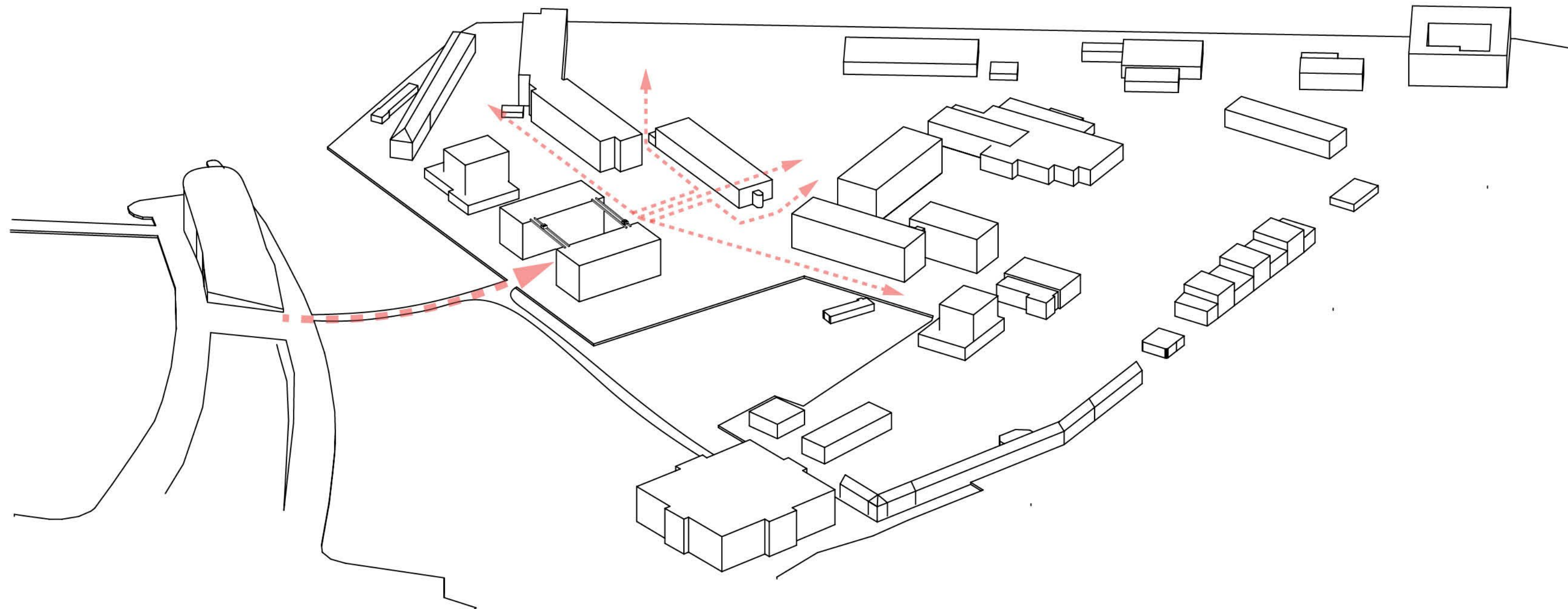


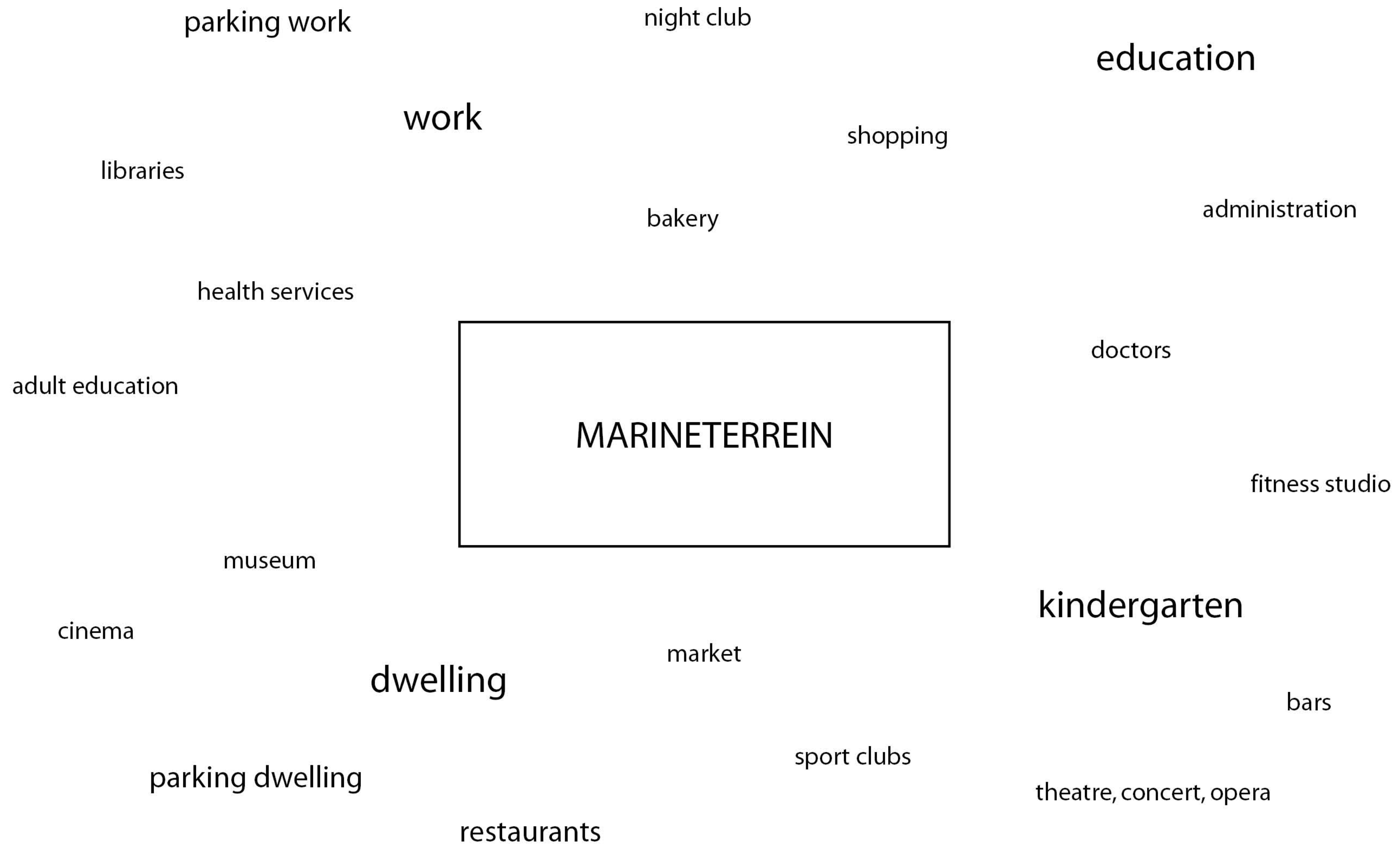


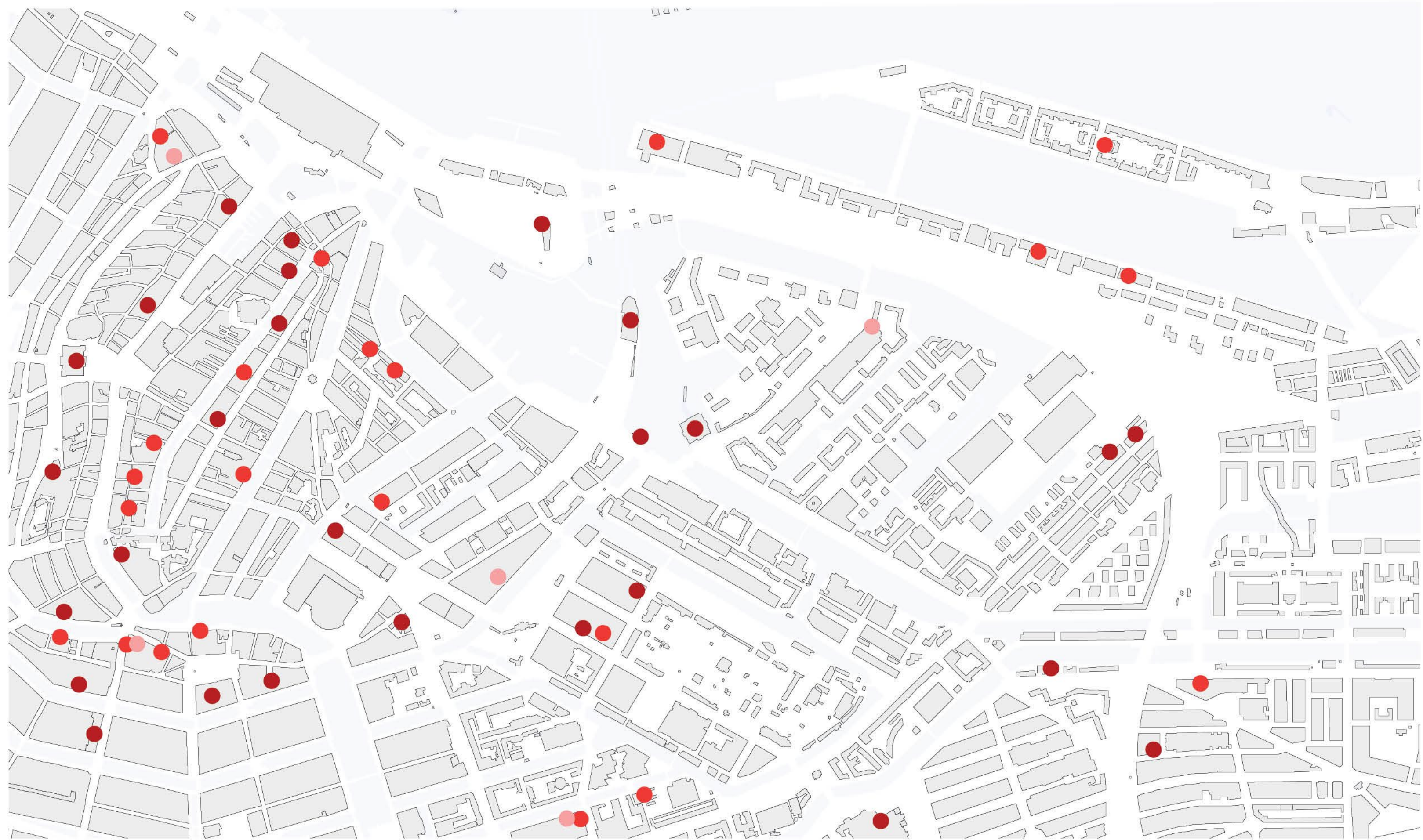












- museums
- performance
- cinematic



- higher education
- kindergarten
- schools



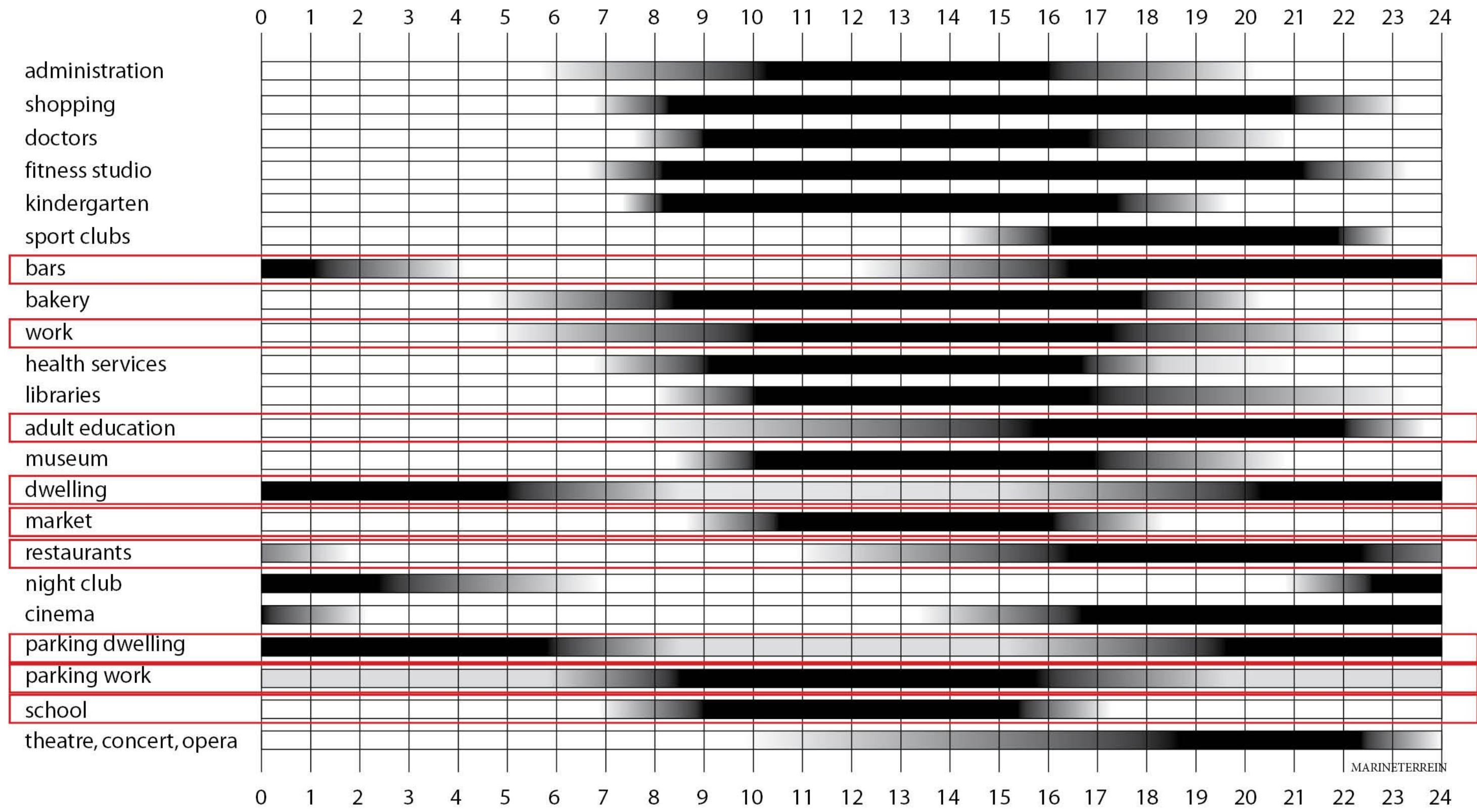
● food supplies



- night clubs
- bars



- sport indoor
- sport outdoor

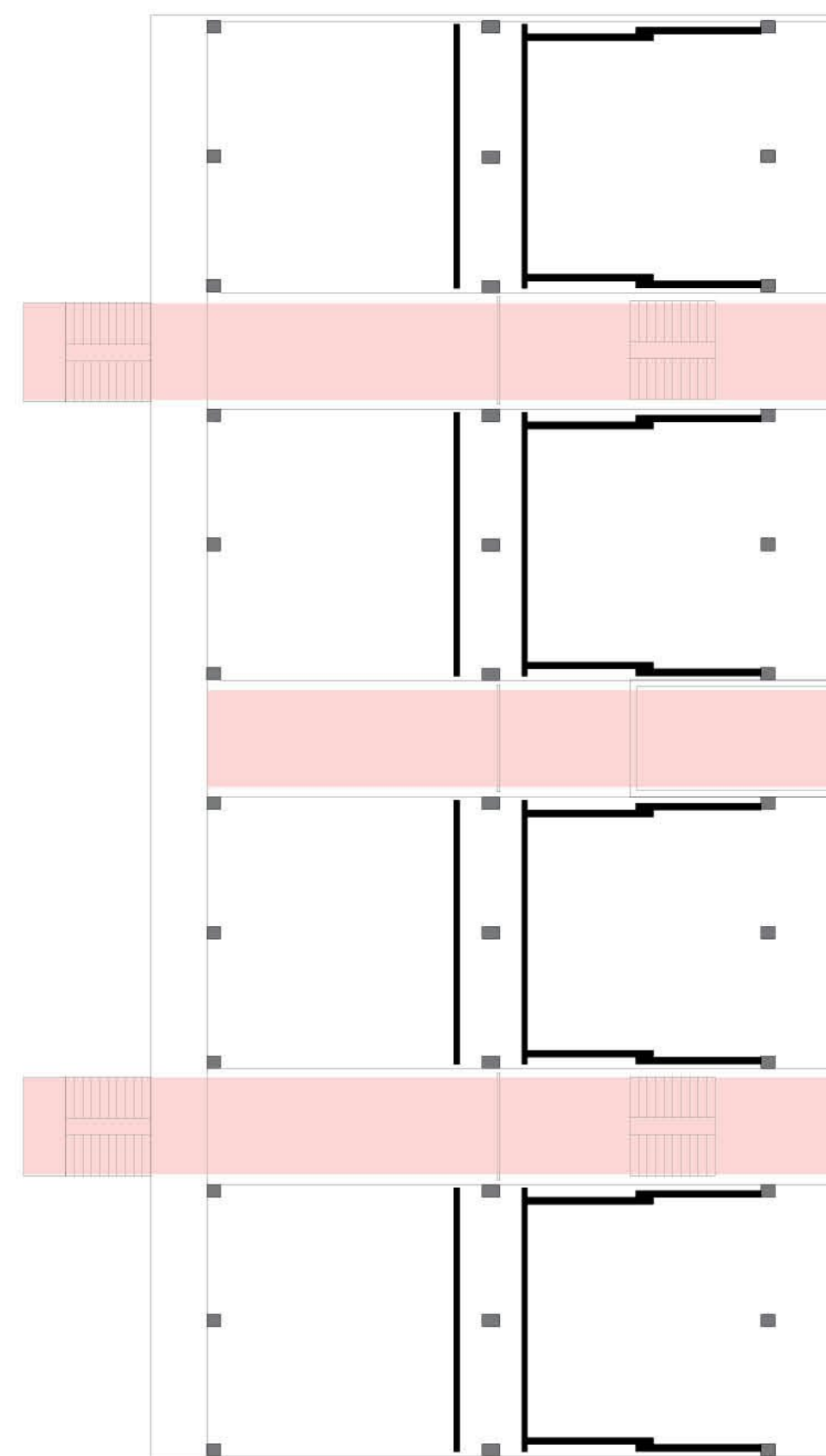
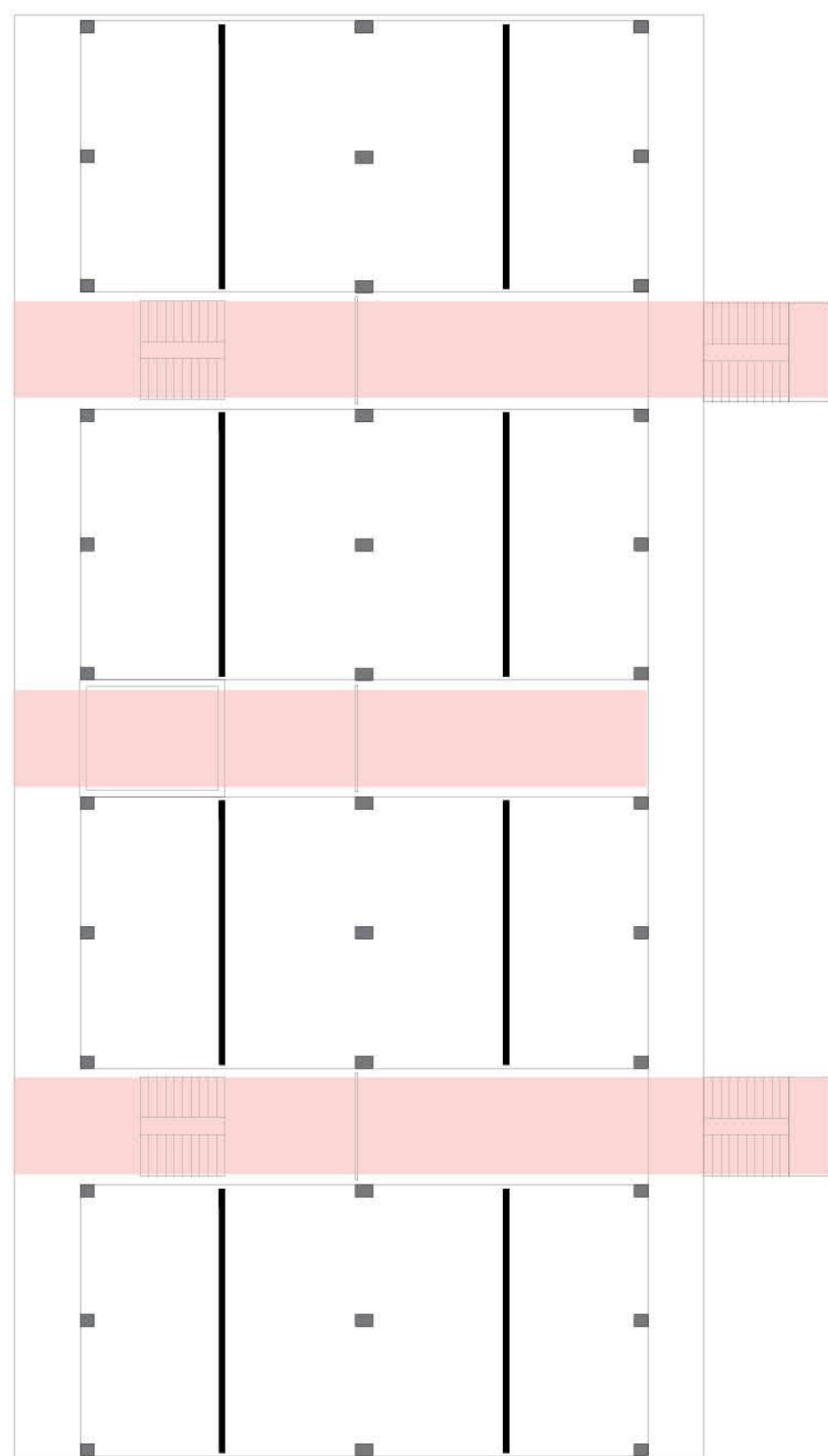


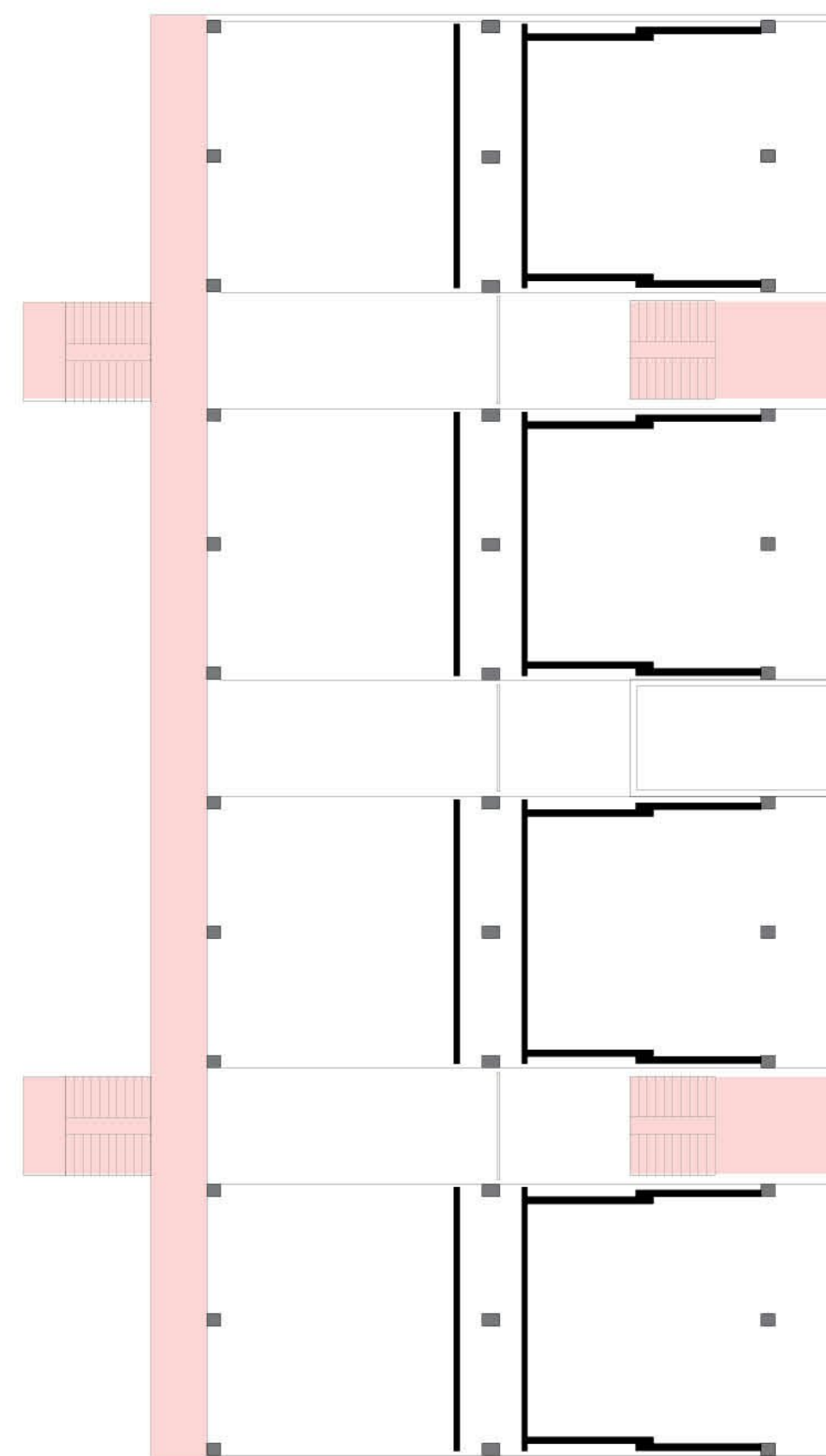
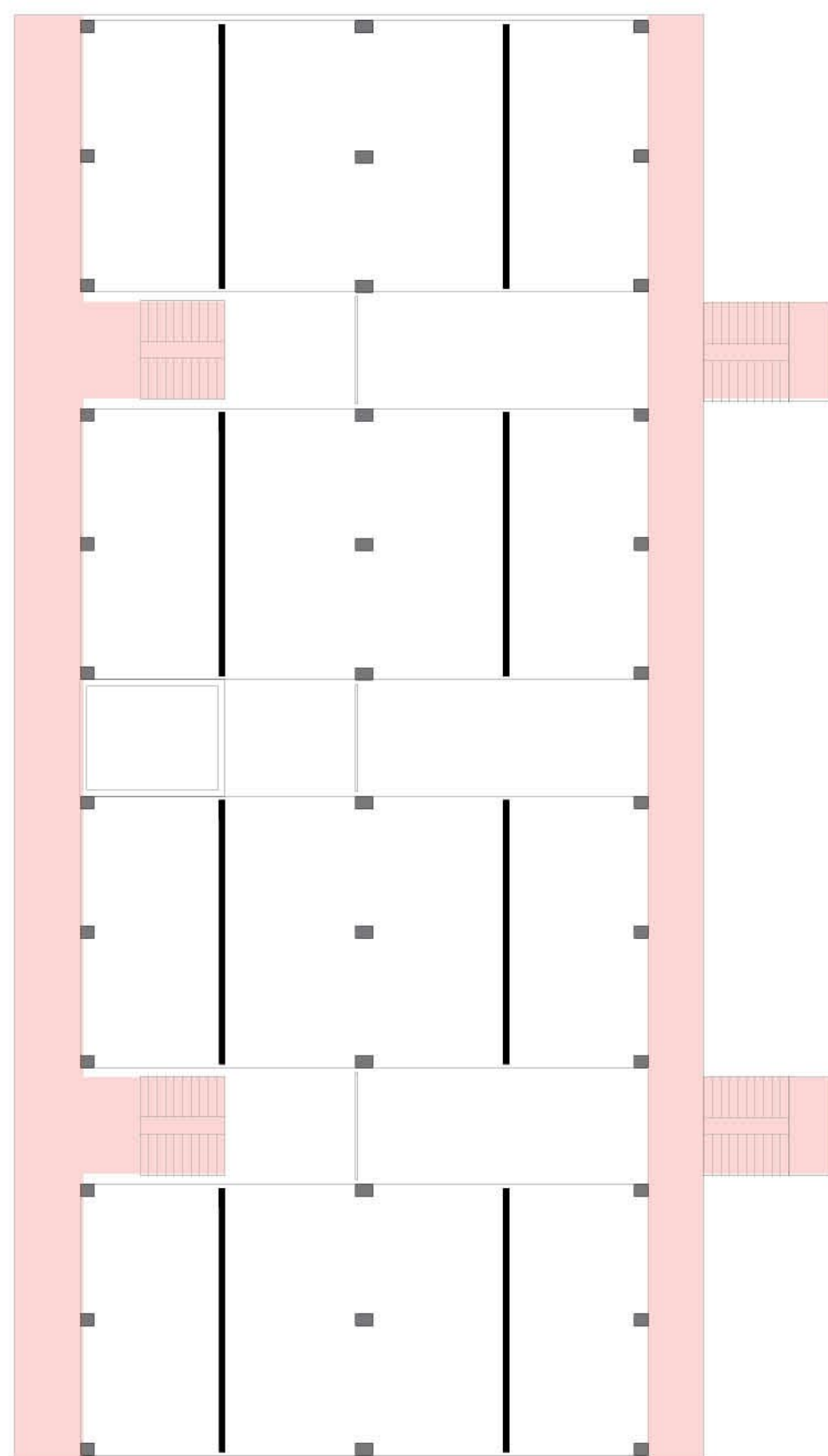
CHANGING THE PERCEPTION OF THE EXISTING

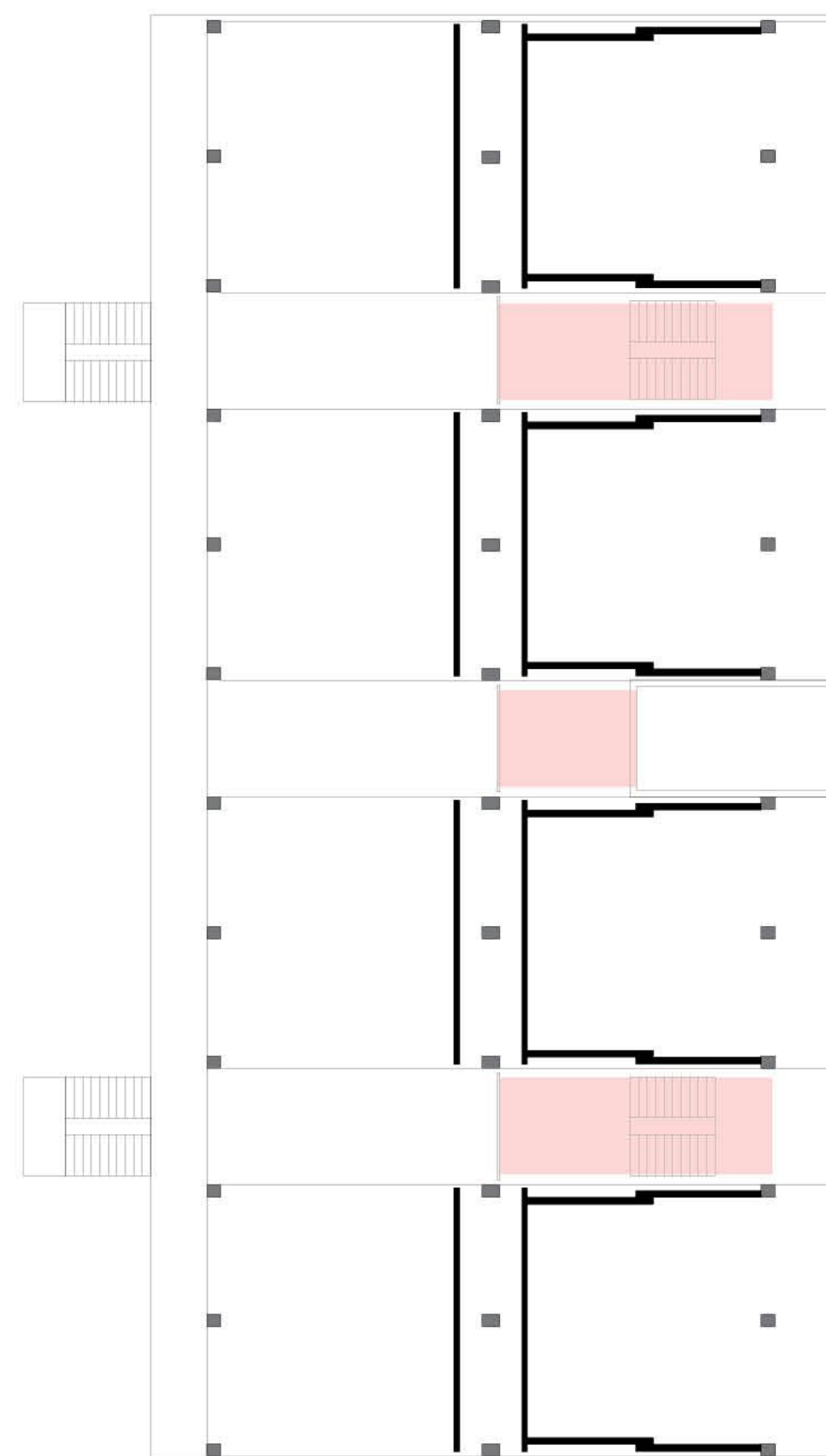
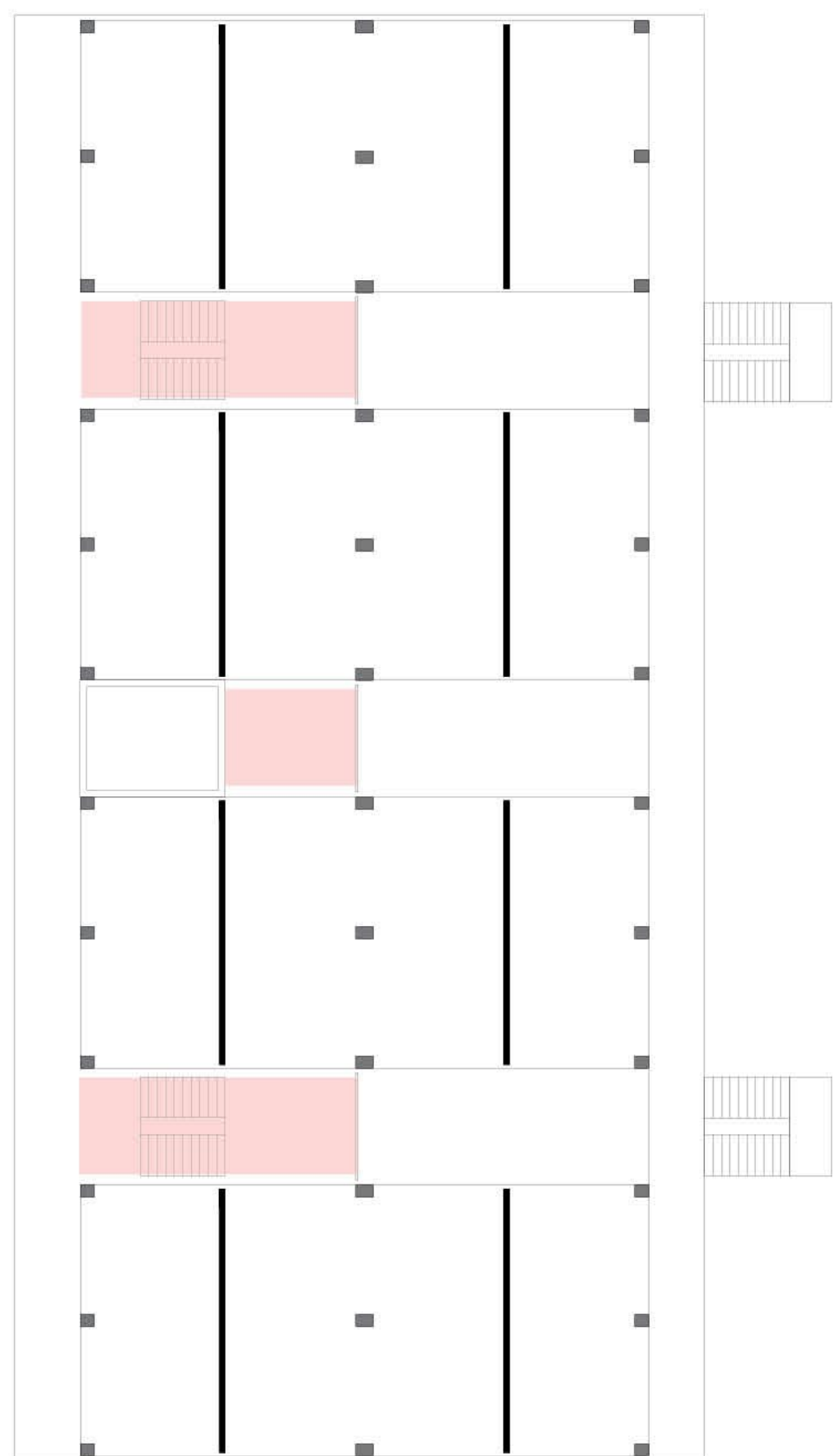
THE BUILDING AS A MACHINE

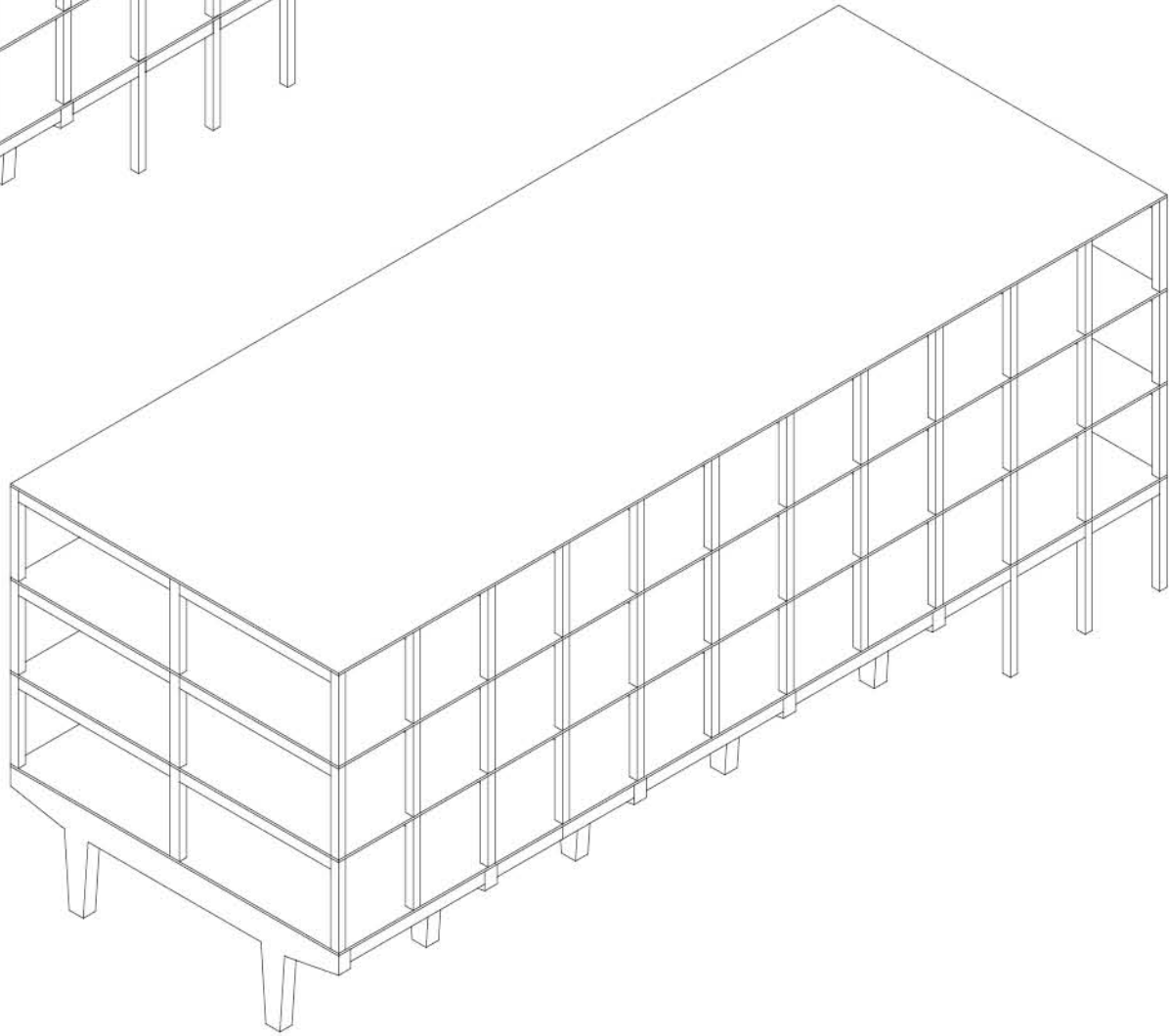
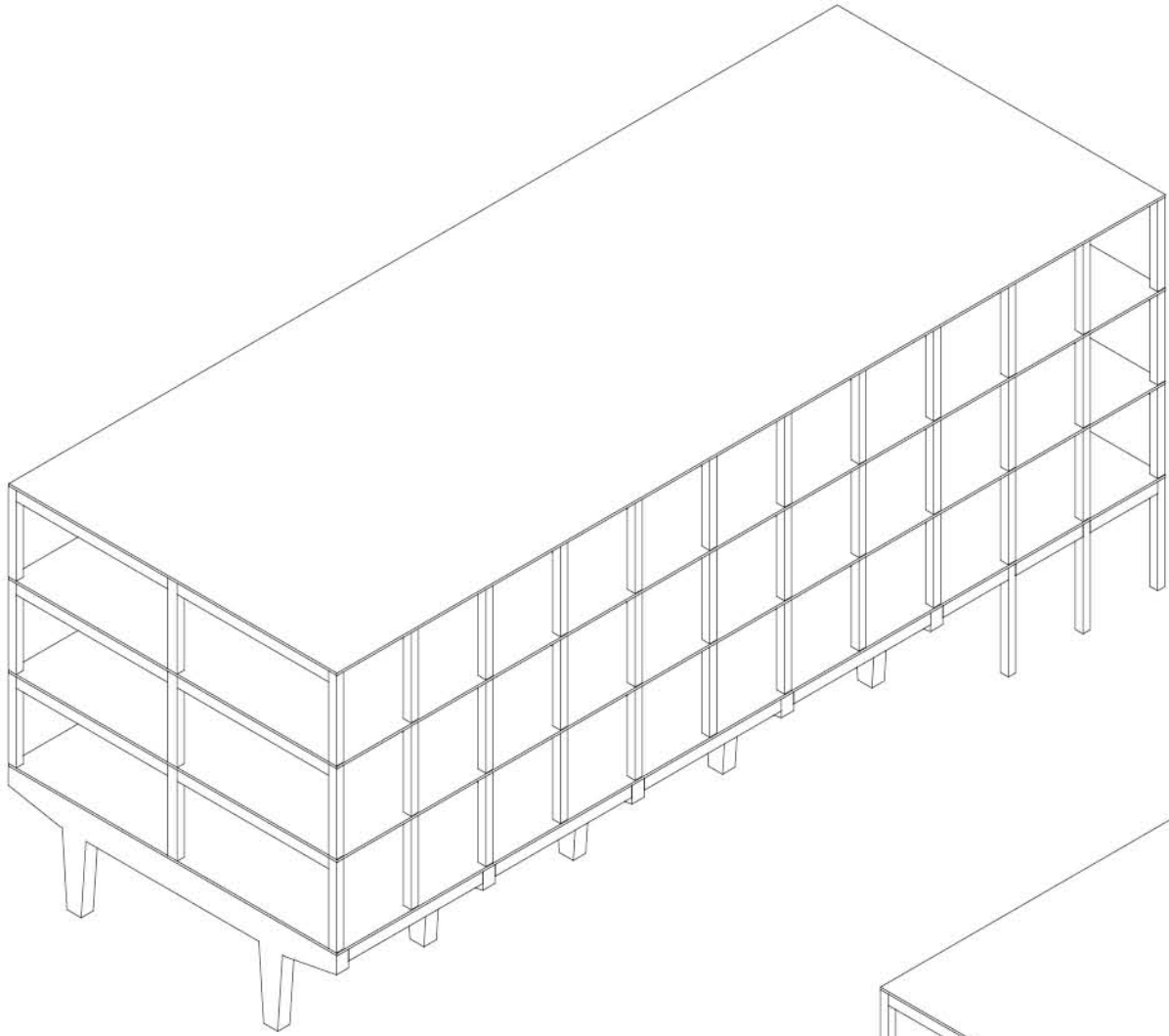
INCREASE OF EFFICIENCY

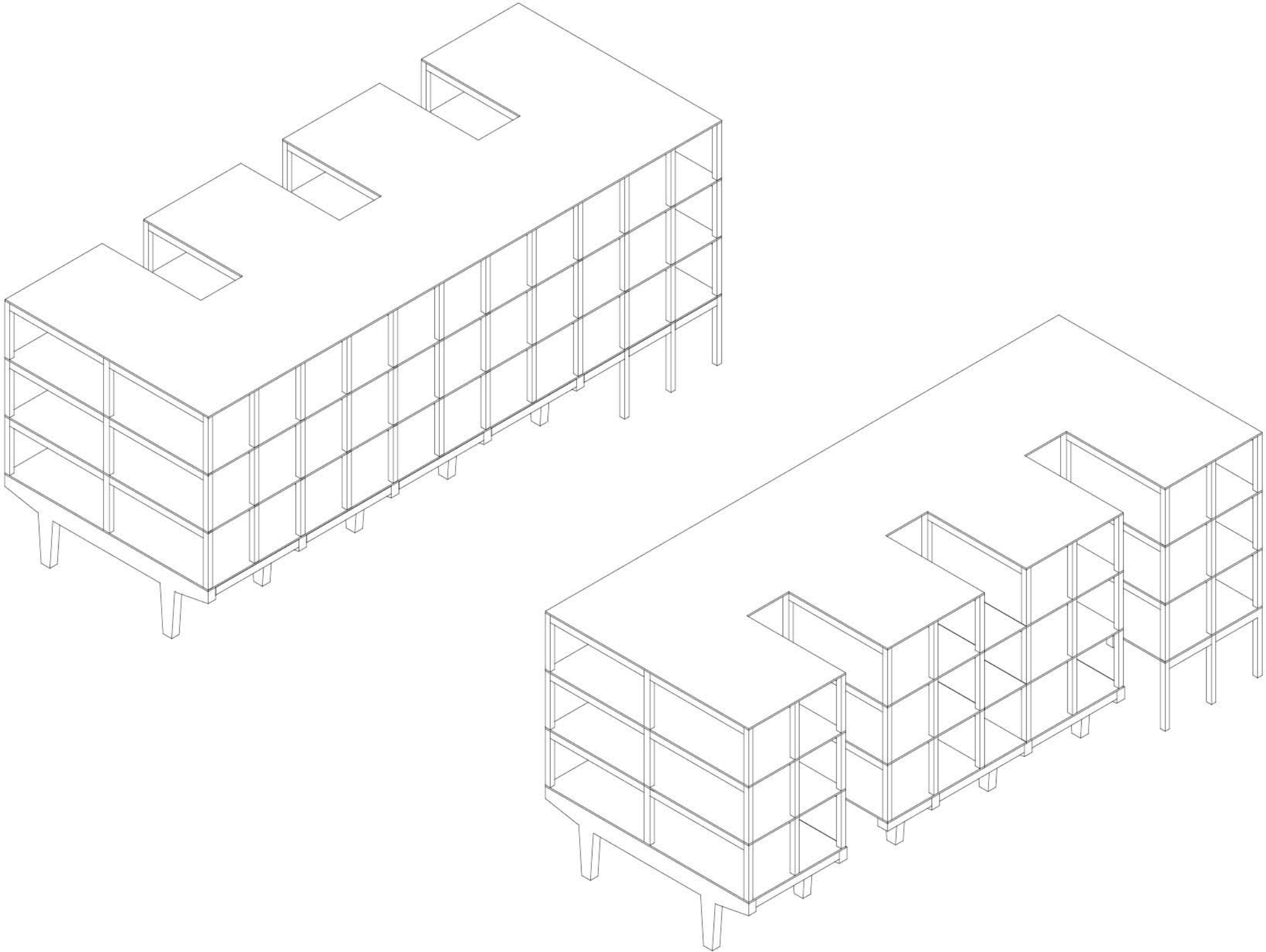


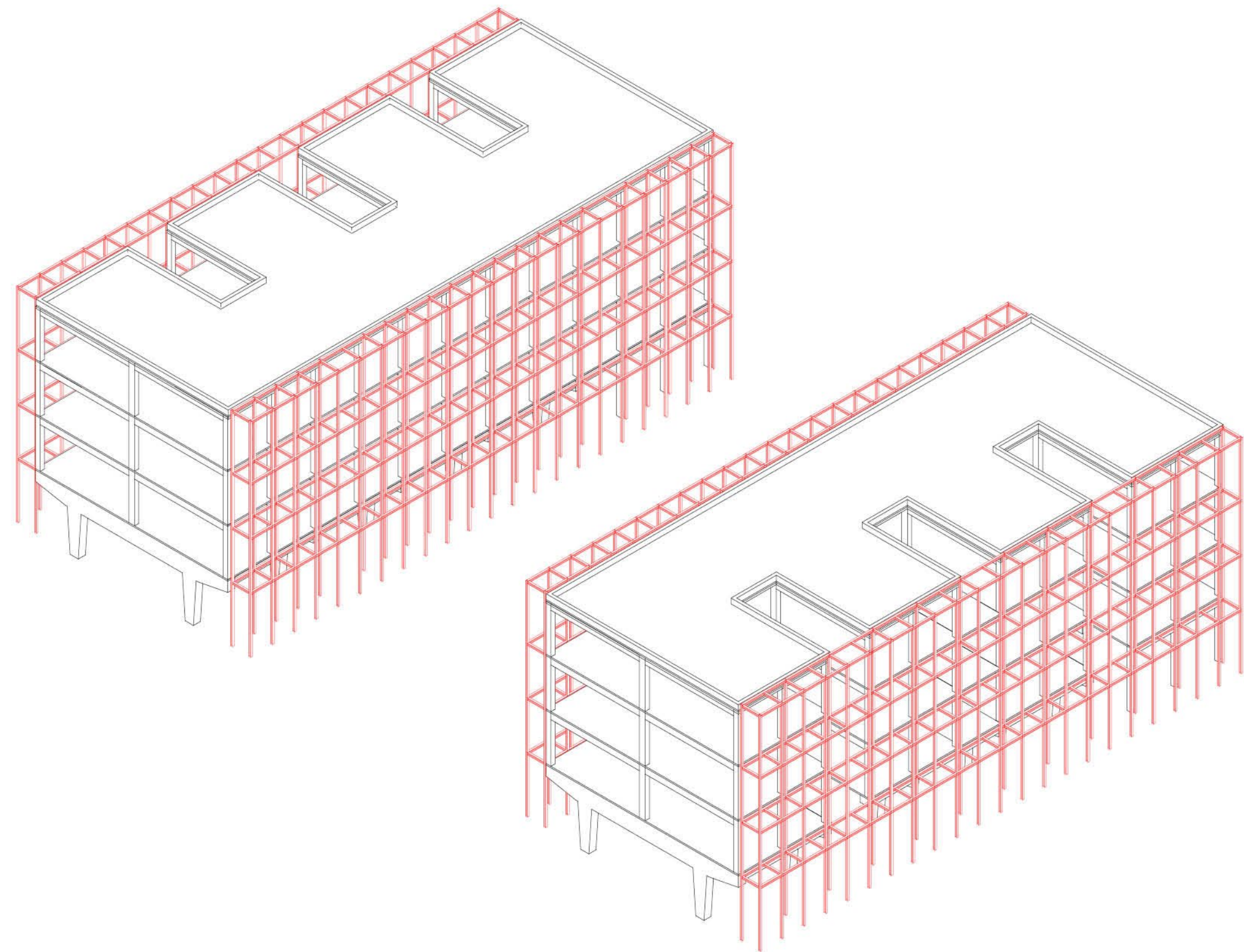


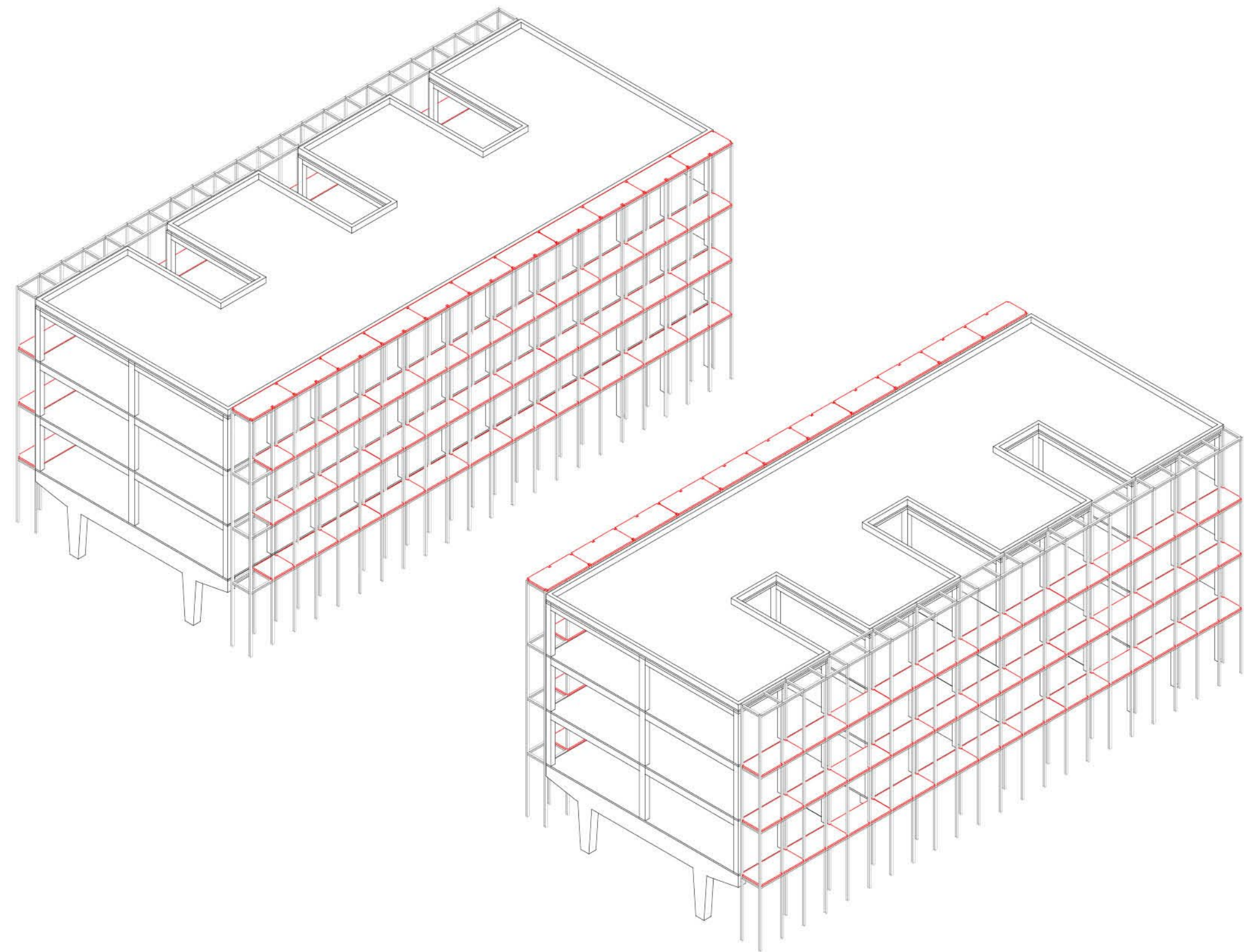


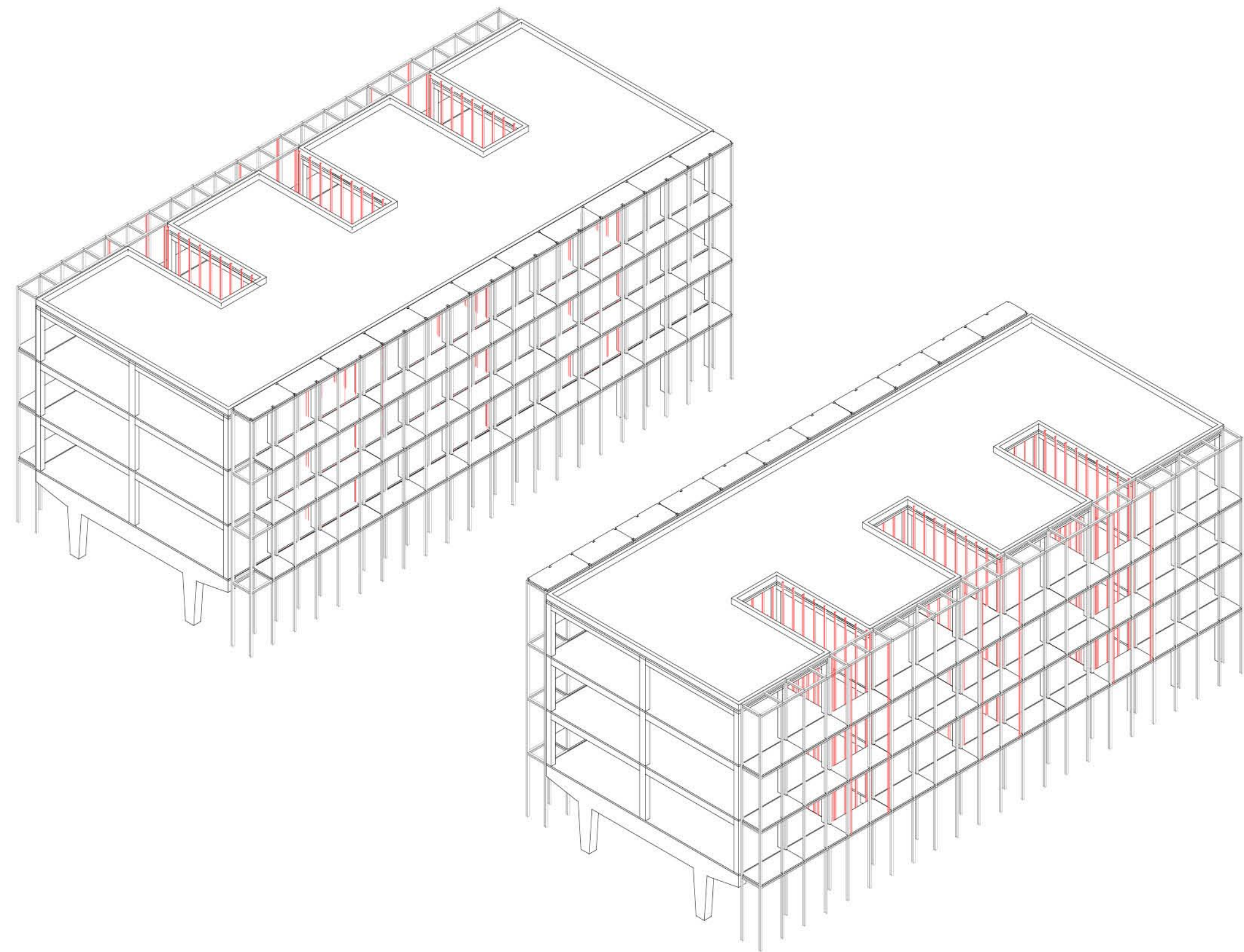


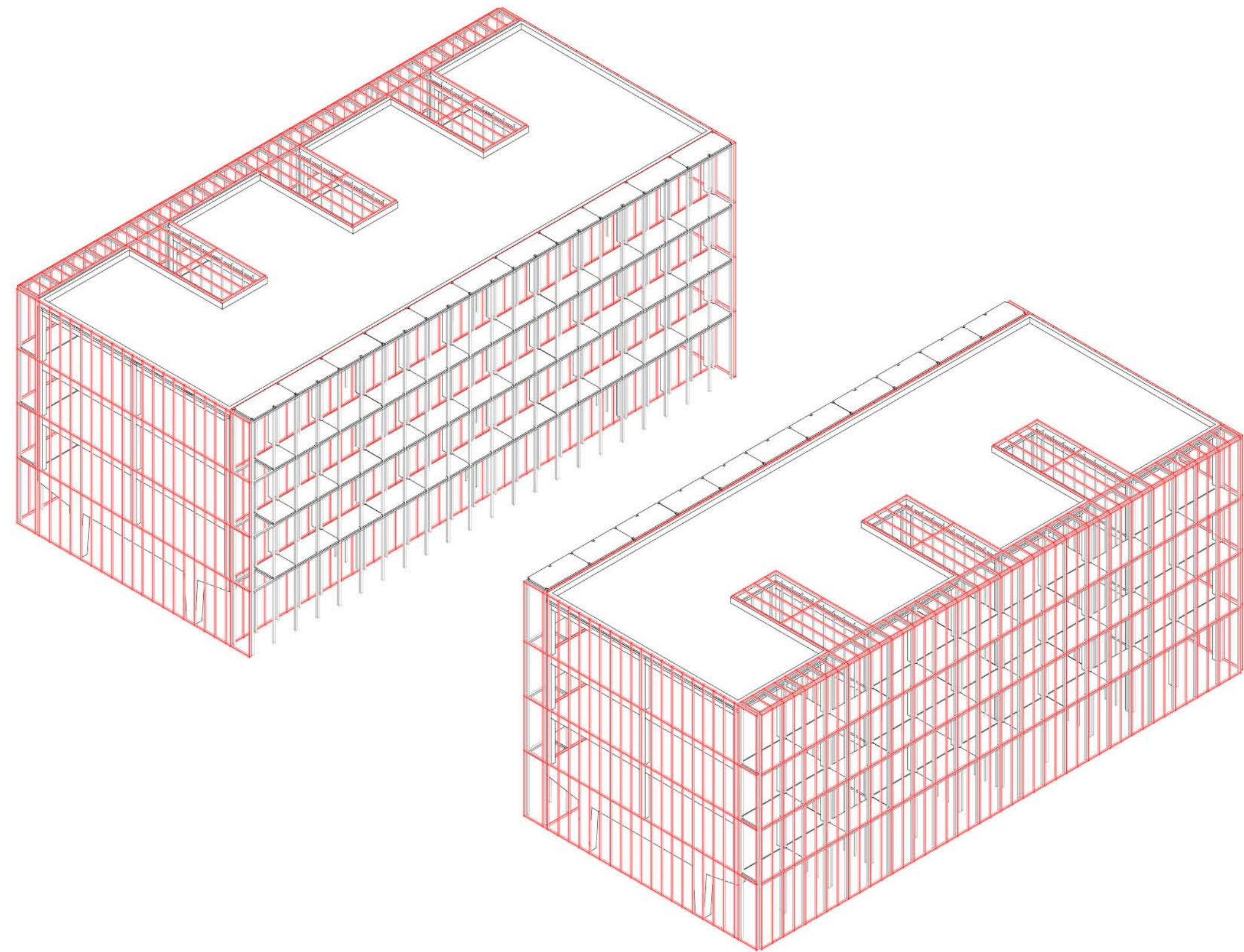


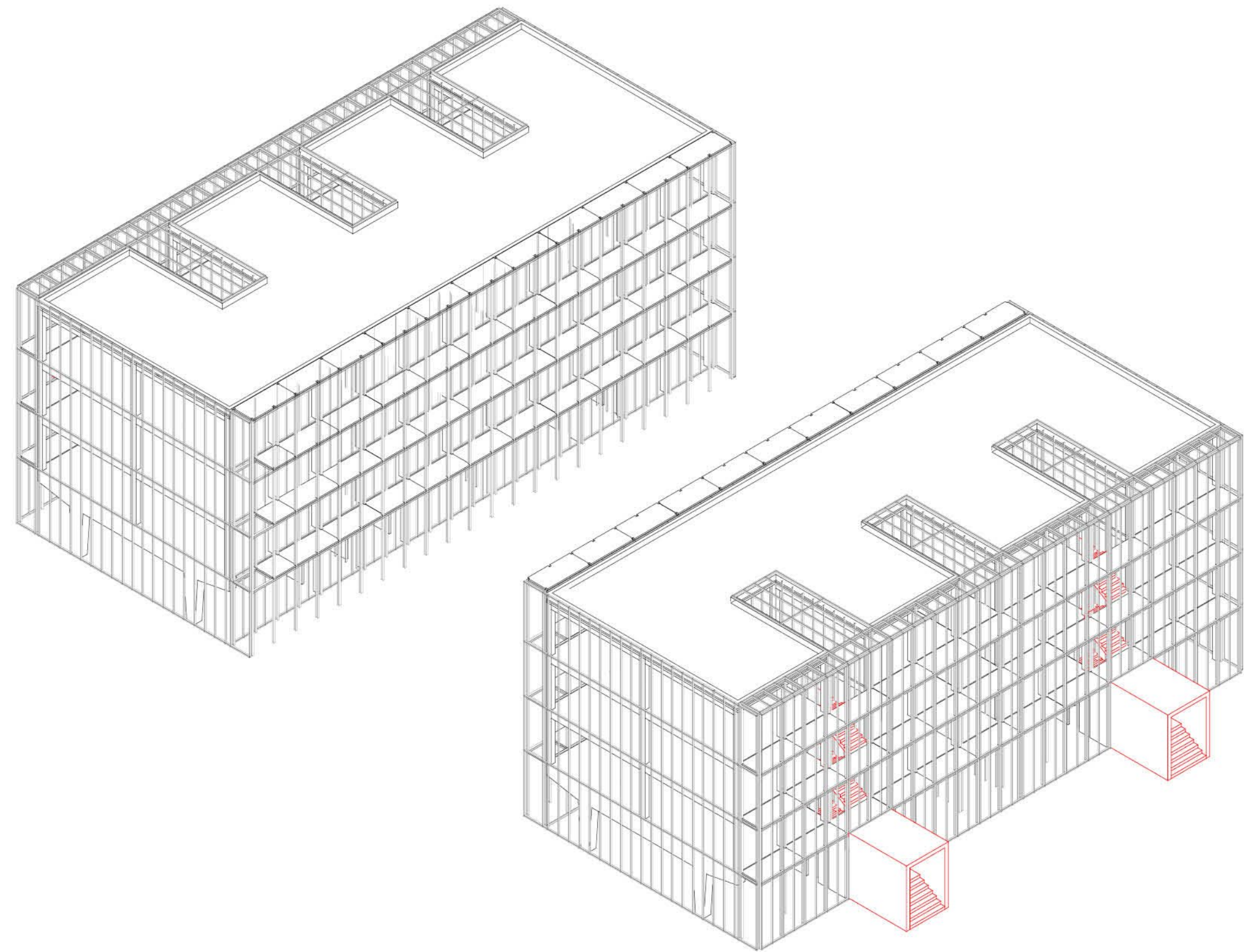


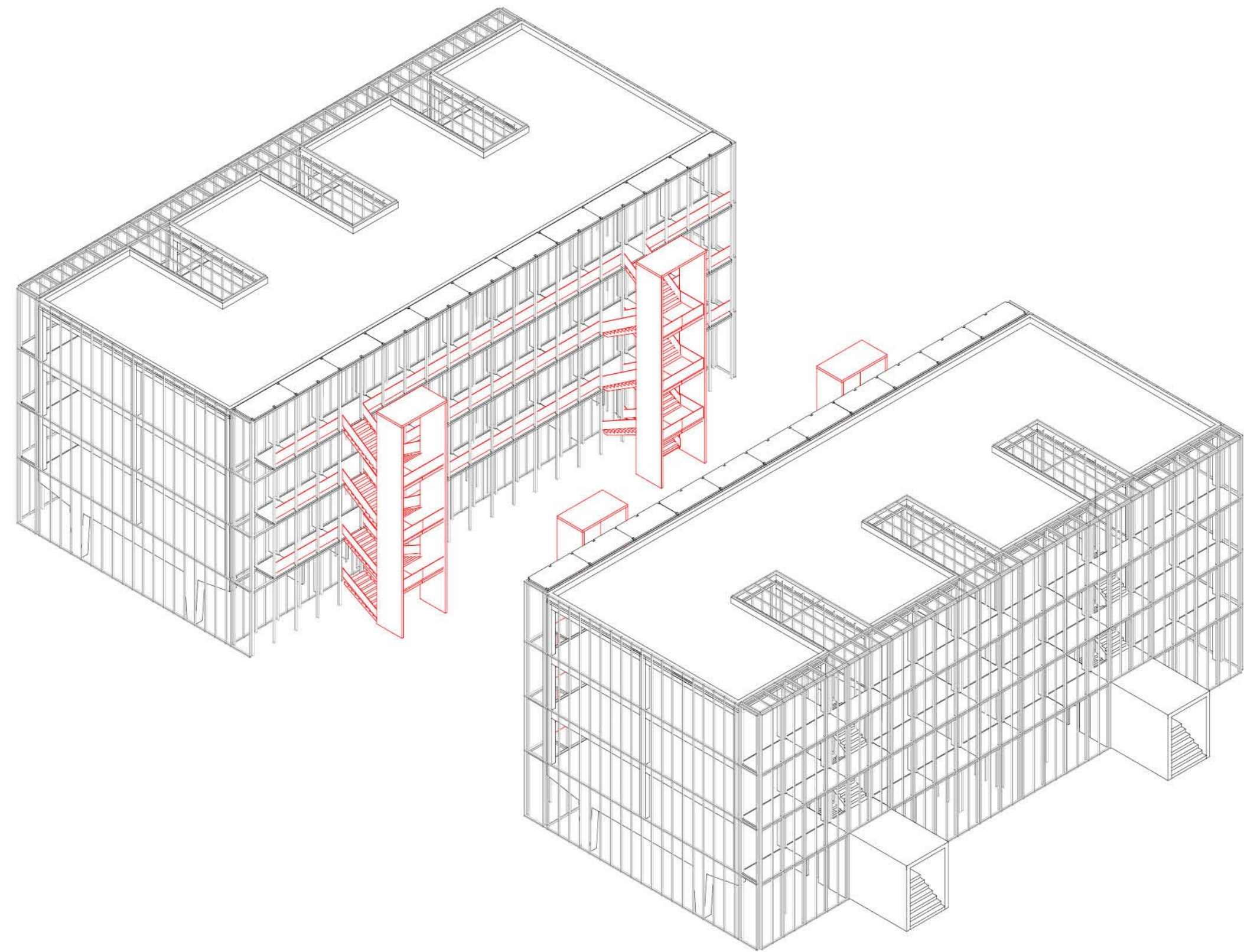


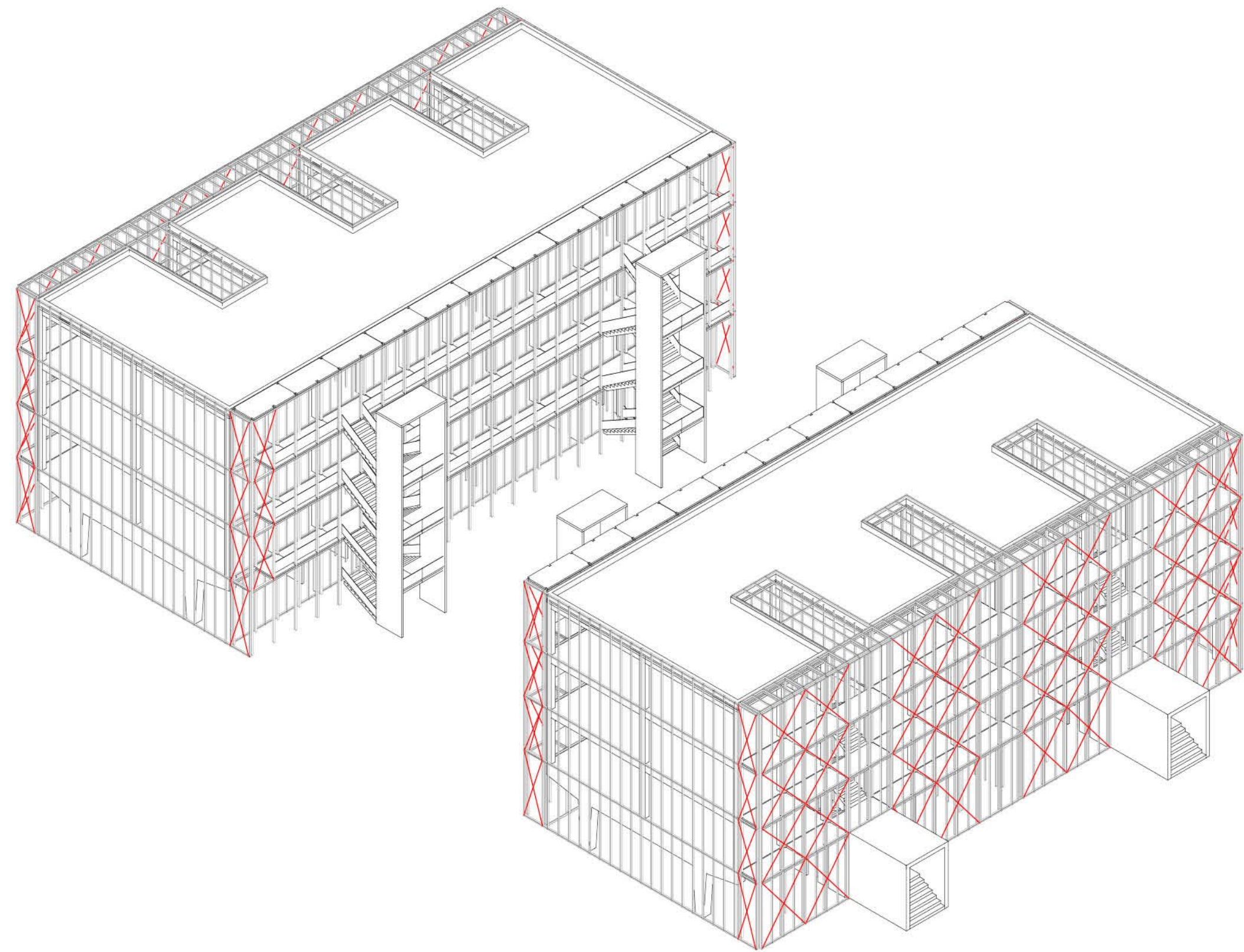


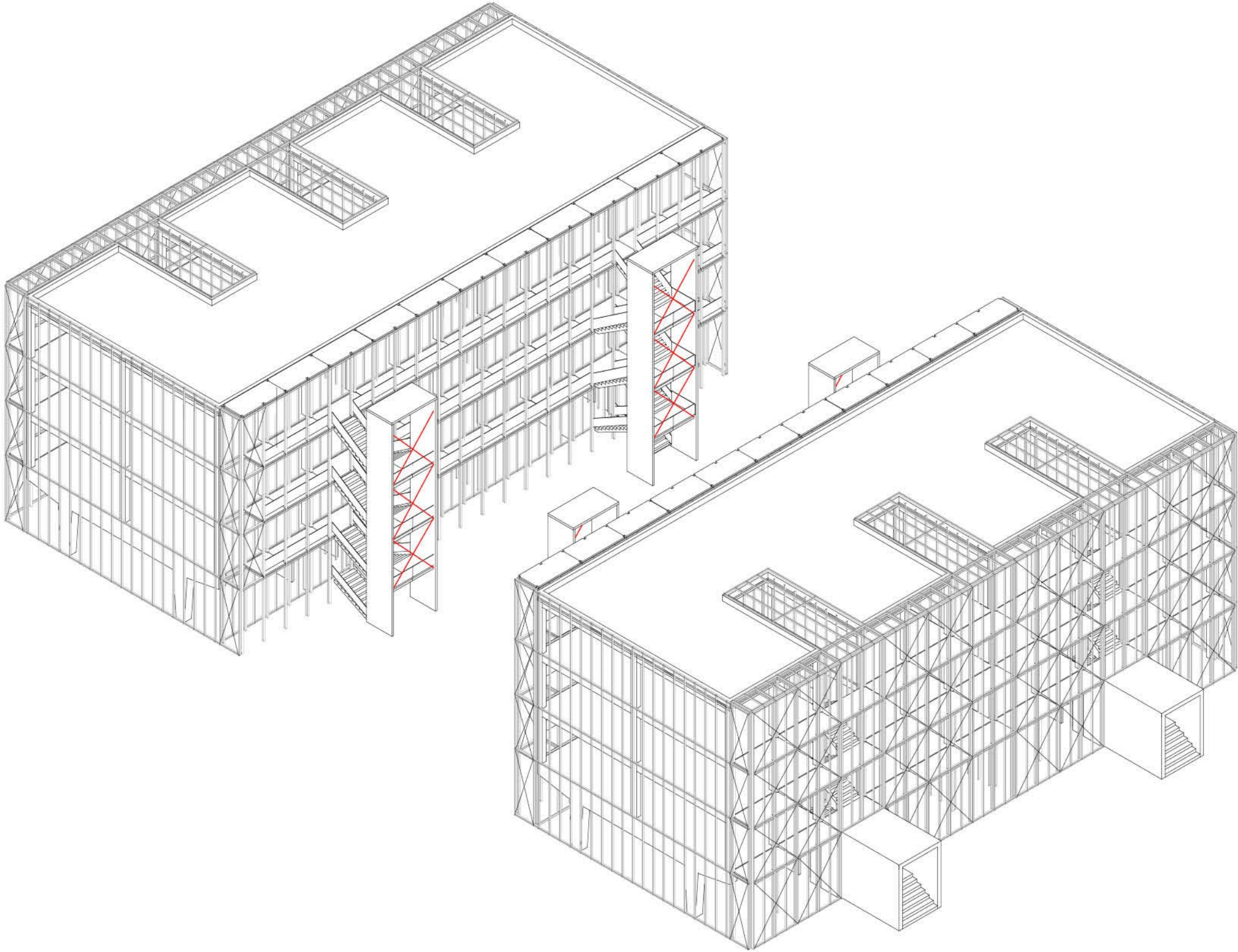


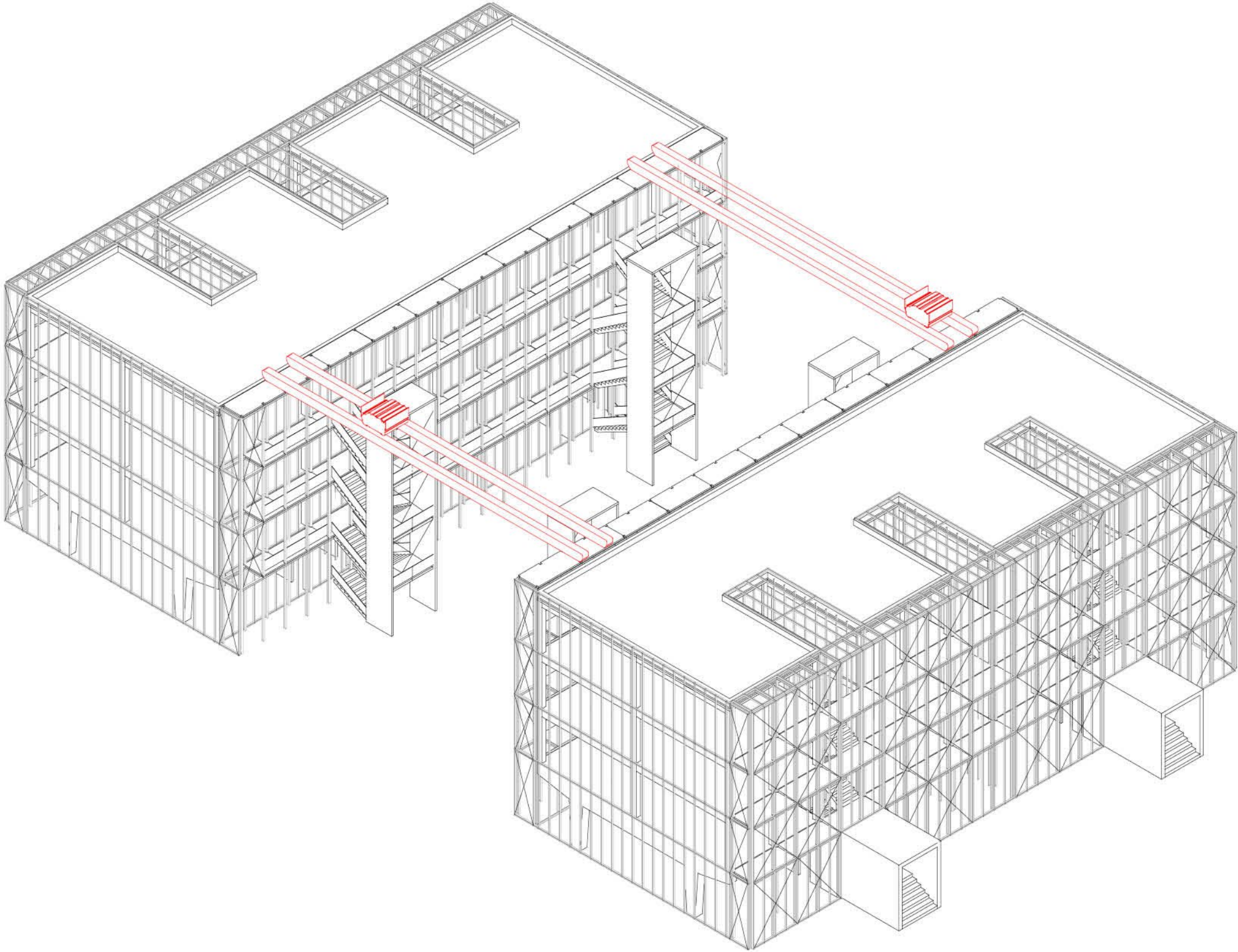


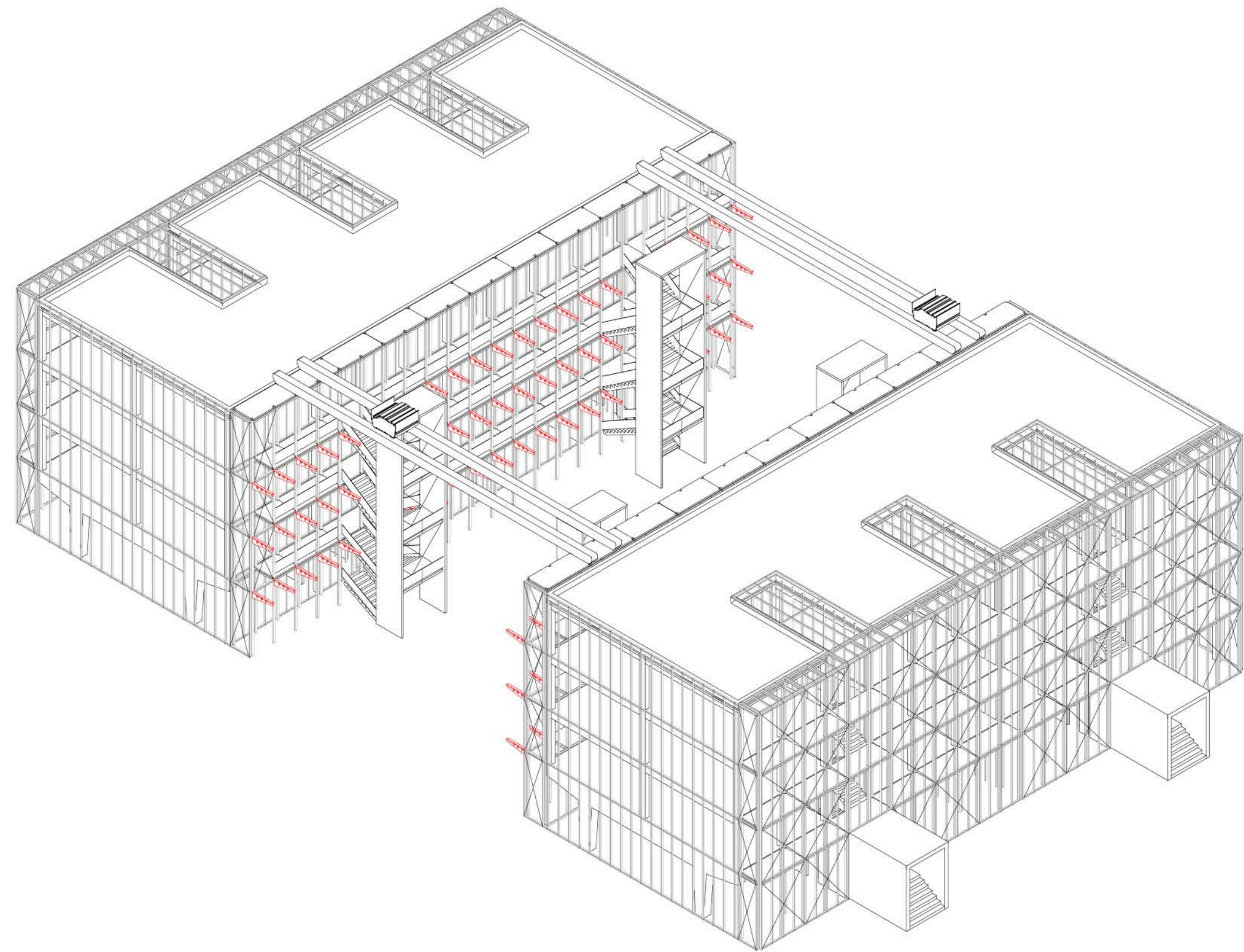


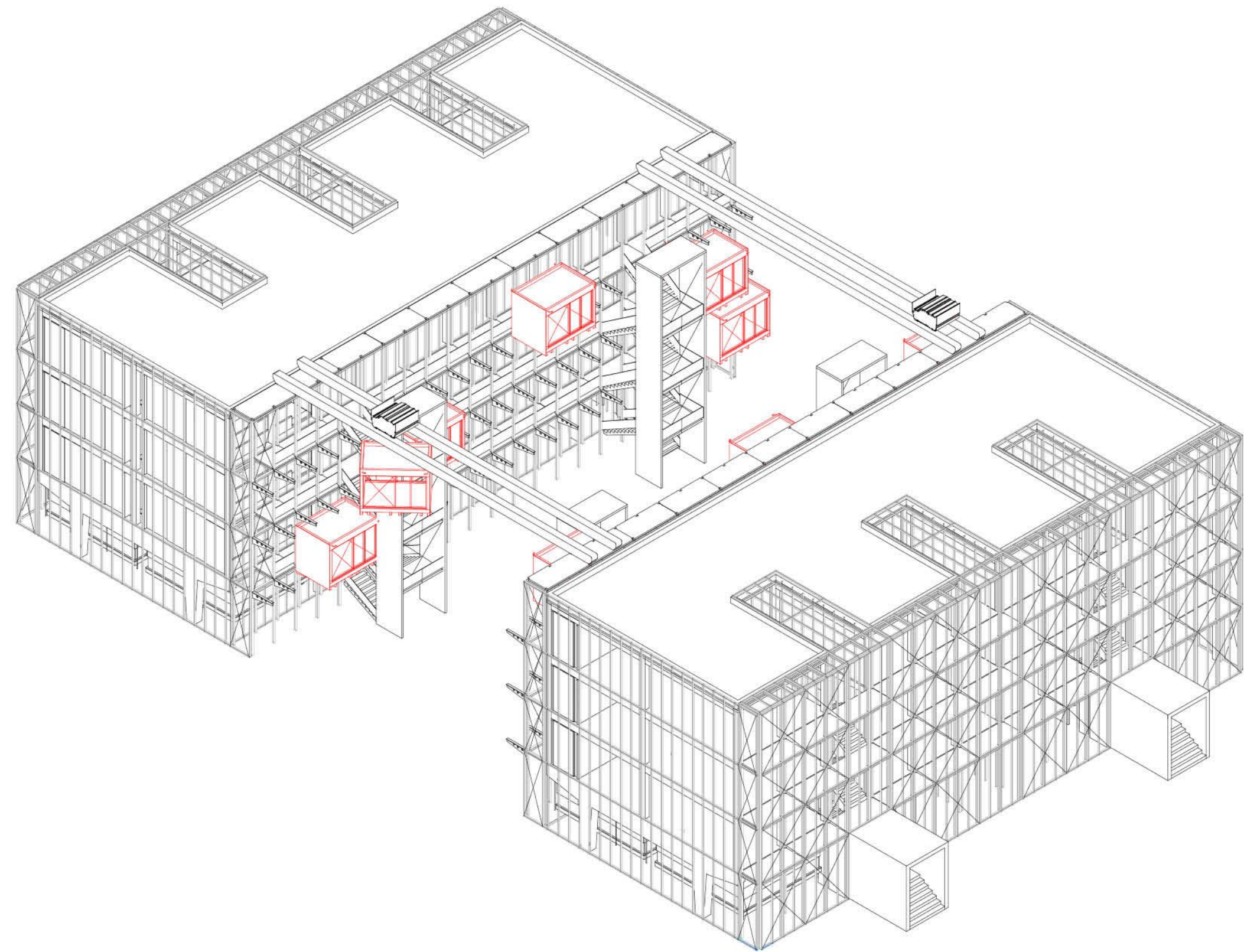


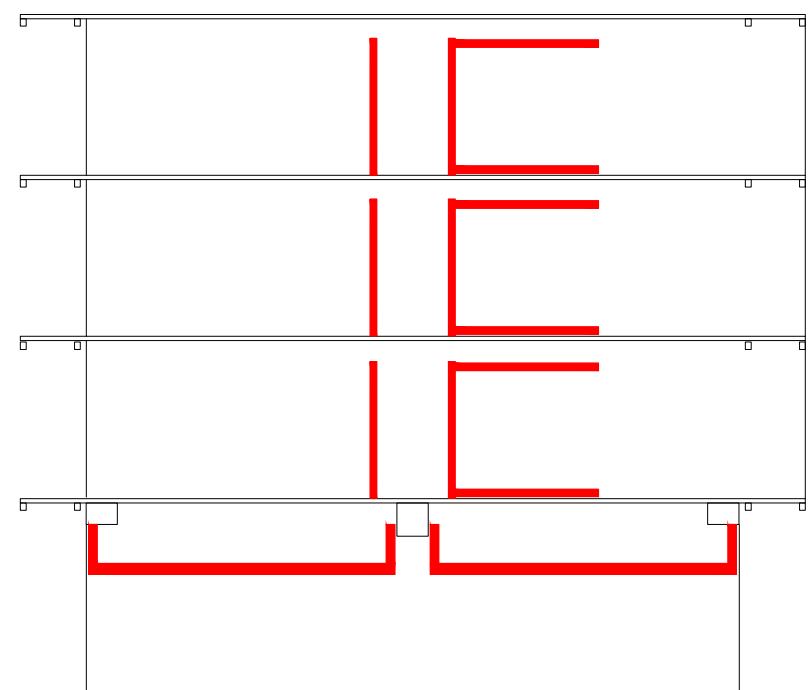
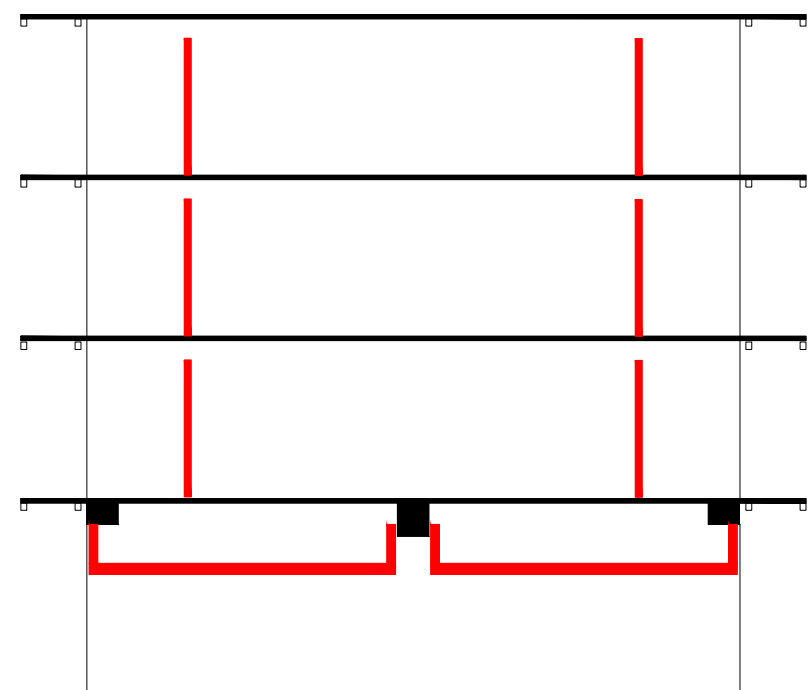
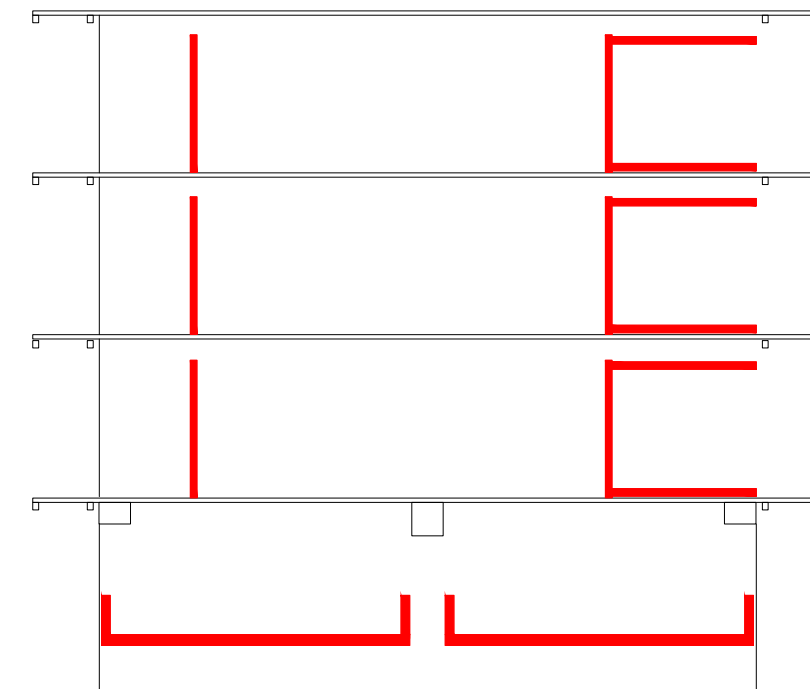
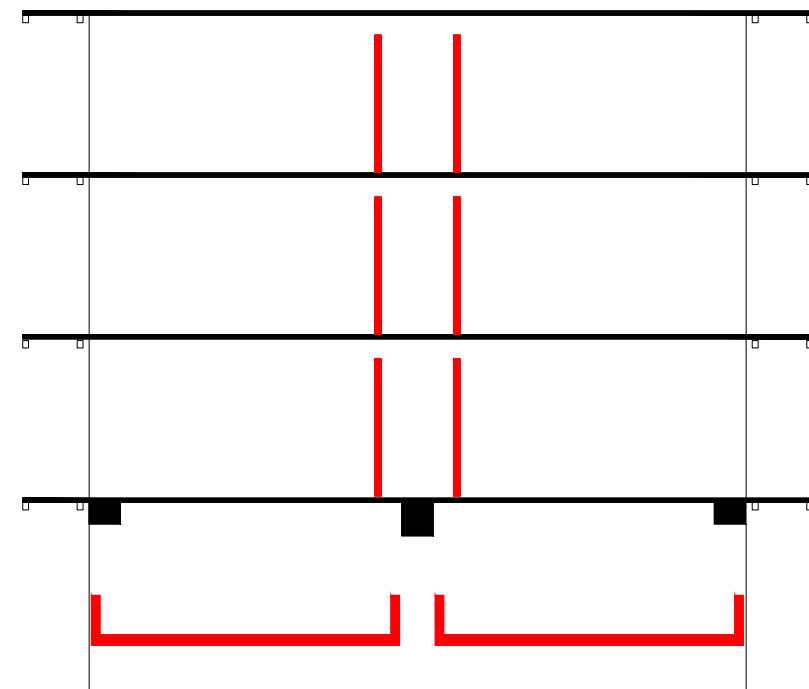


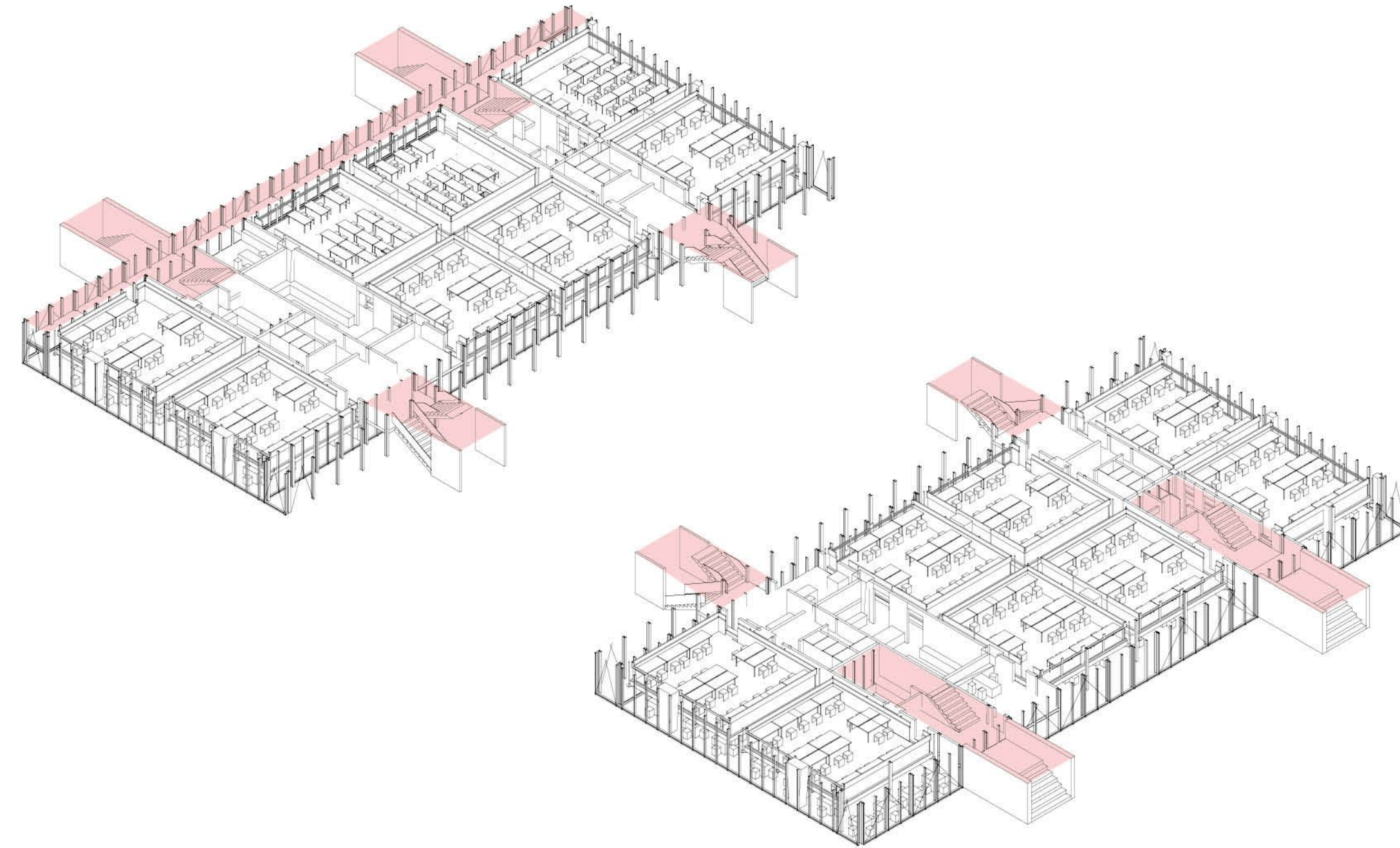




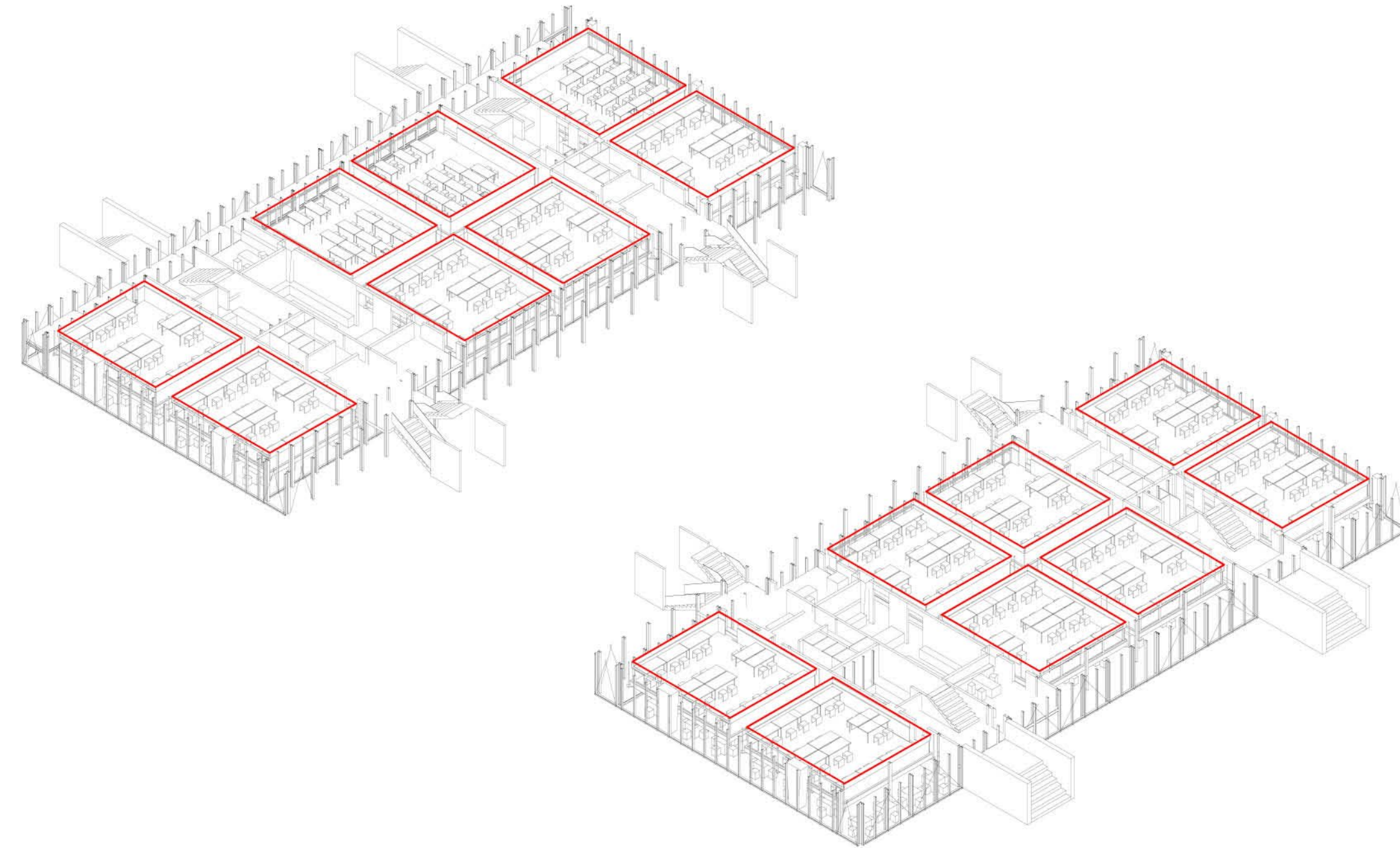





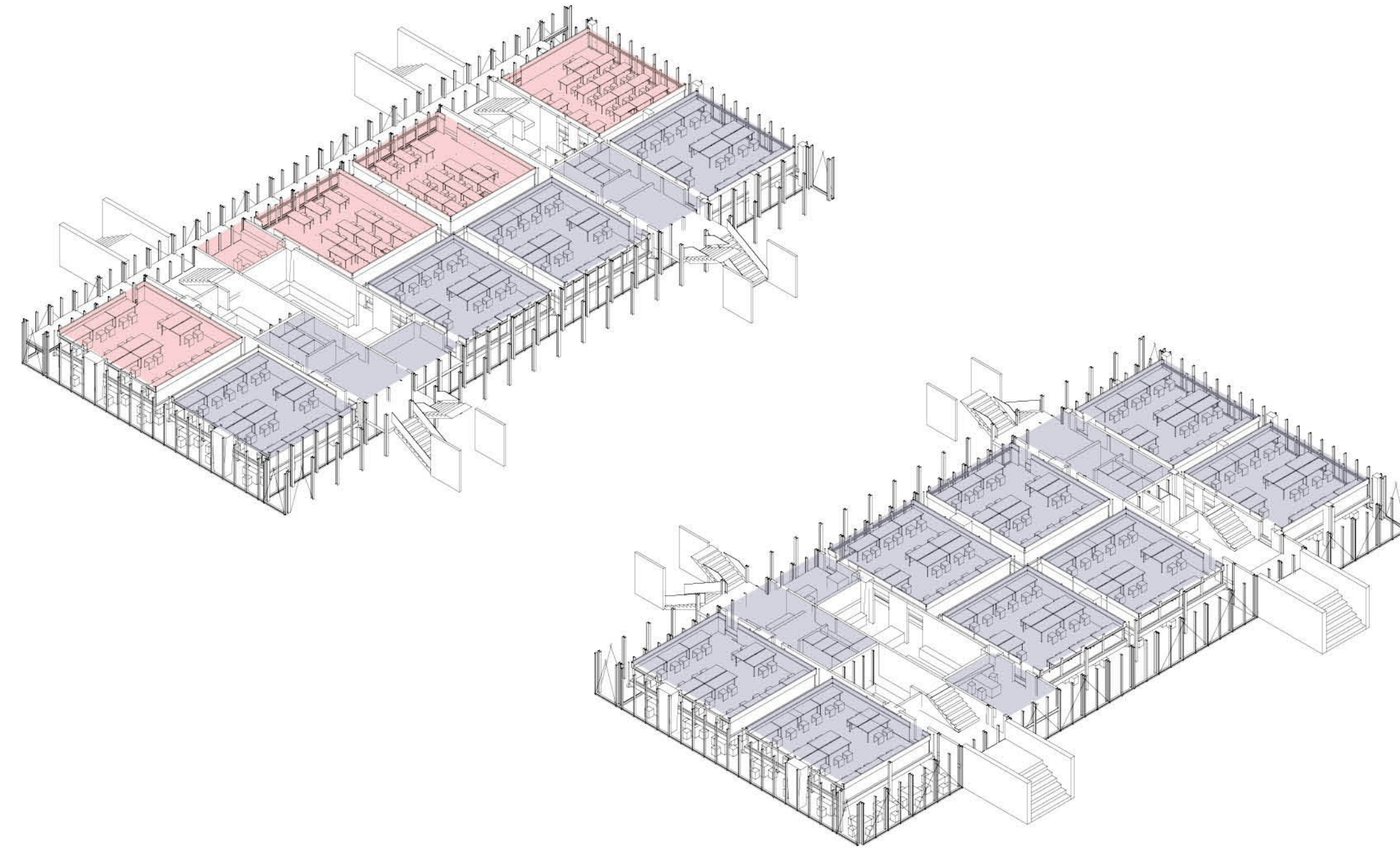




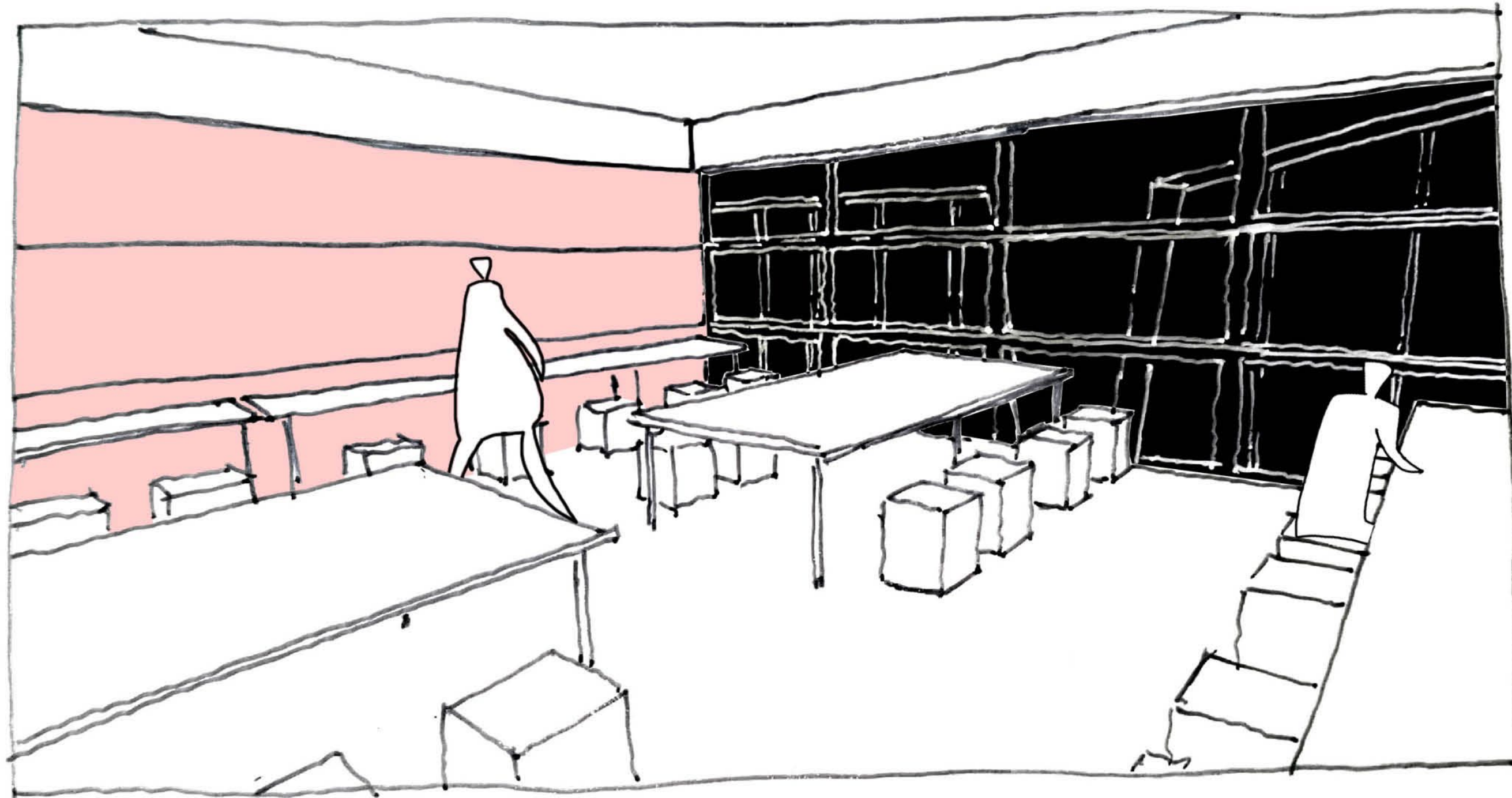
 circulation

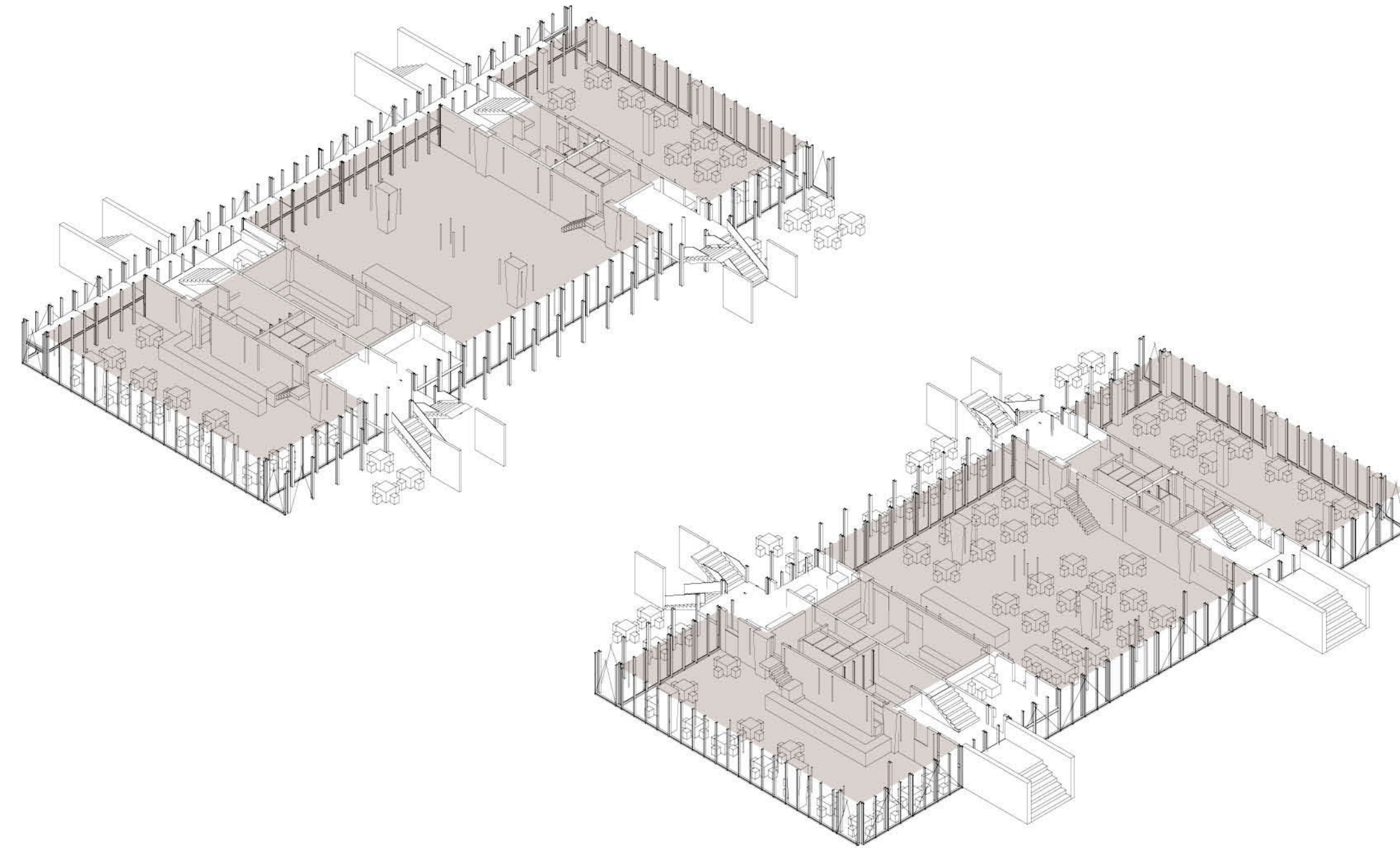


 kinetic elements

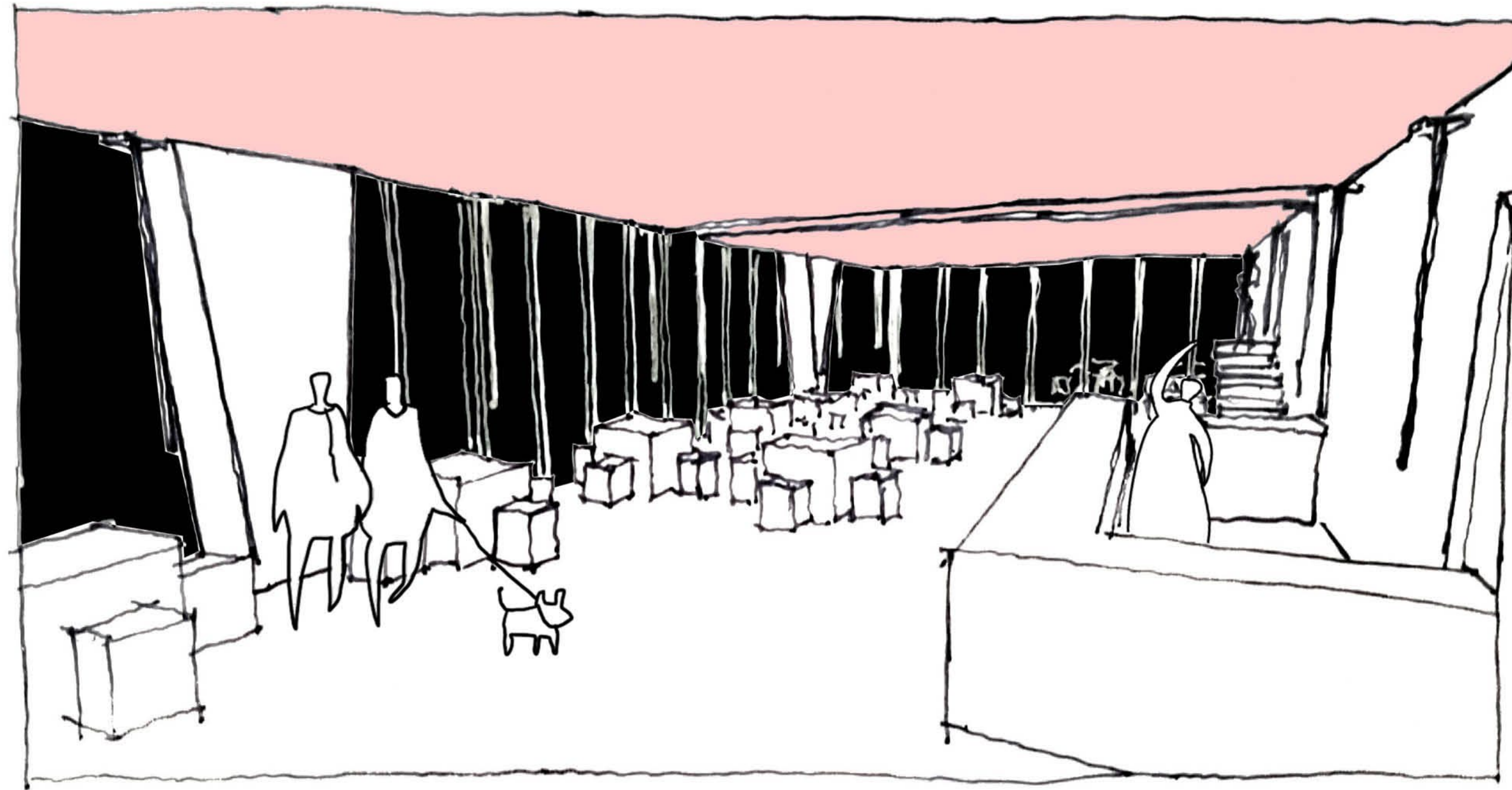


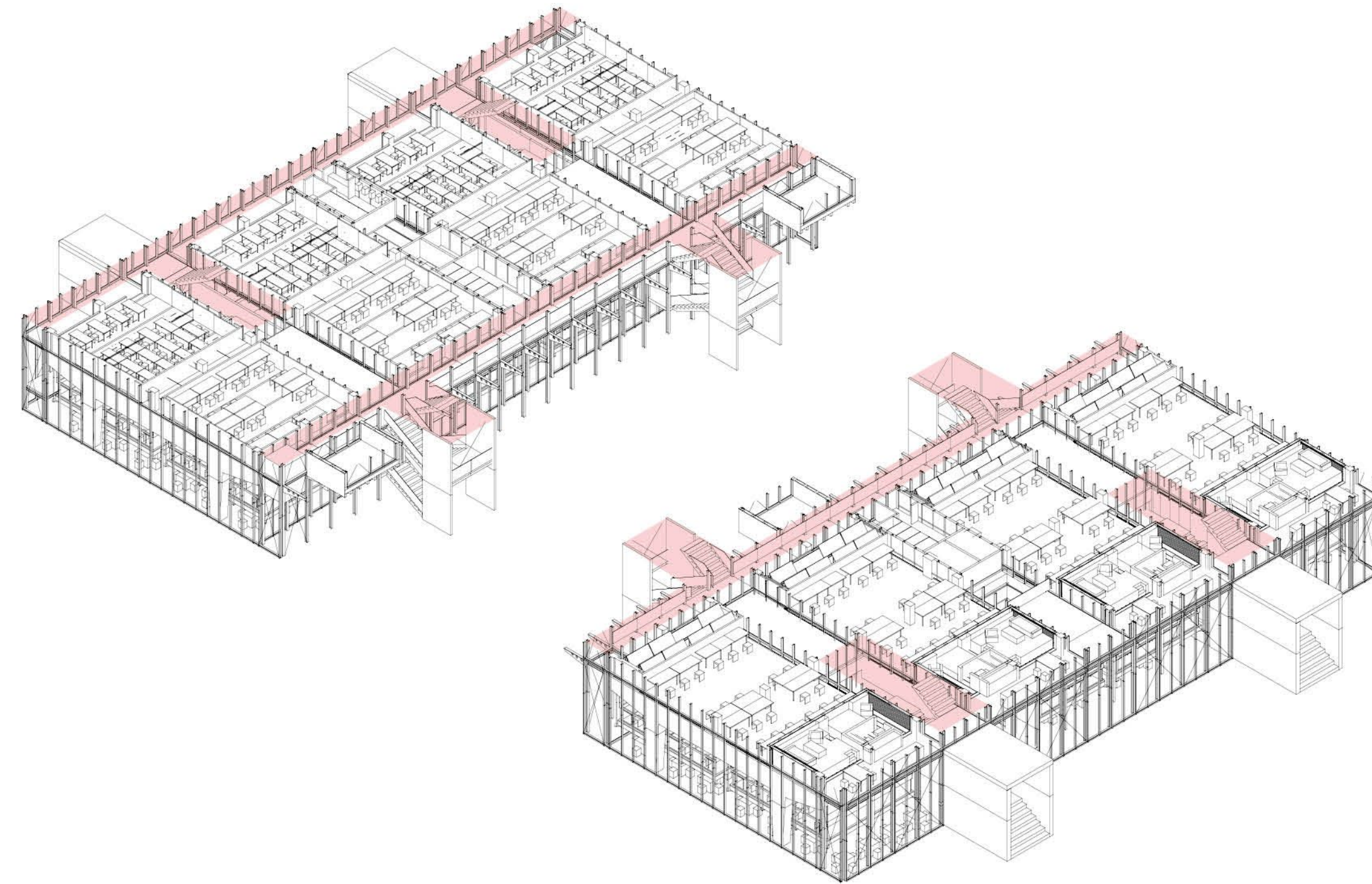
office
education




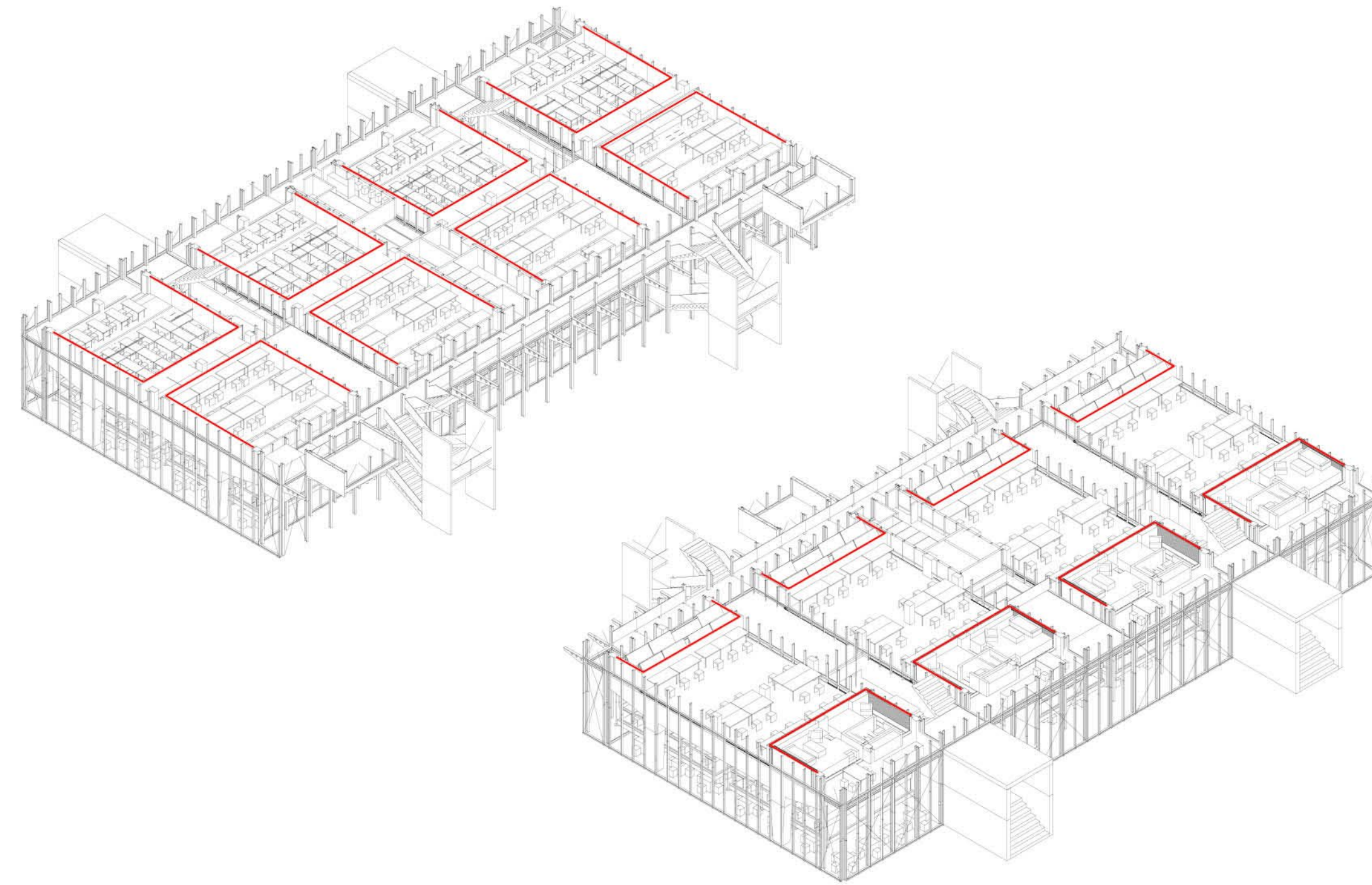



■ restaurant, bar

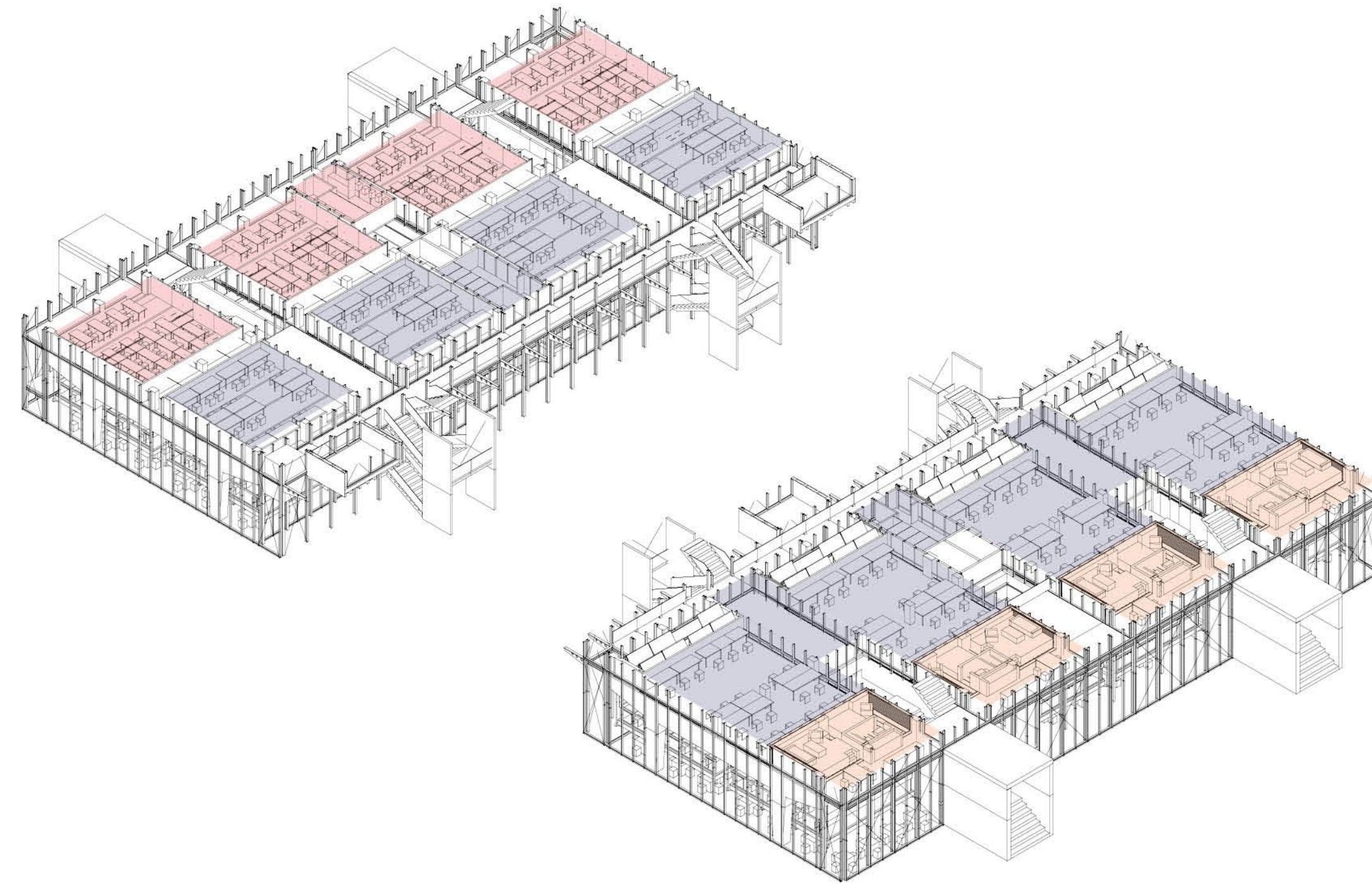




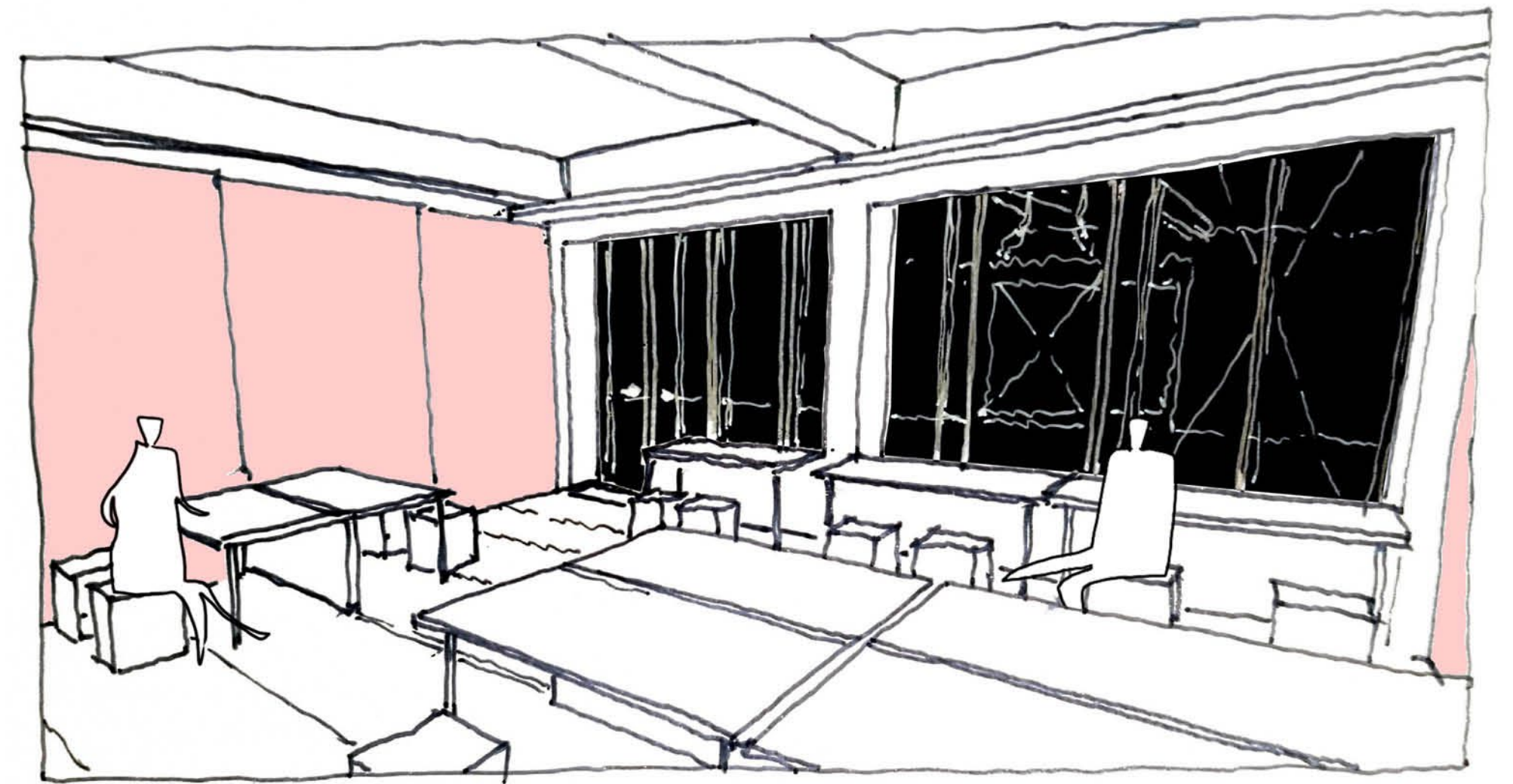
 circulation

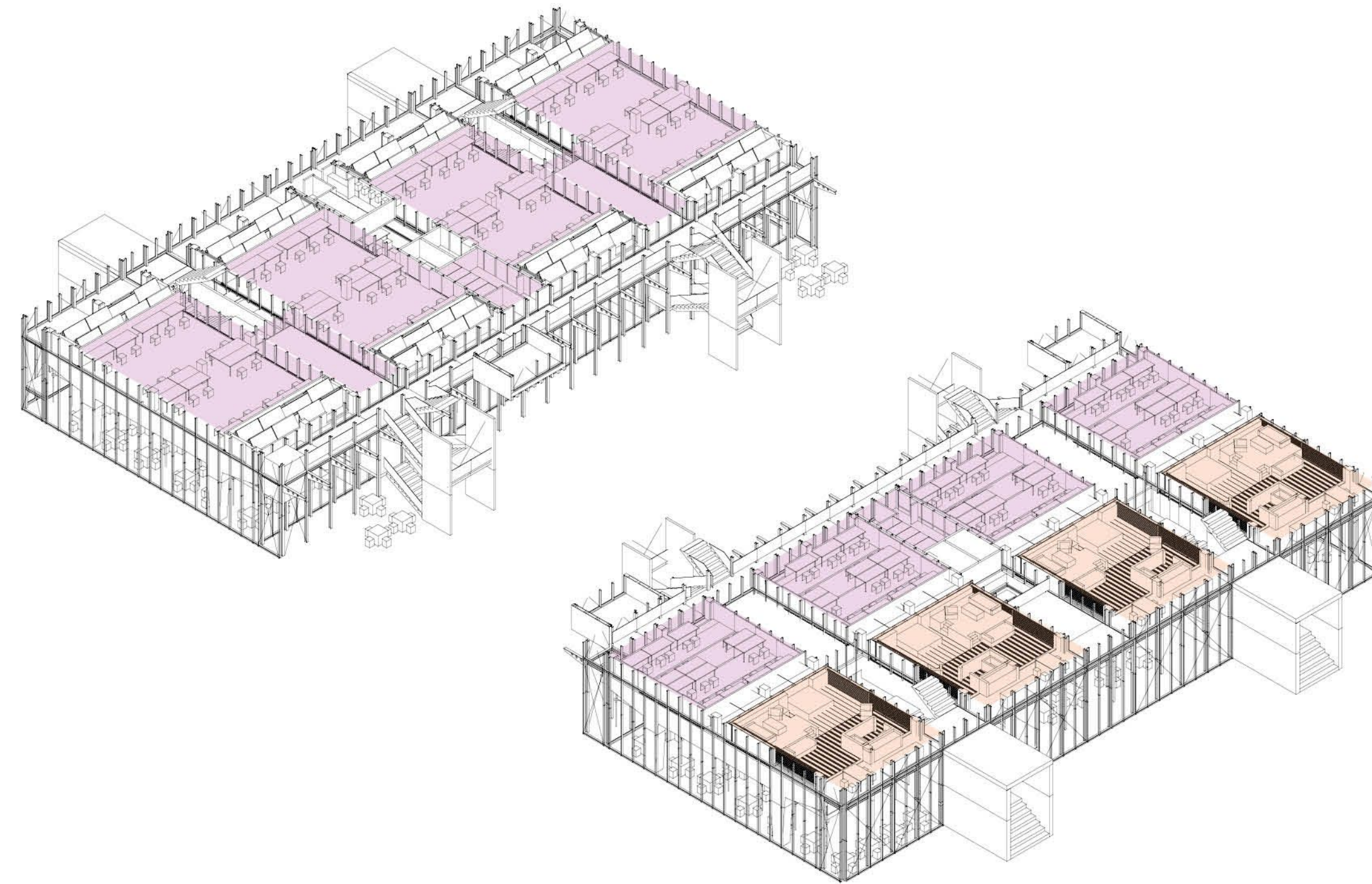


 kinetic elements

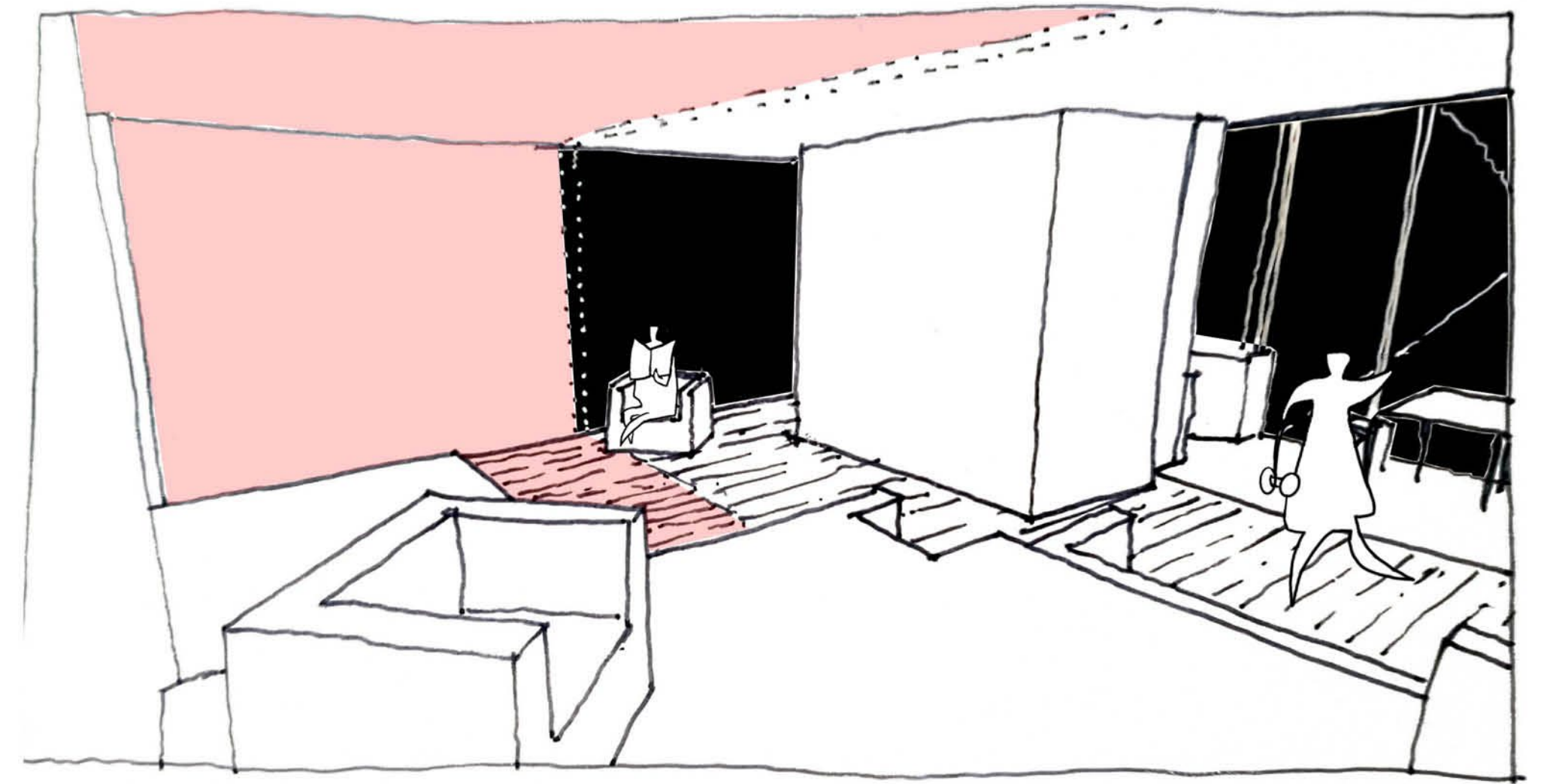
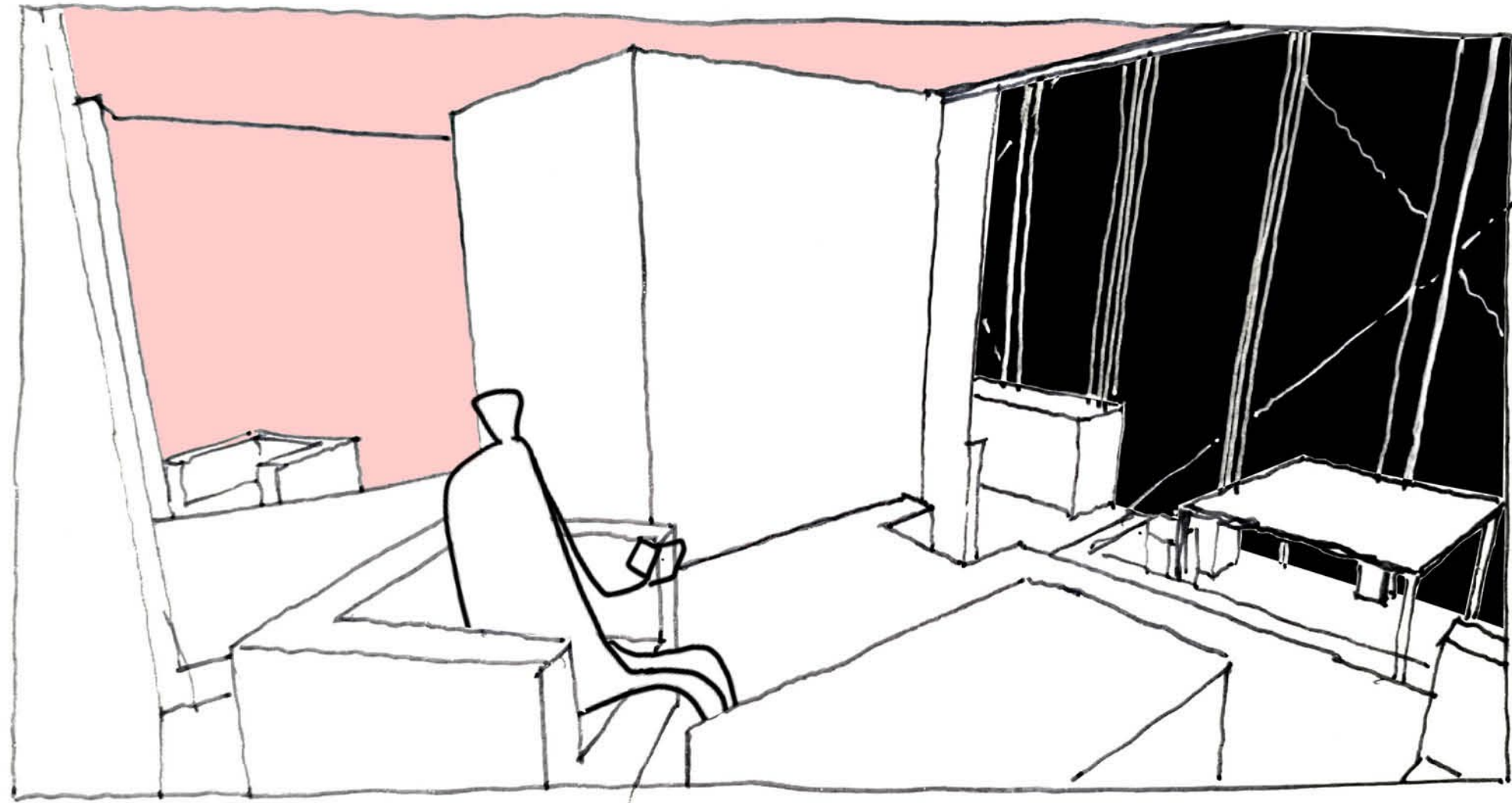


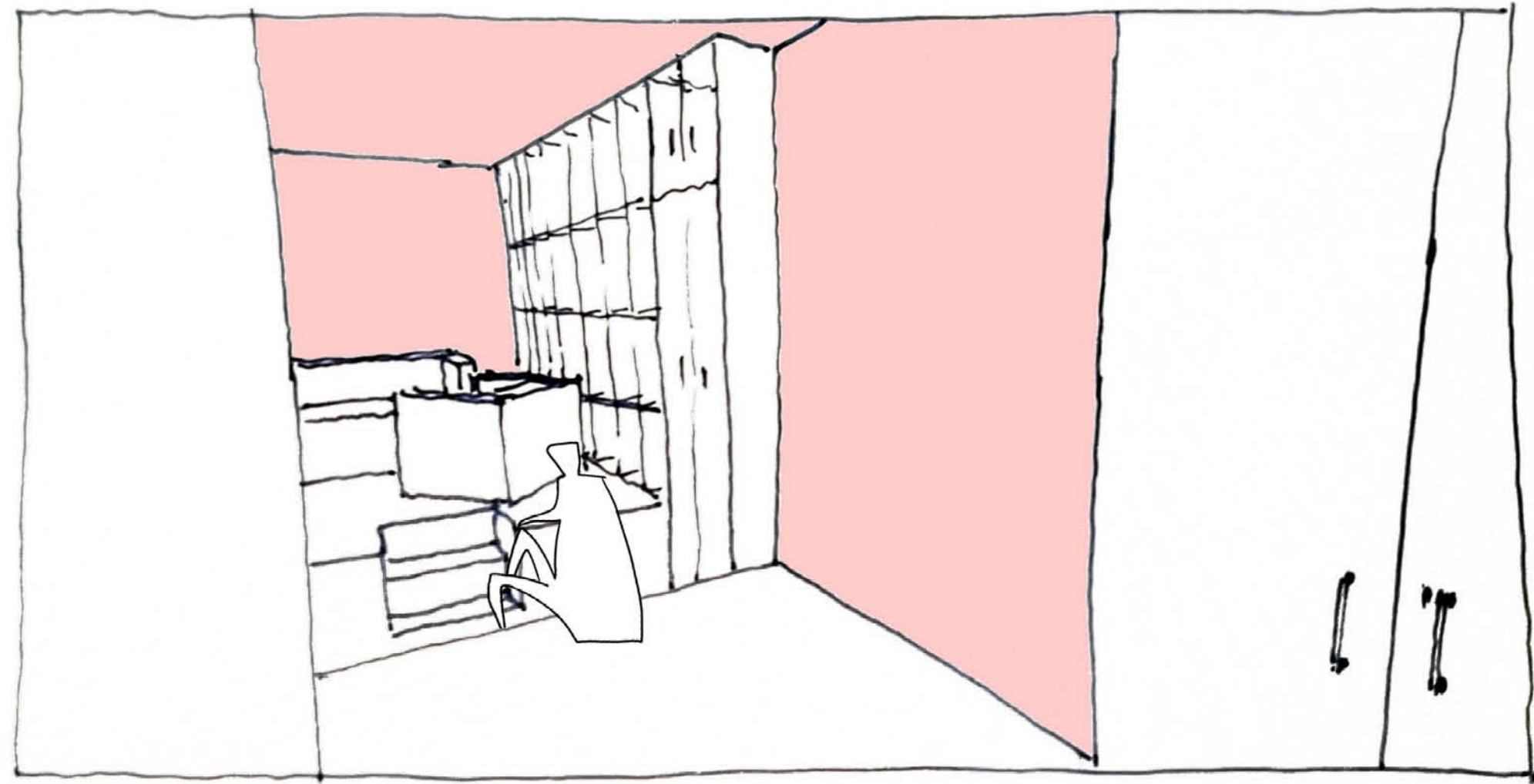
- living
- office
- education

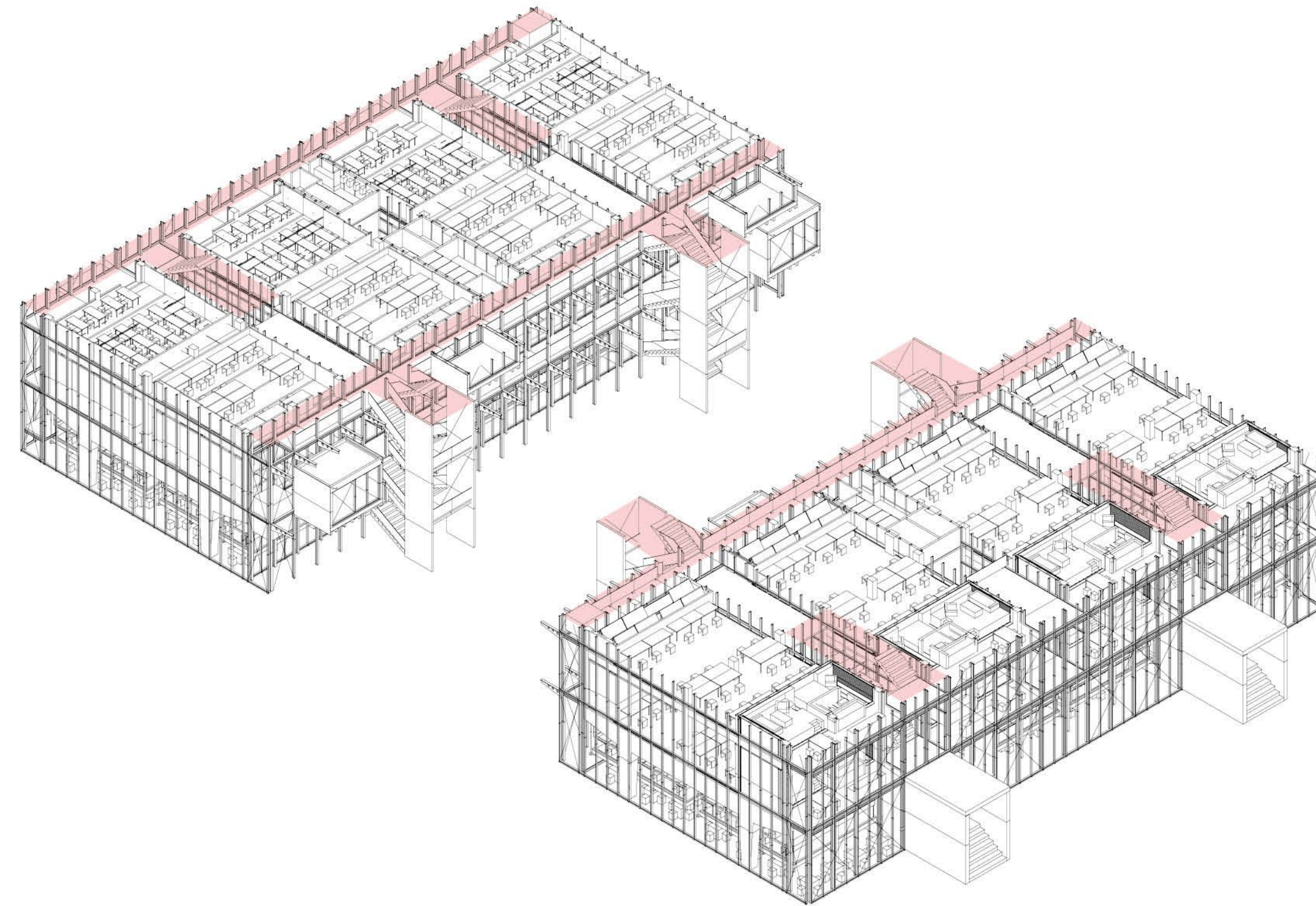




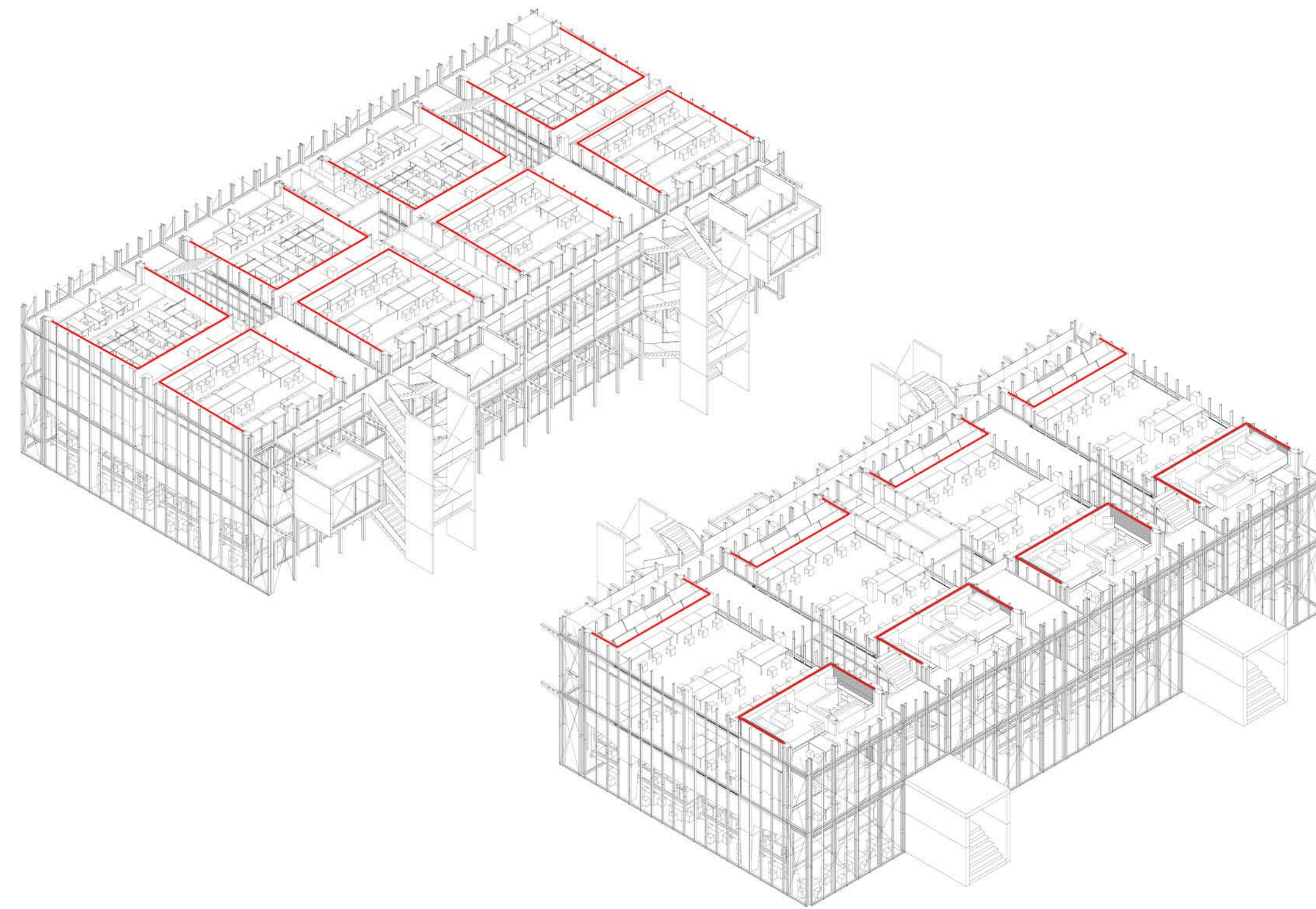
■ evening school
■ living




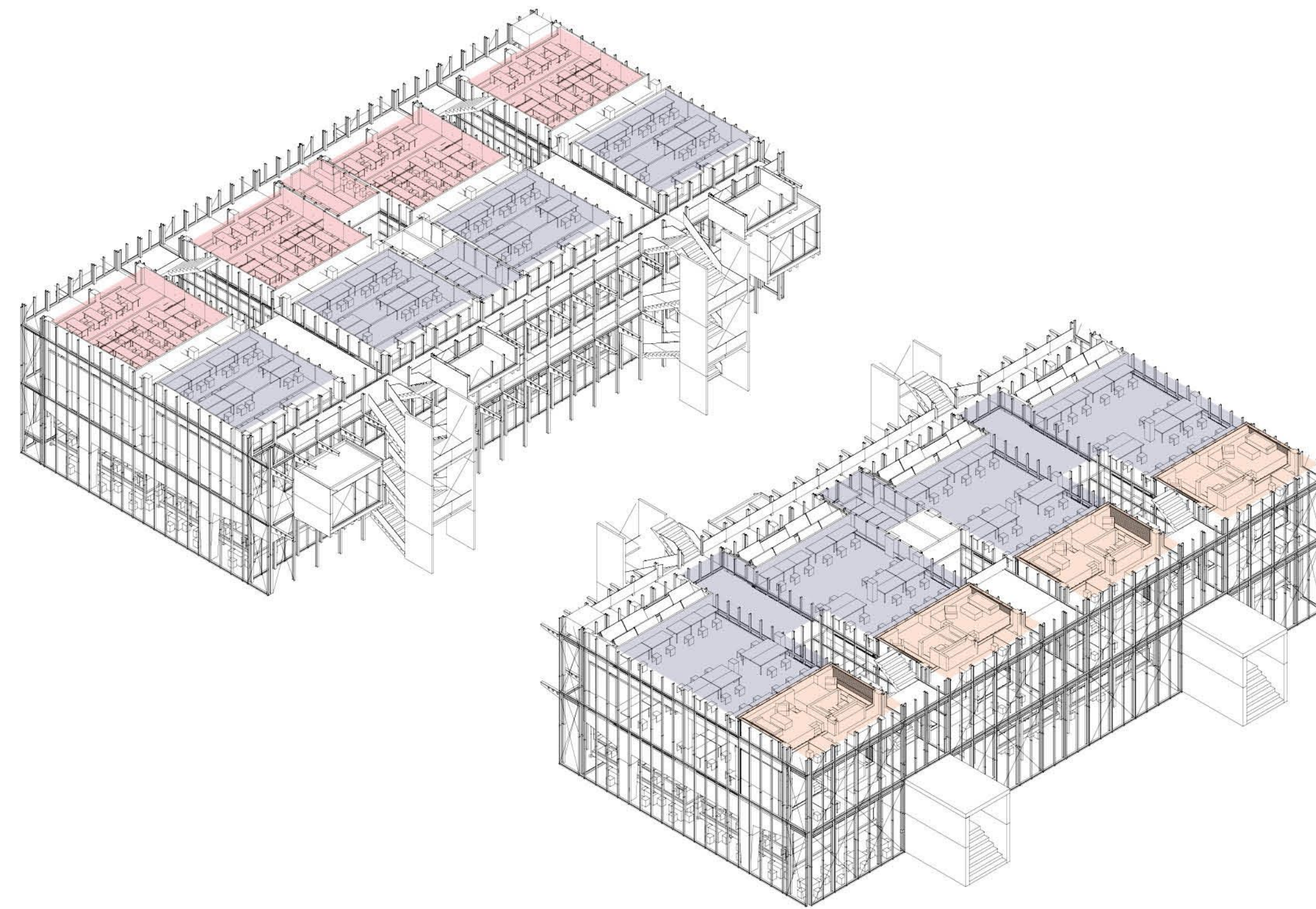




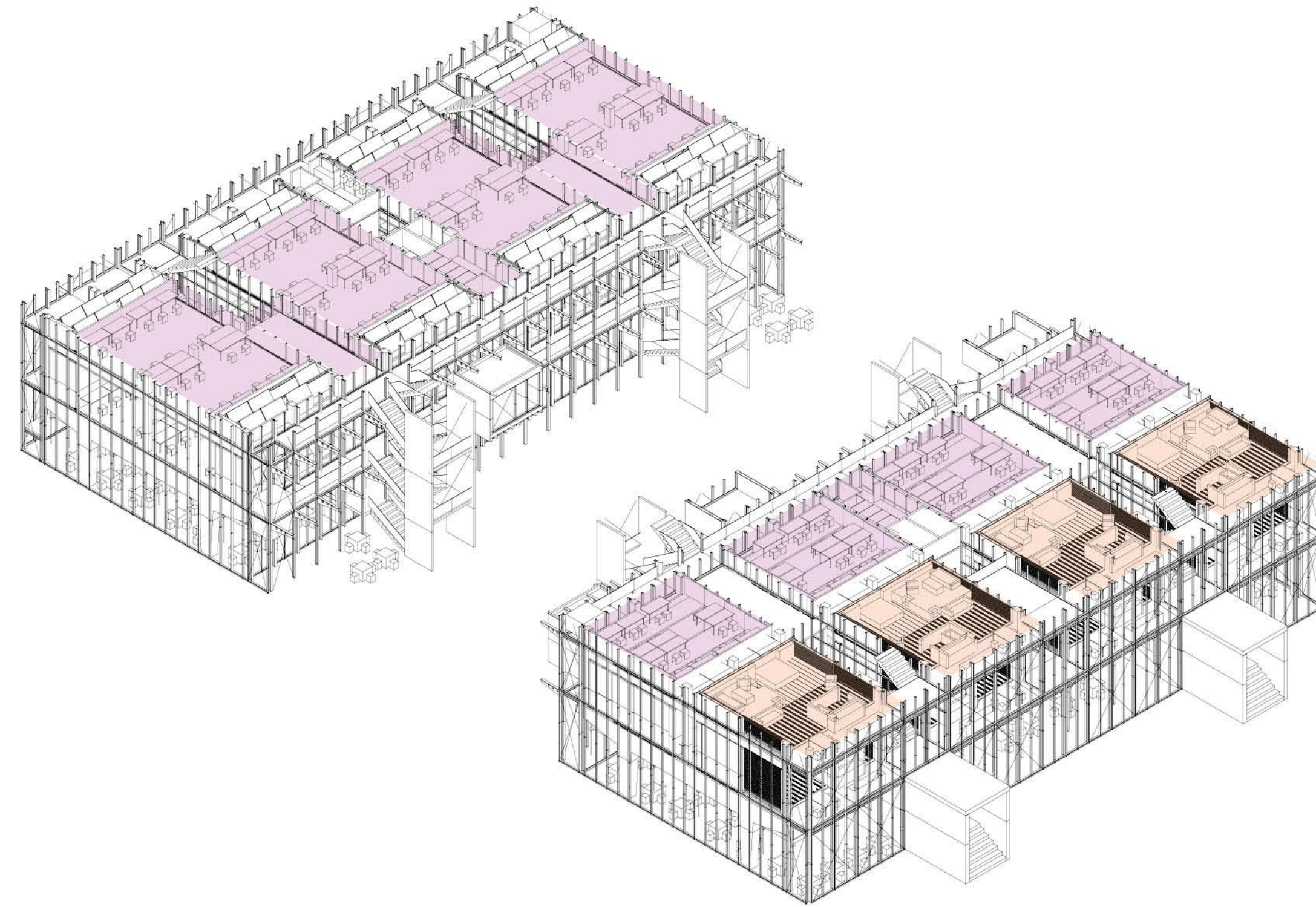
 circulation



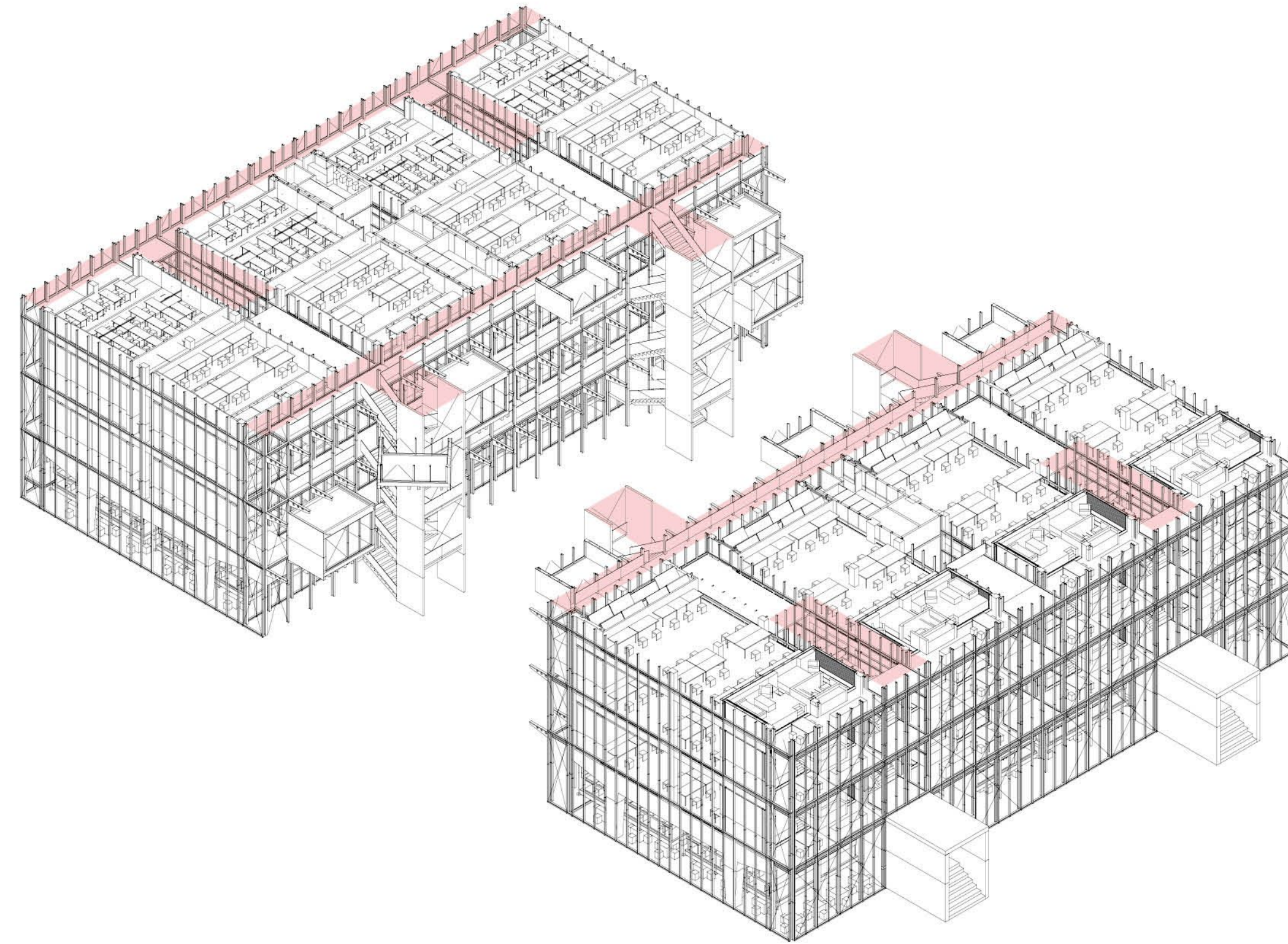
 kinetic elements




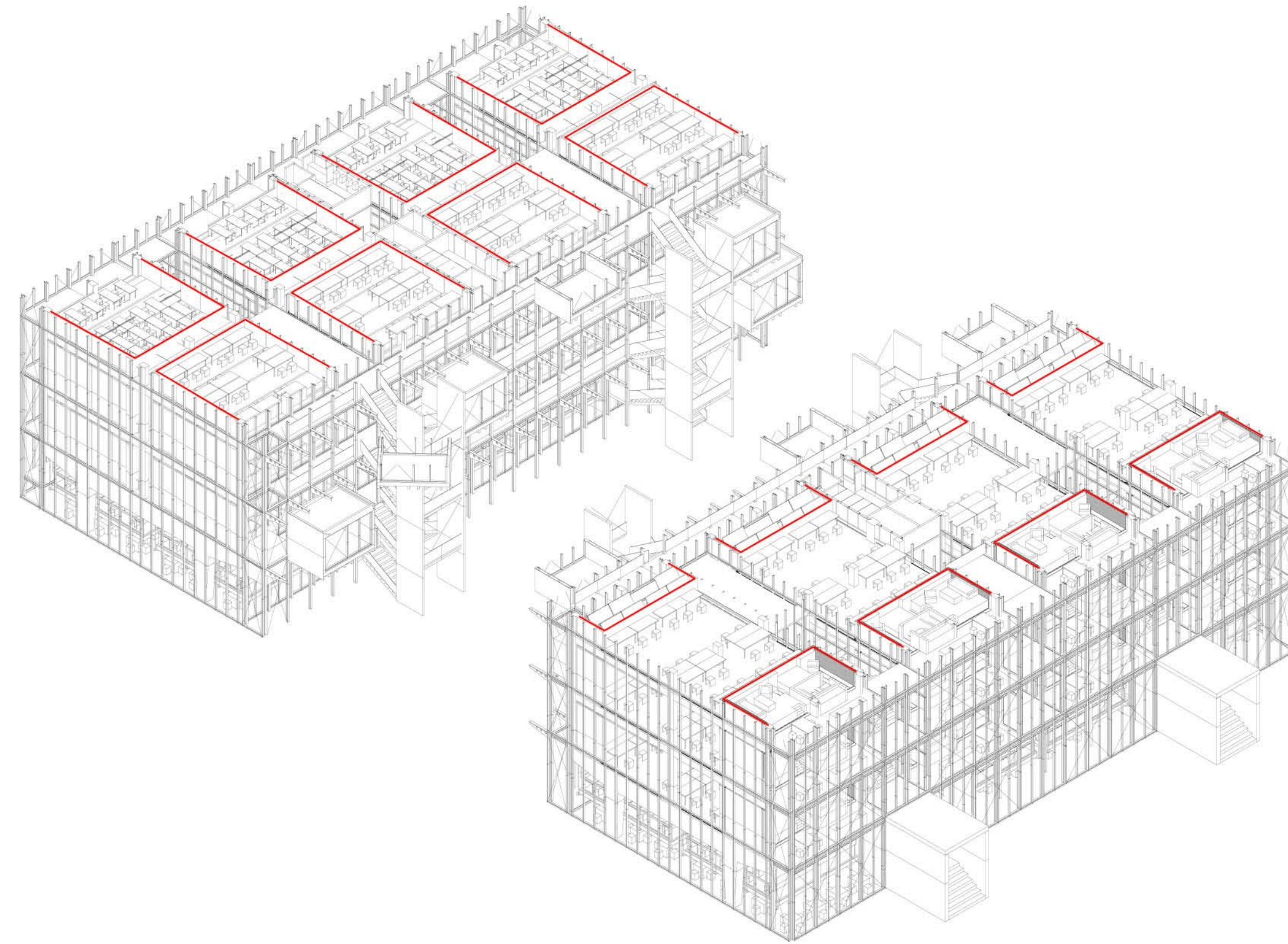
- living
- office
- education




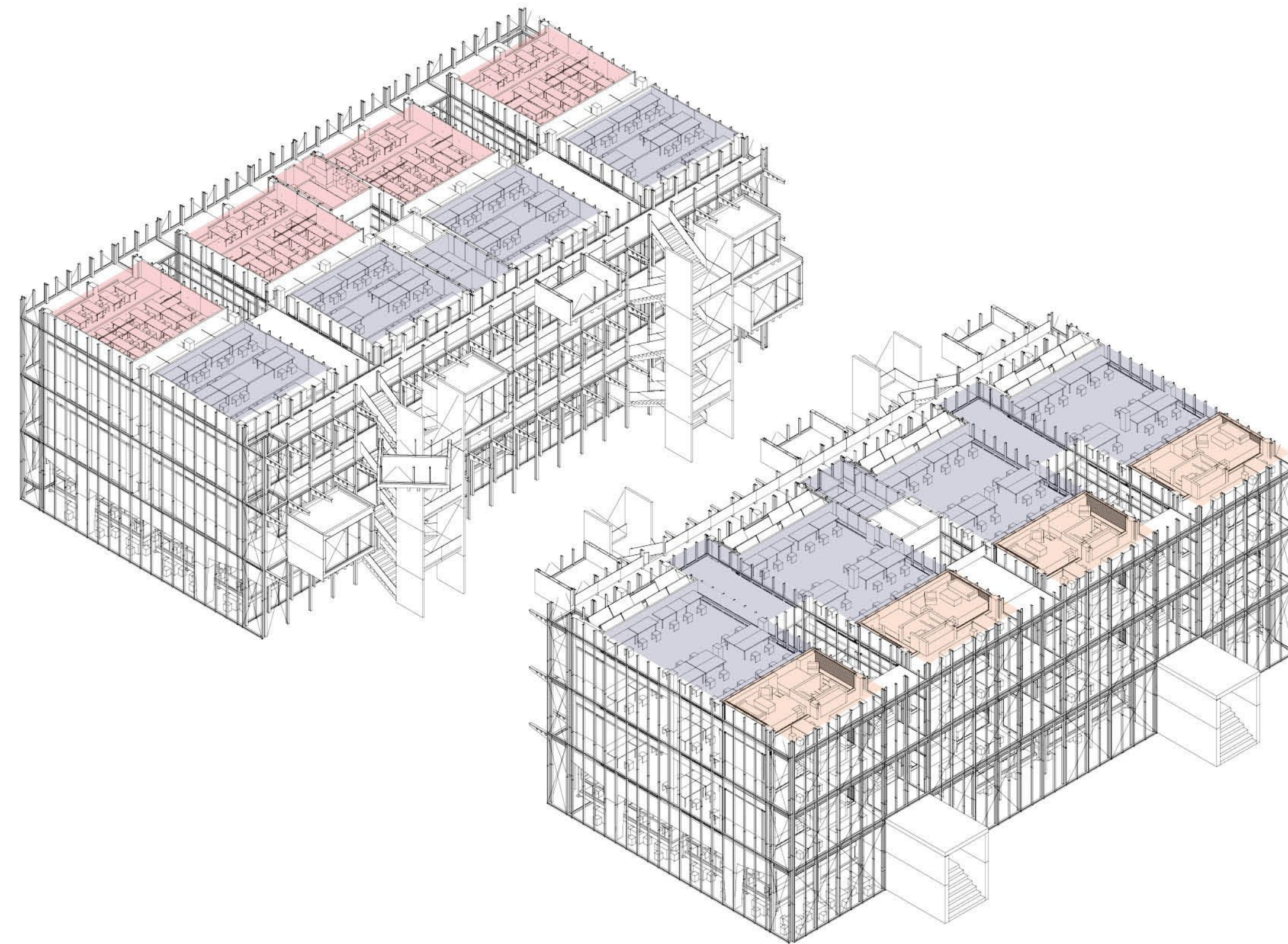
■ evening school
■ living



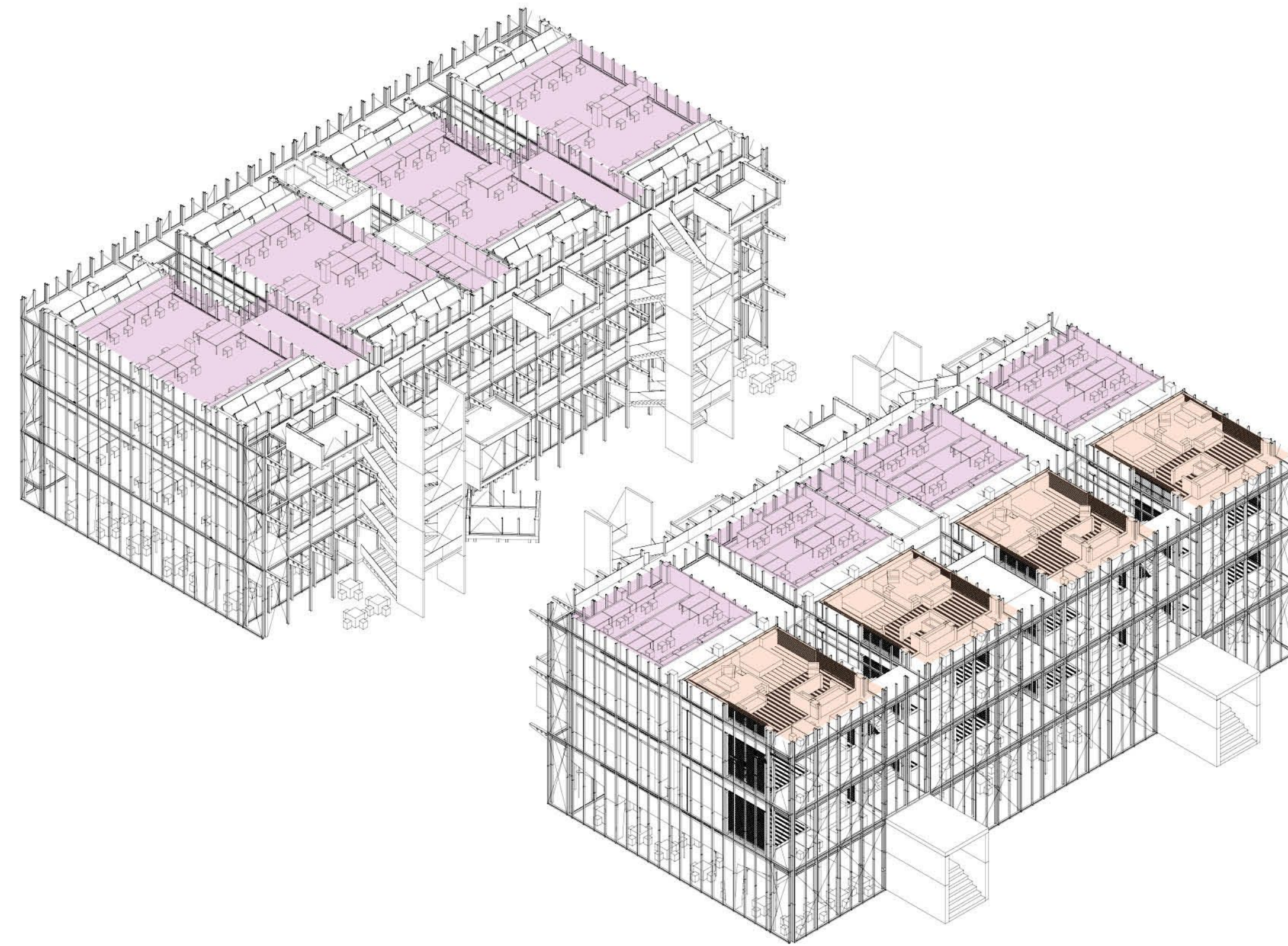
 circulation



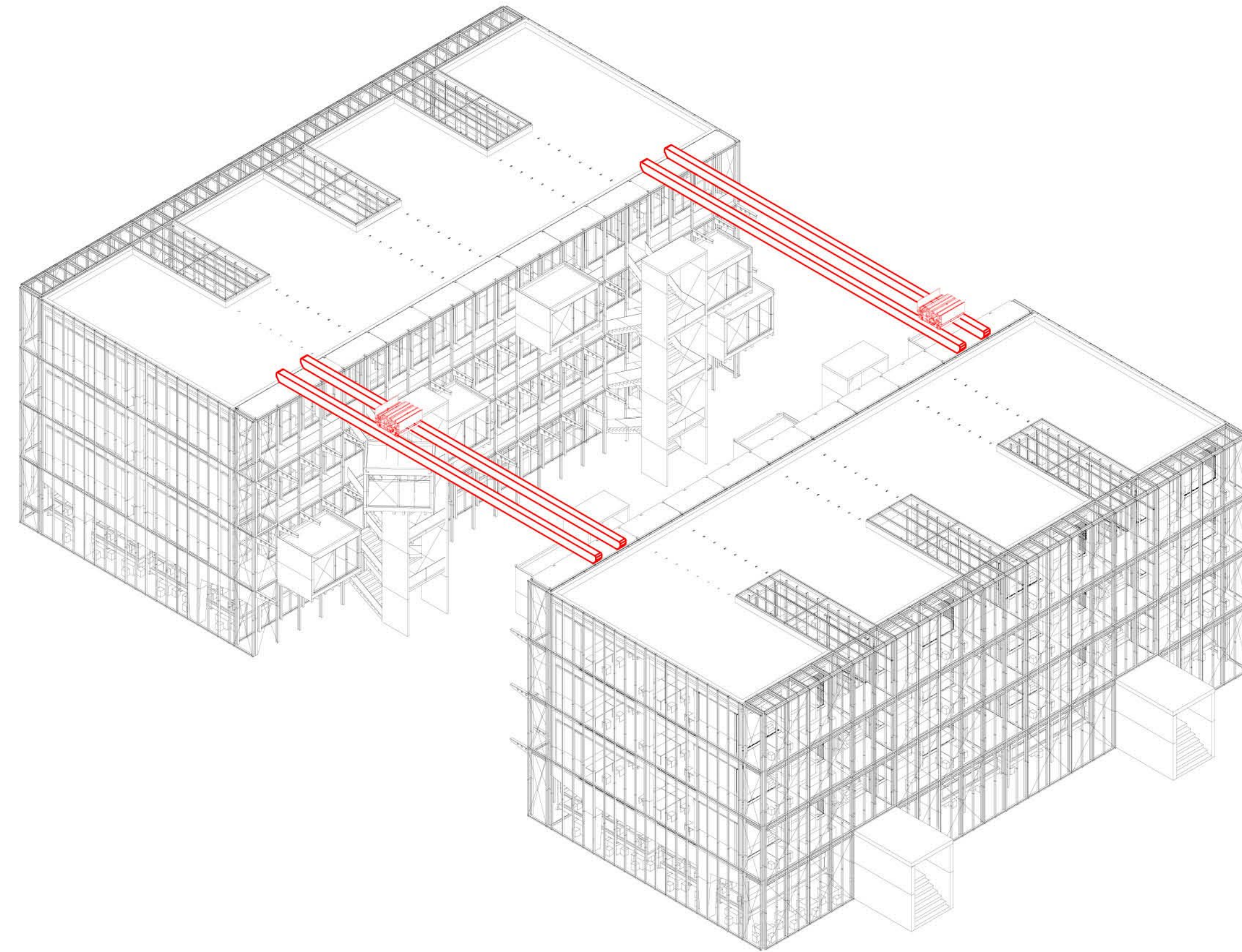
 kinetic elements

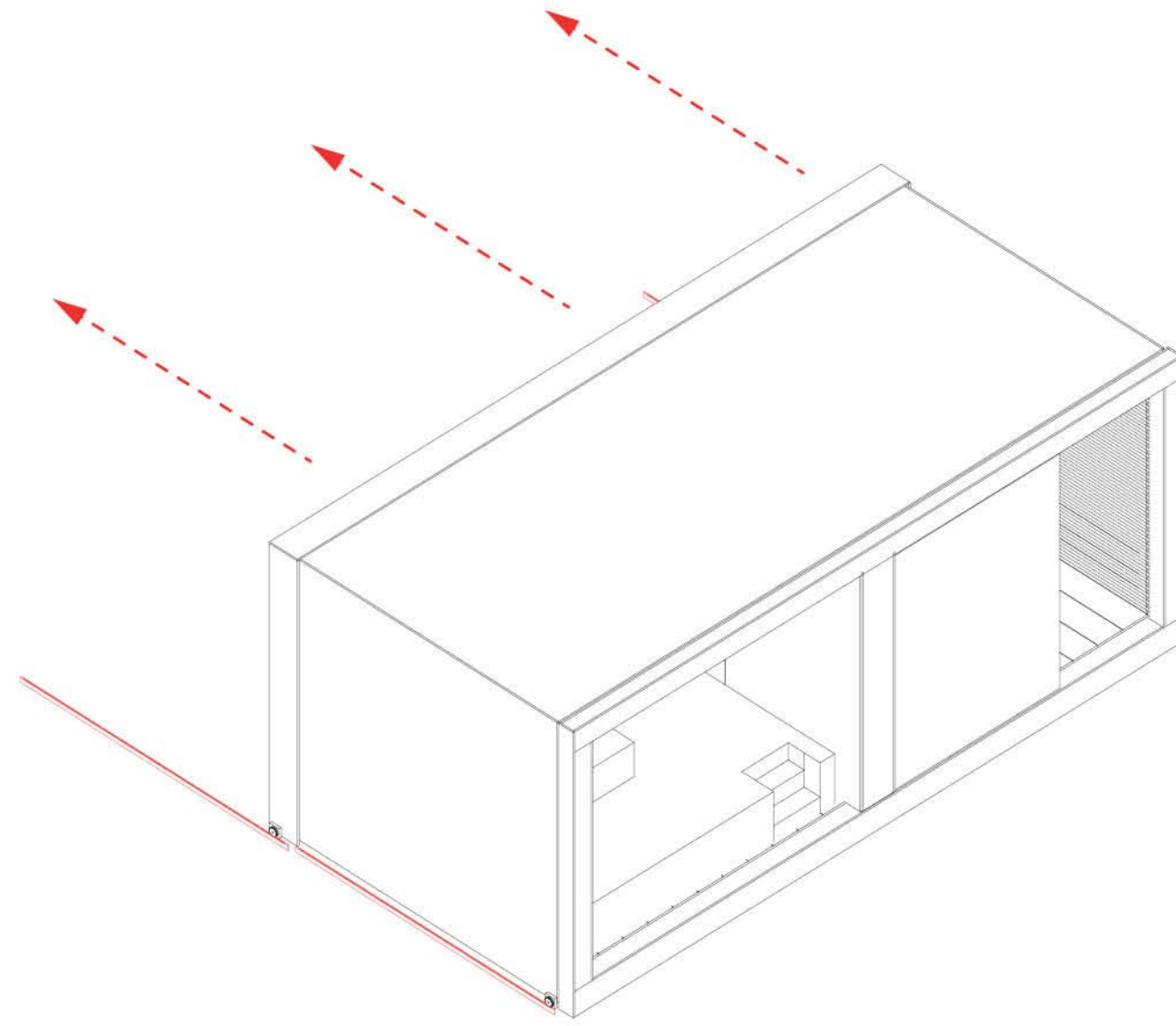
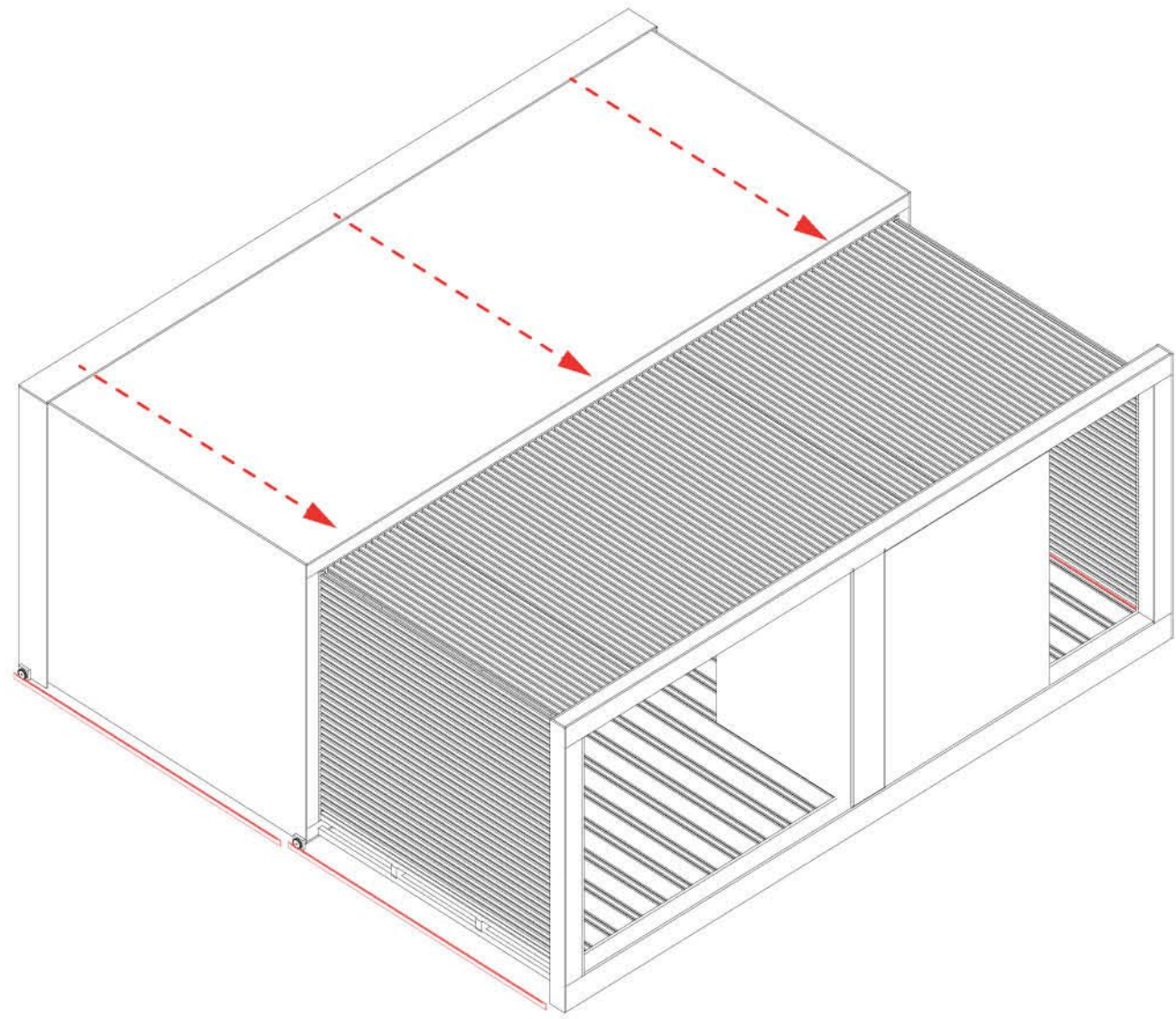


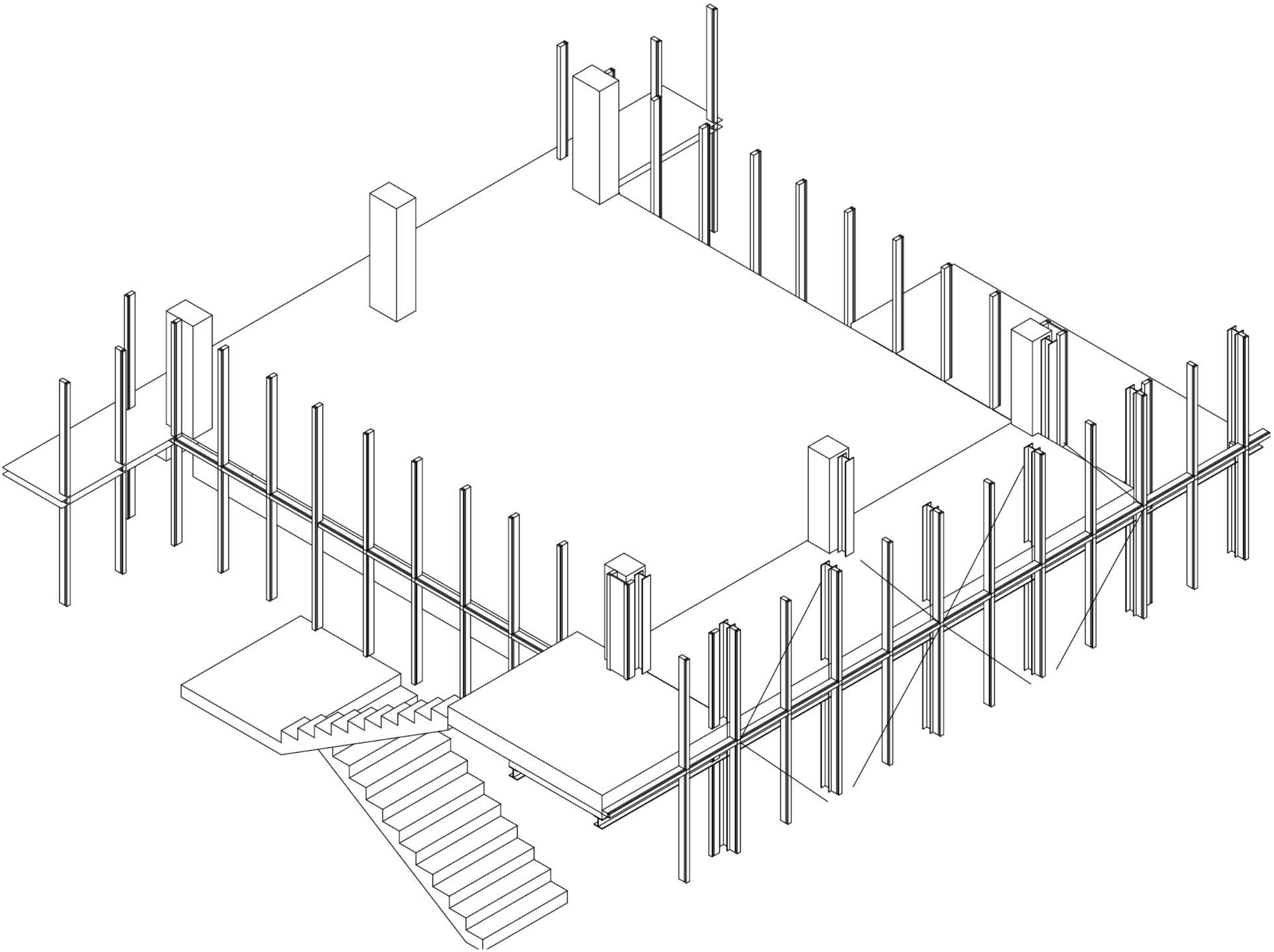
- living
- office
- education

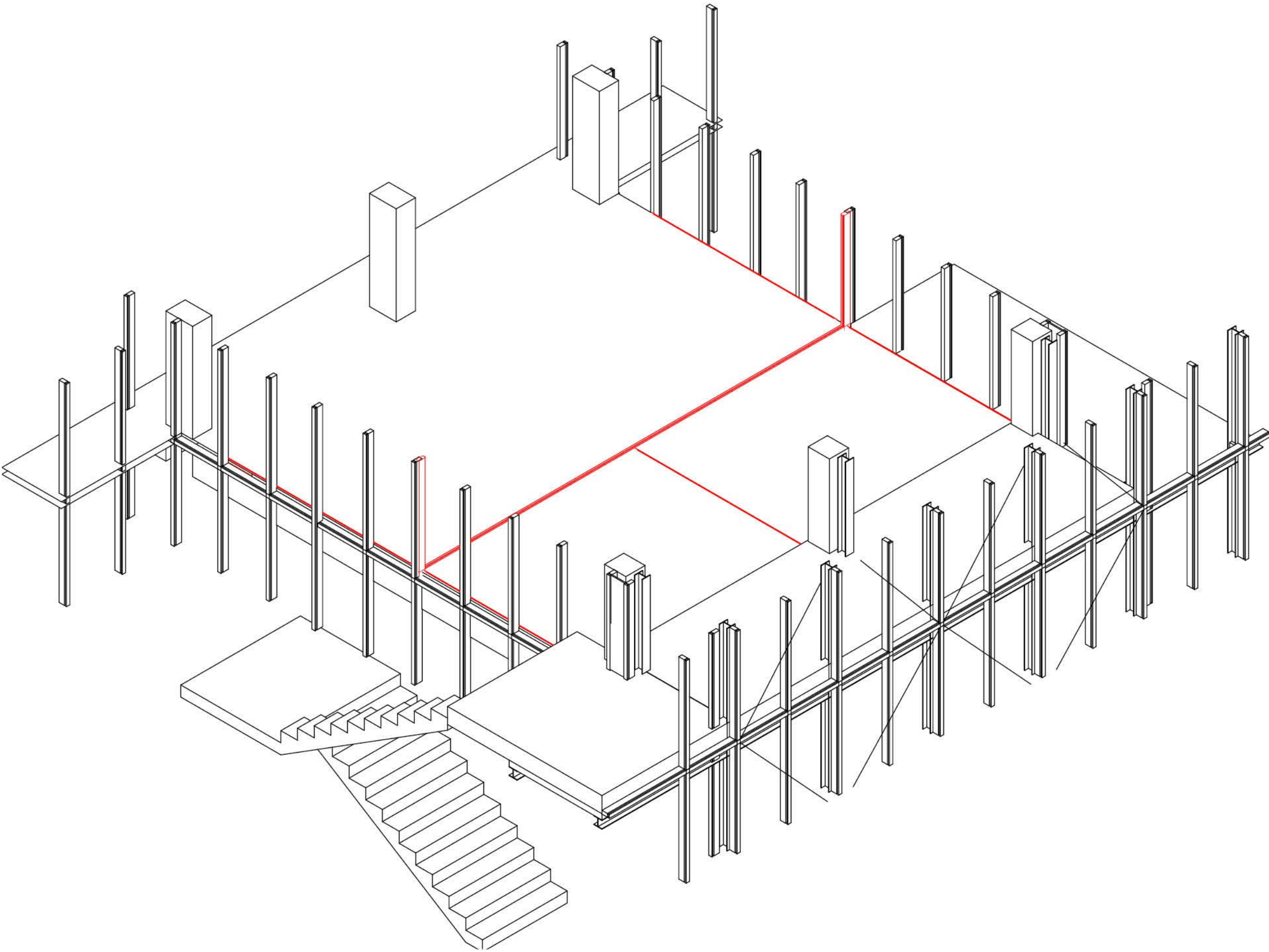


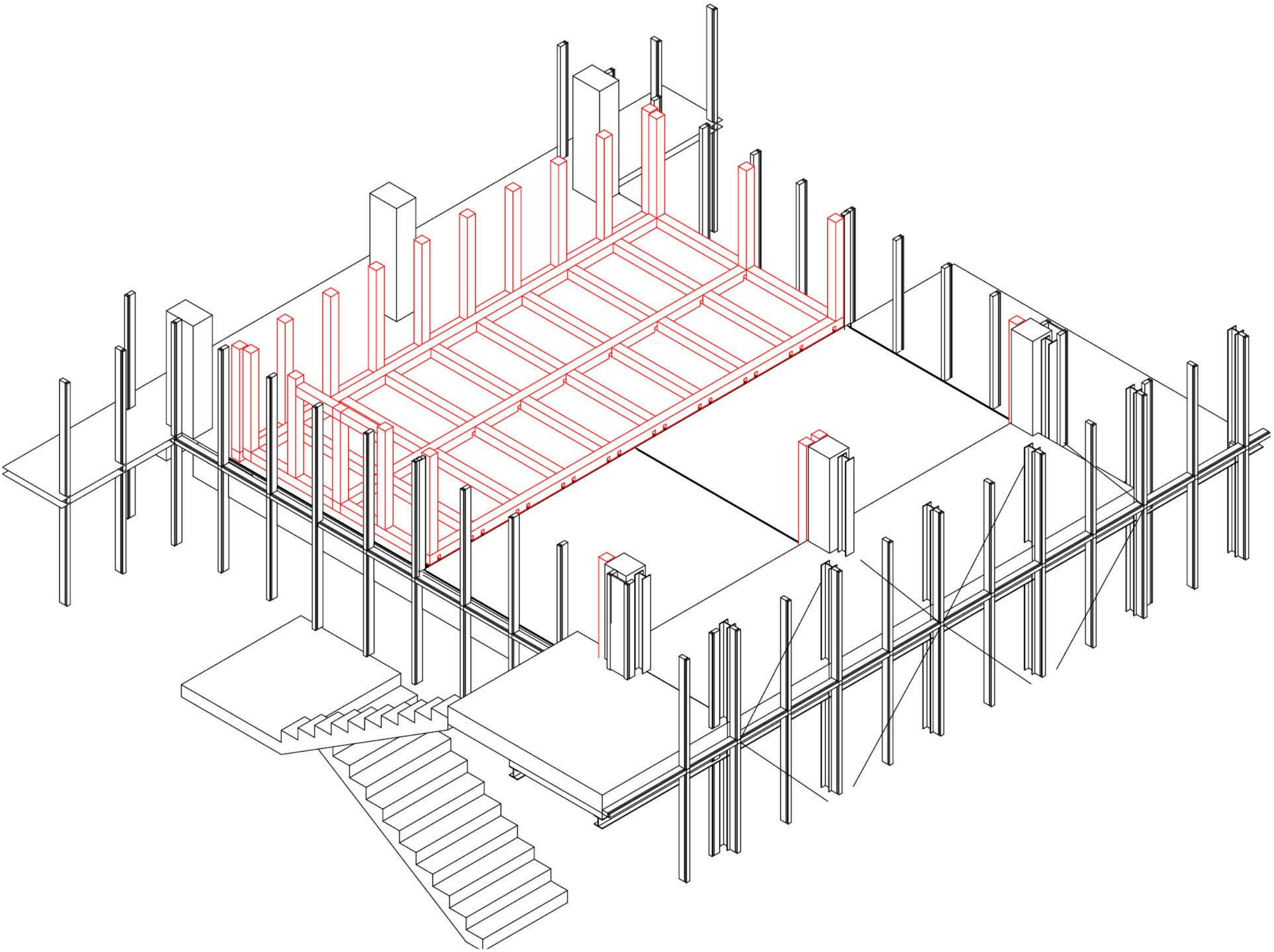
evening school
living

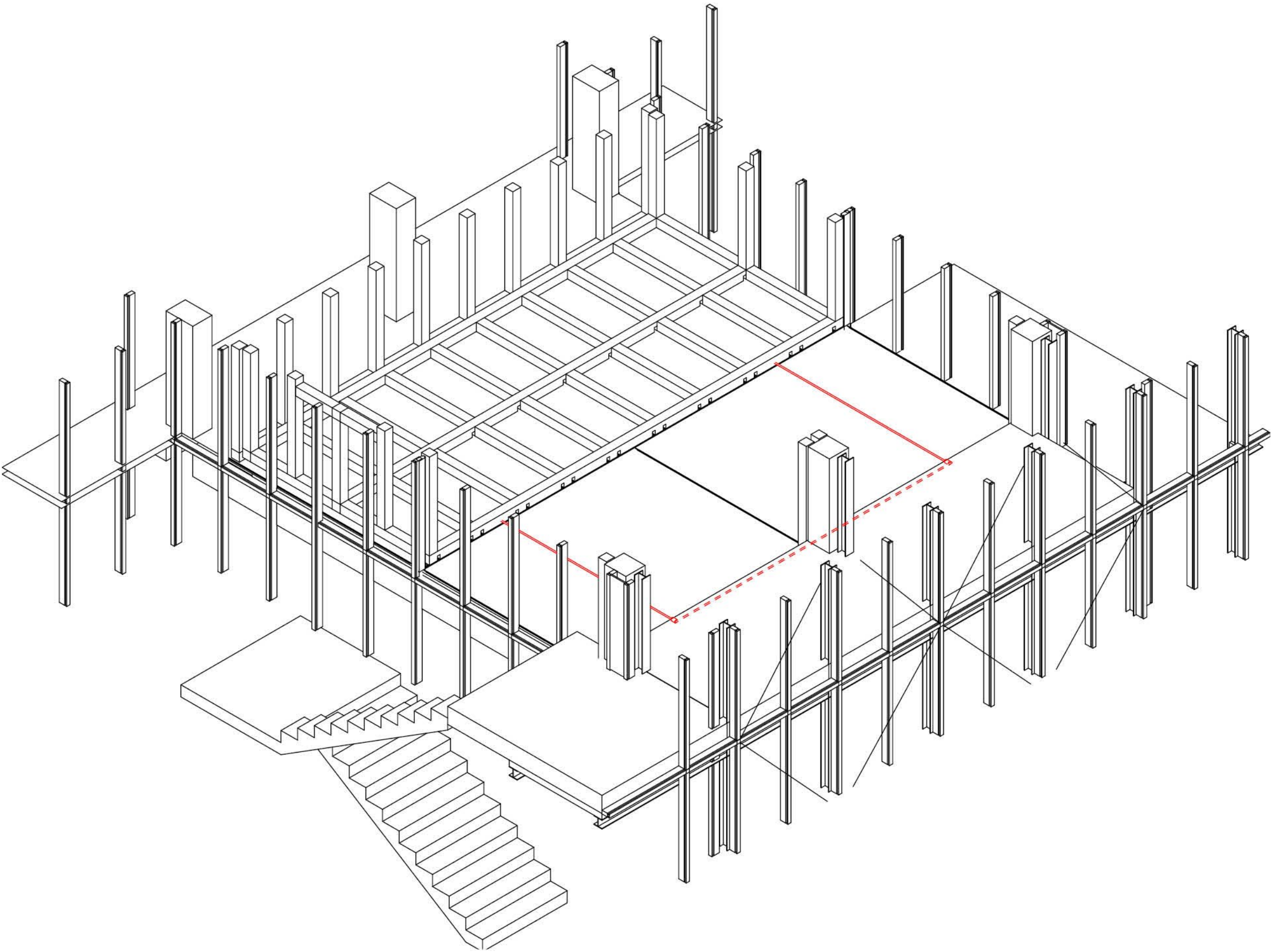


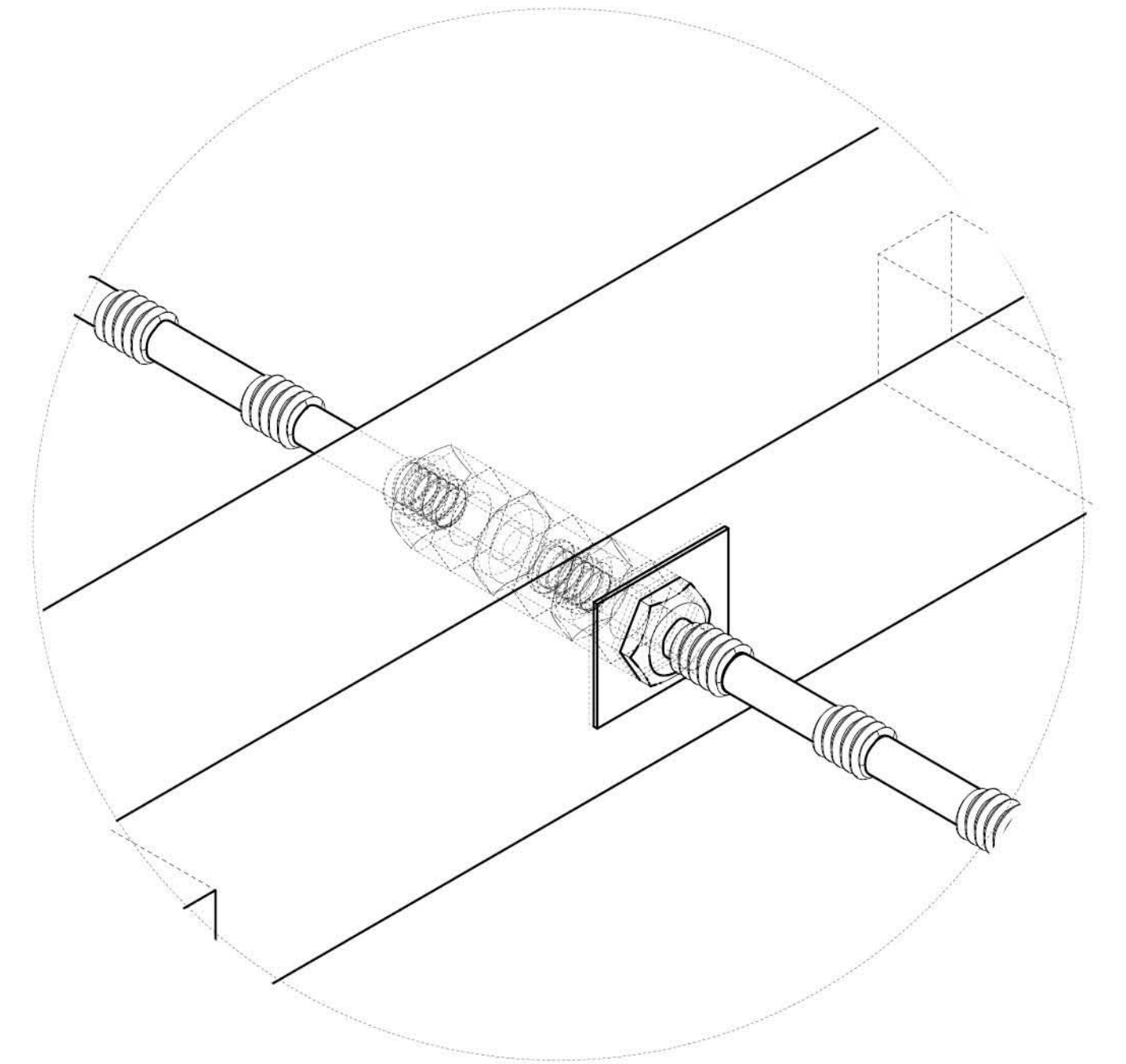
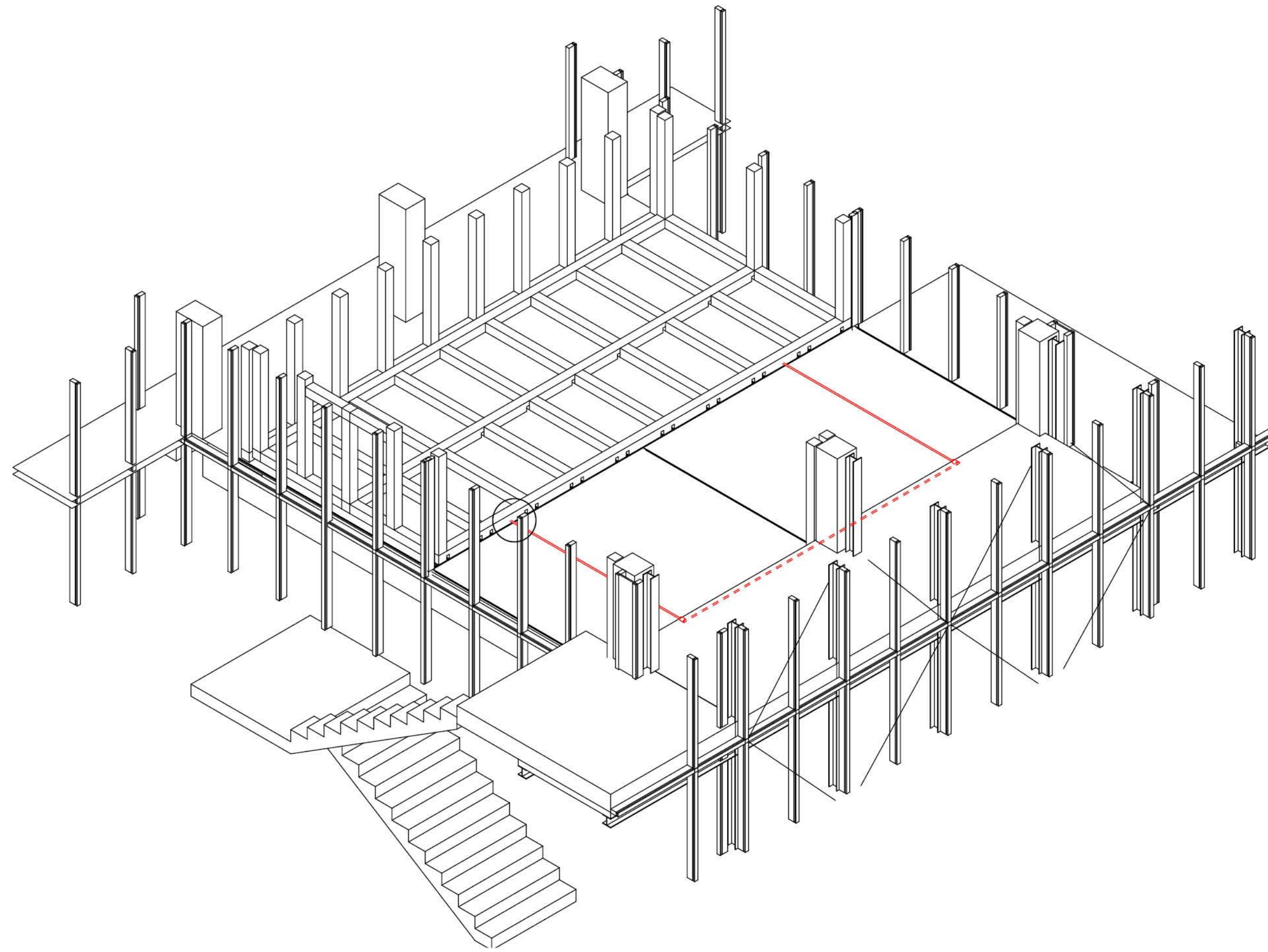


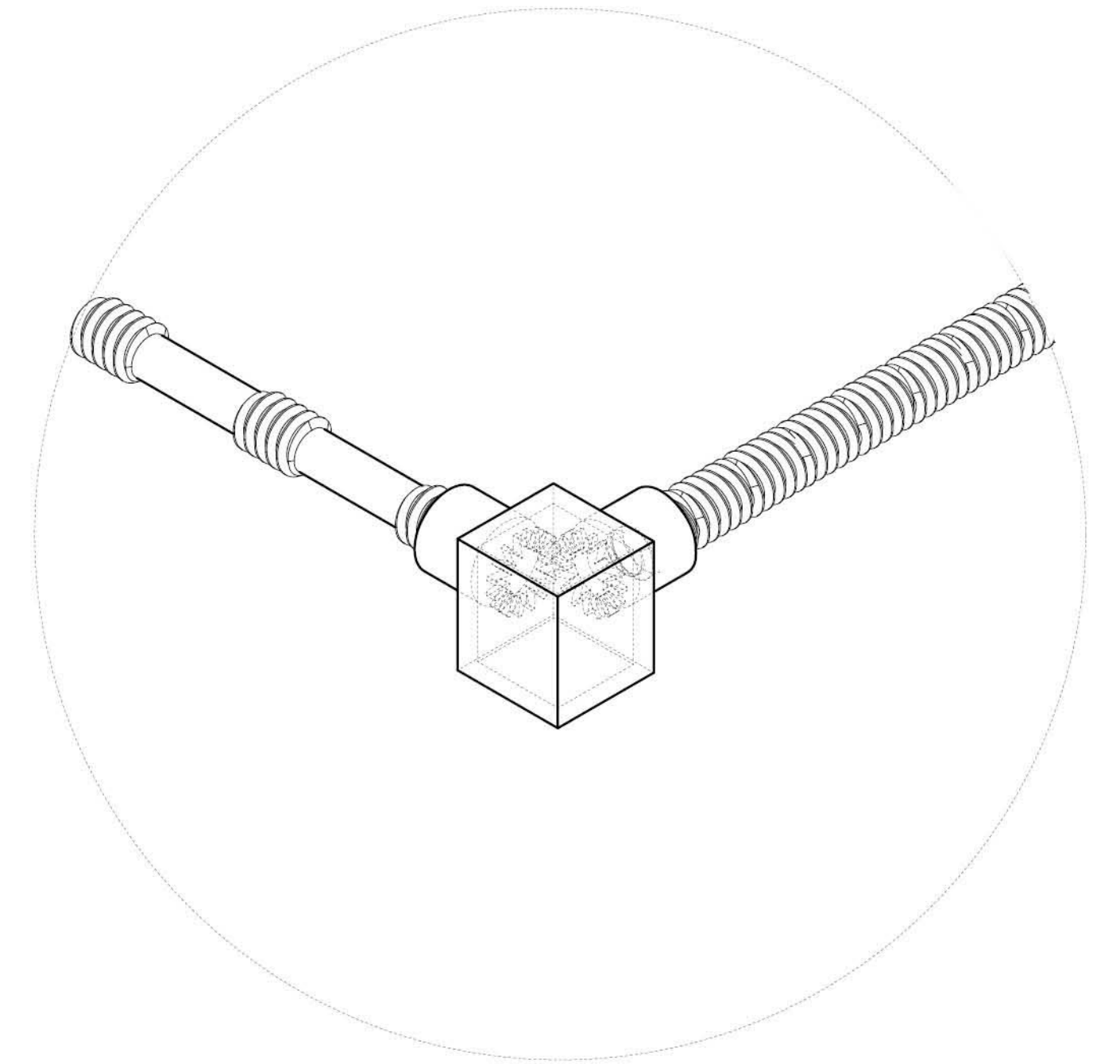
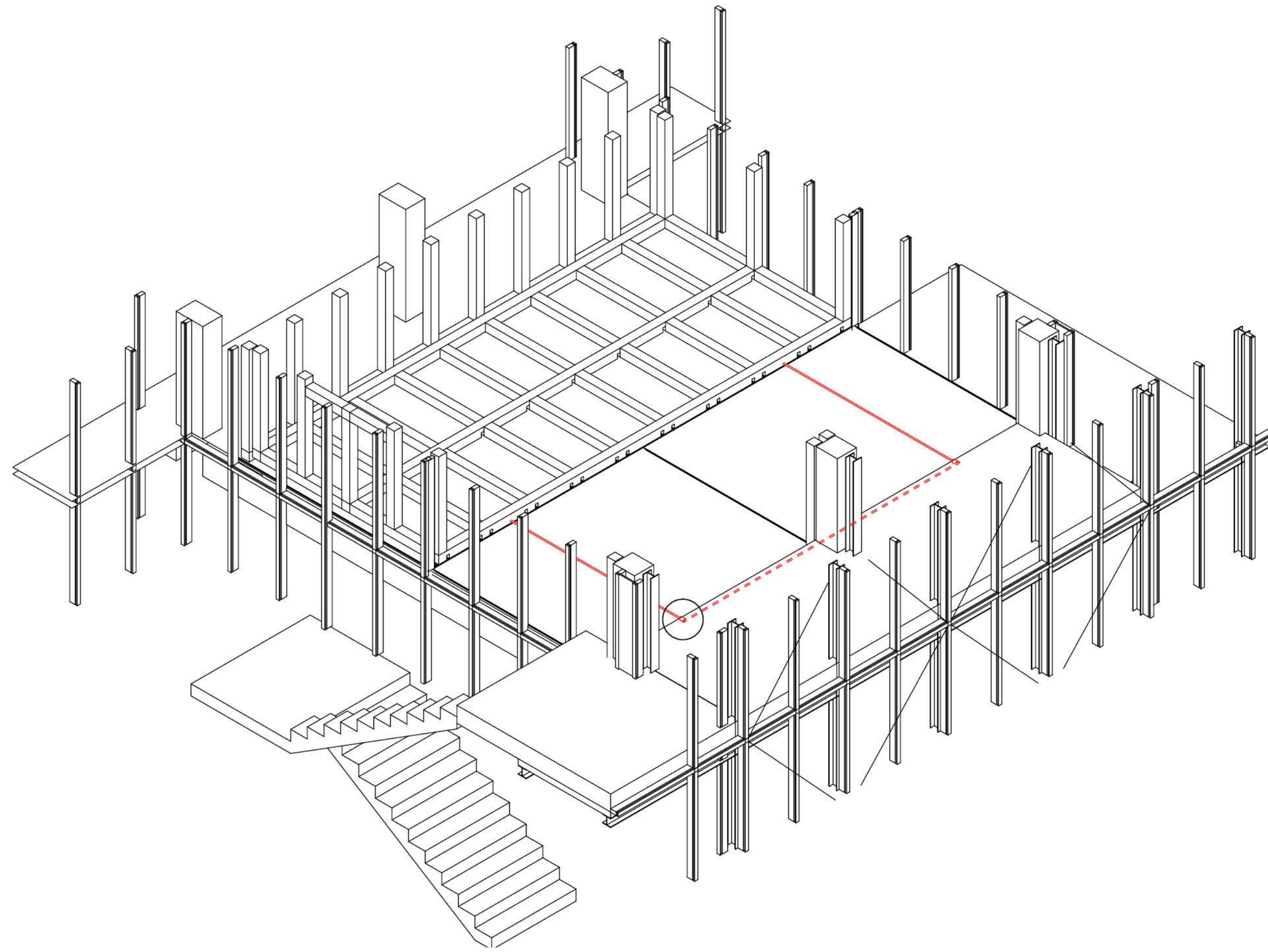


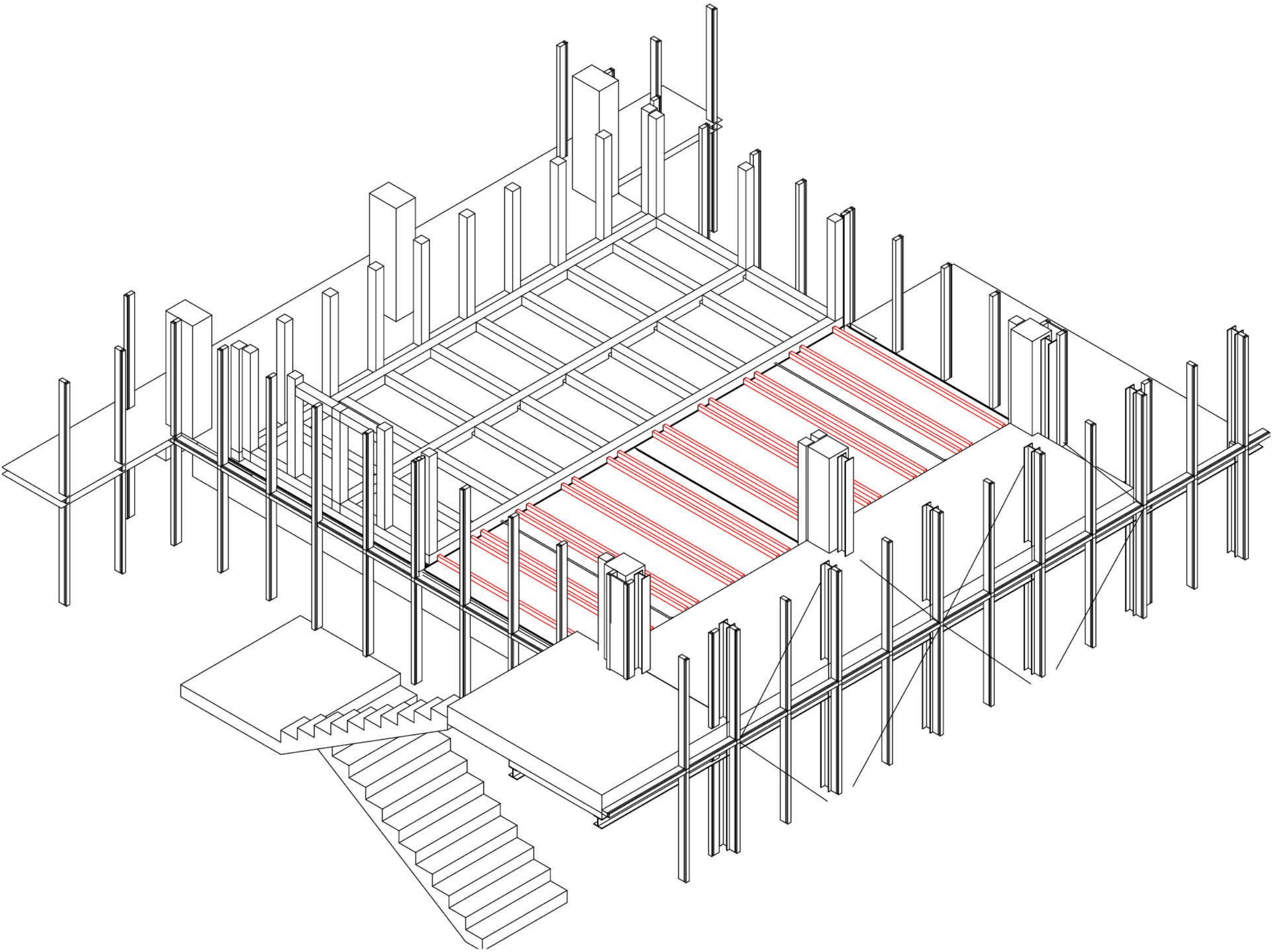


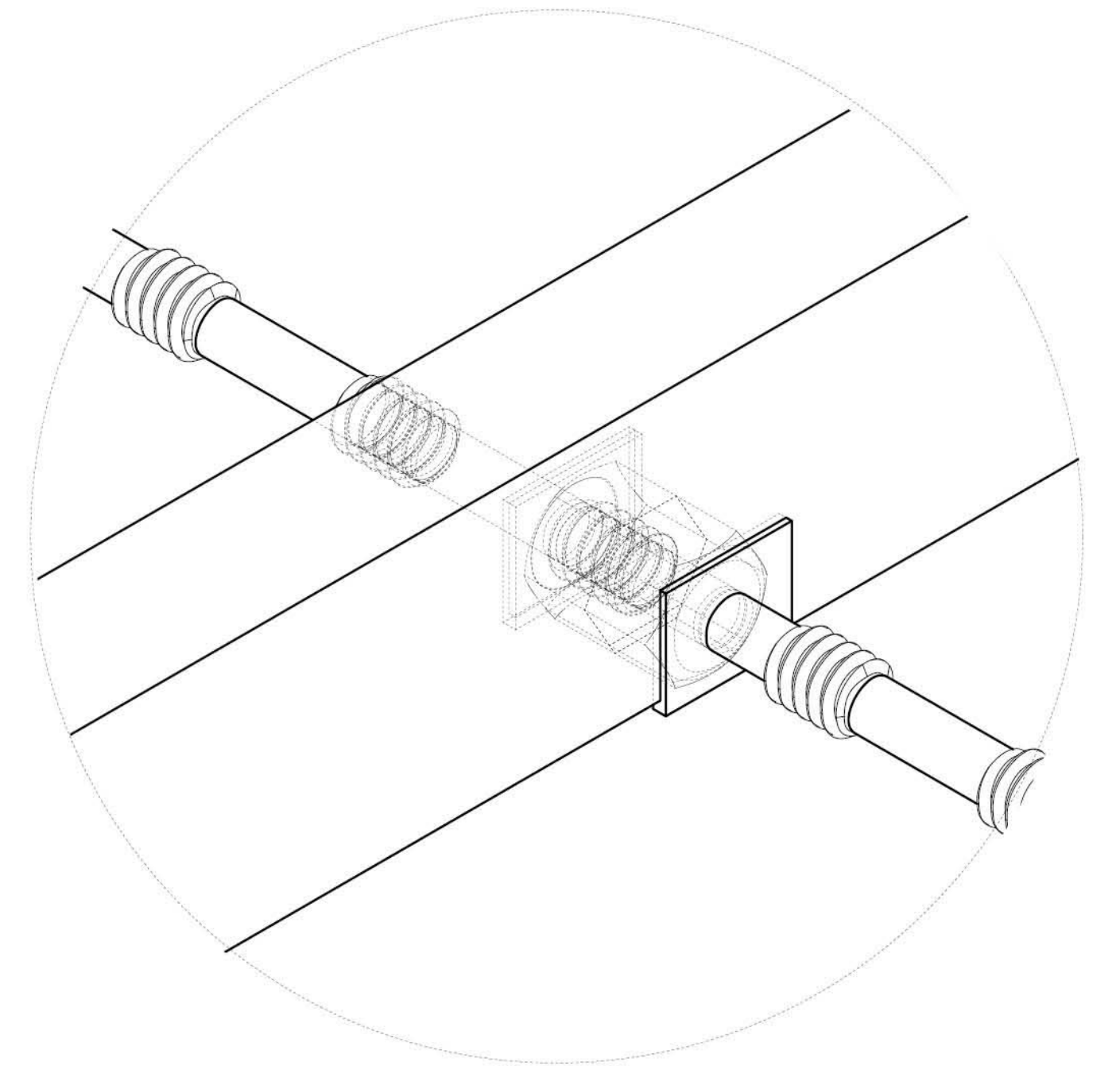
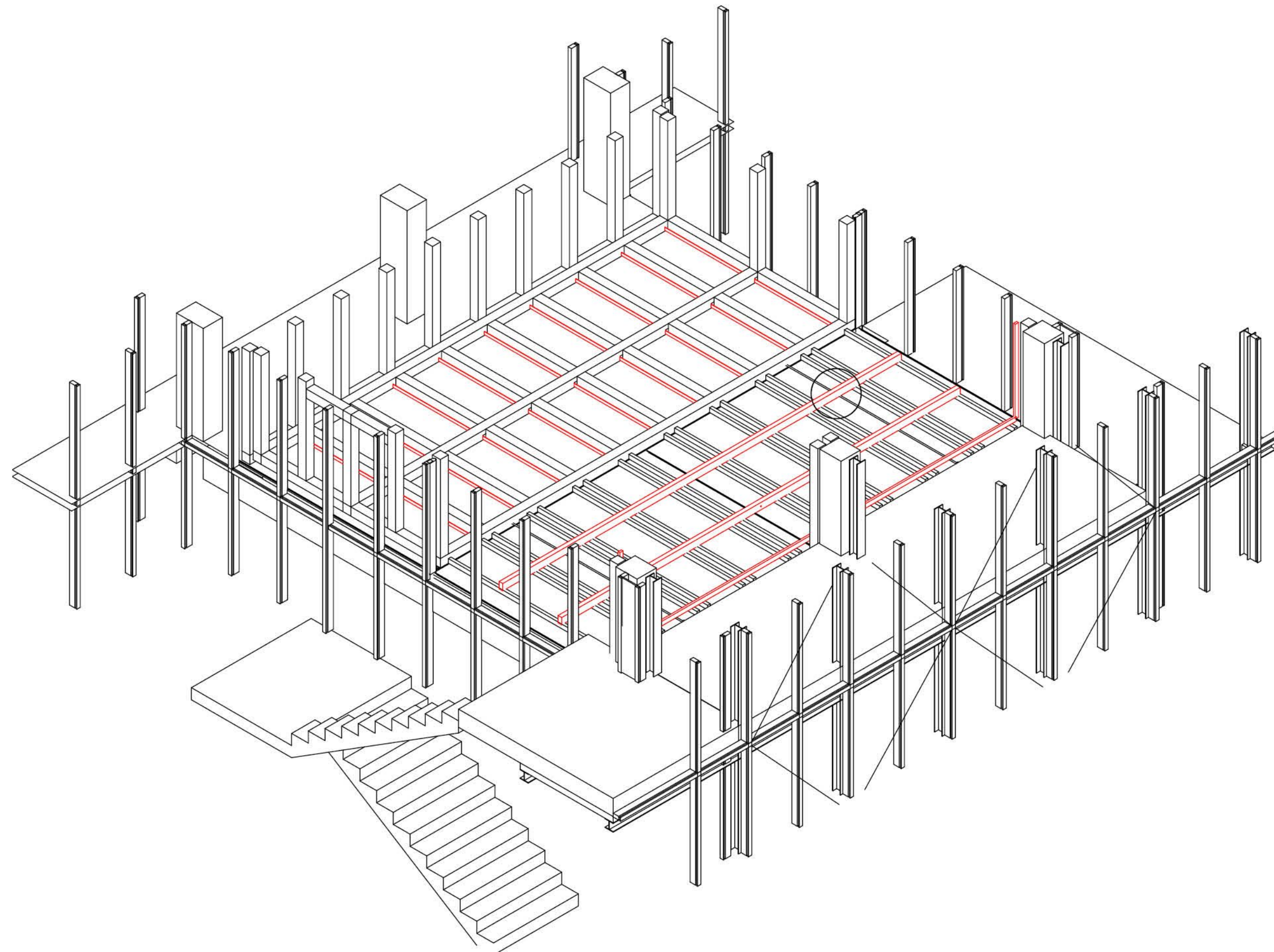


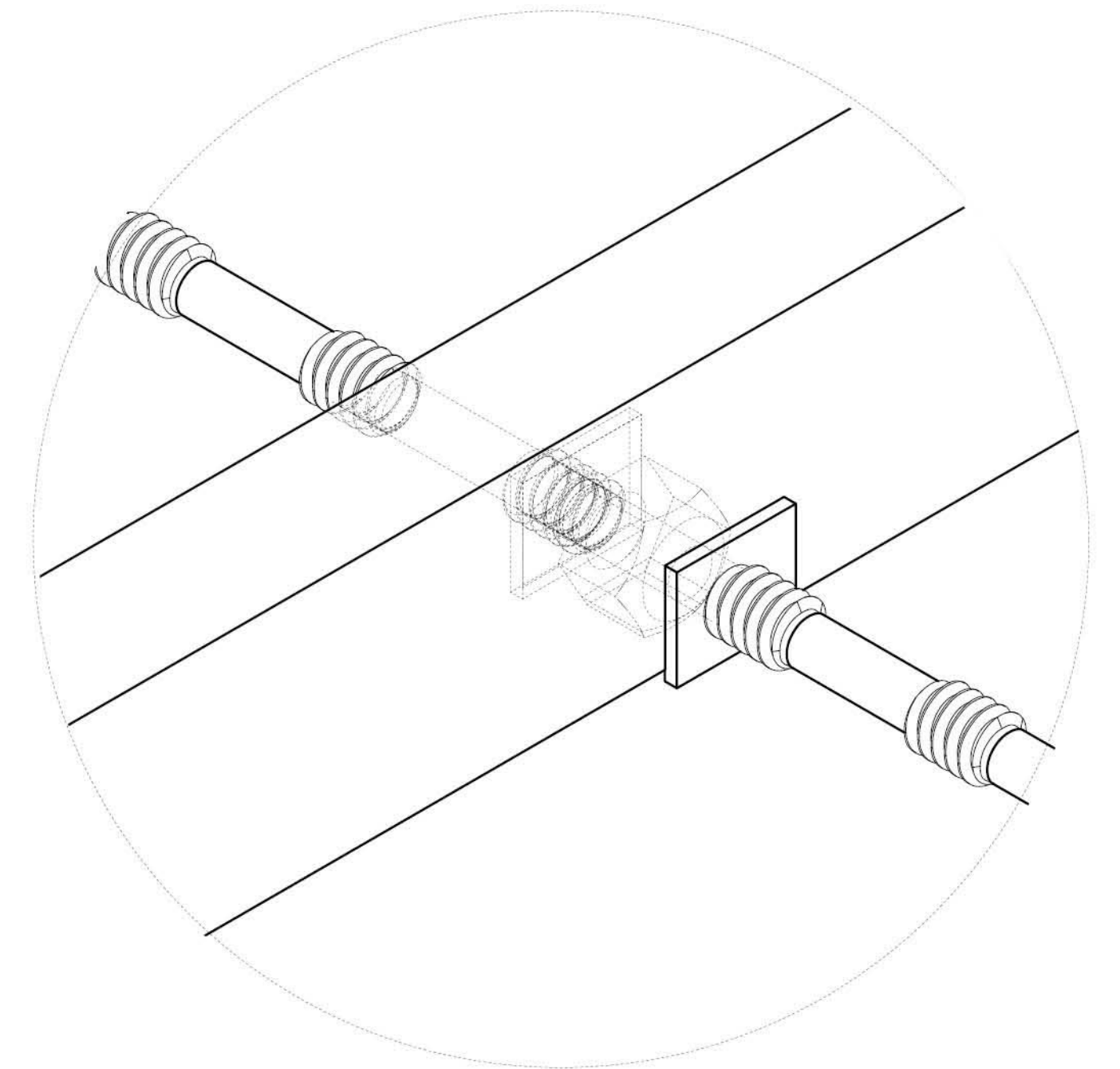
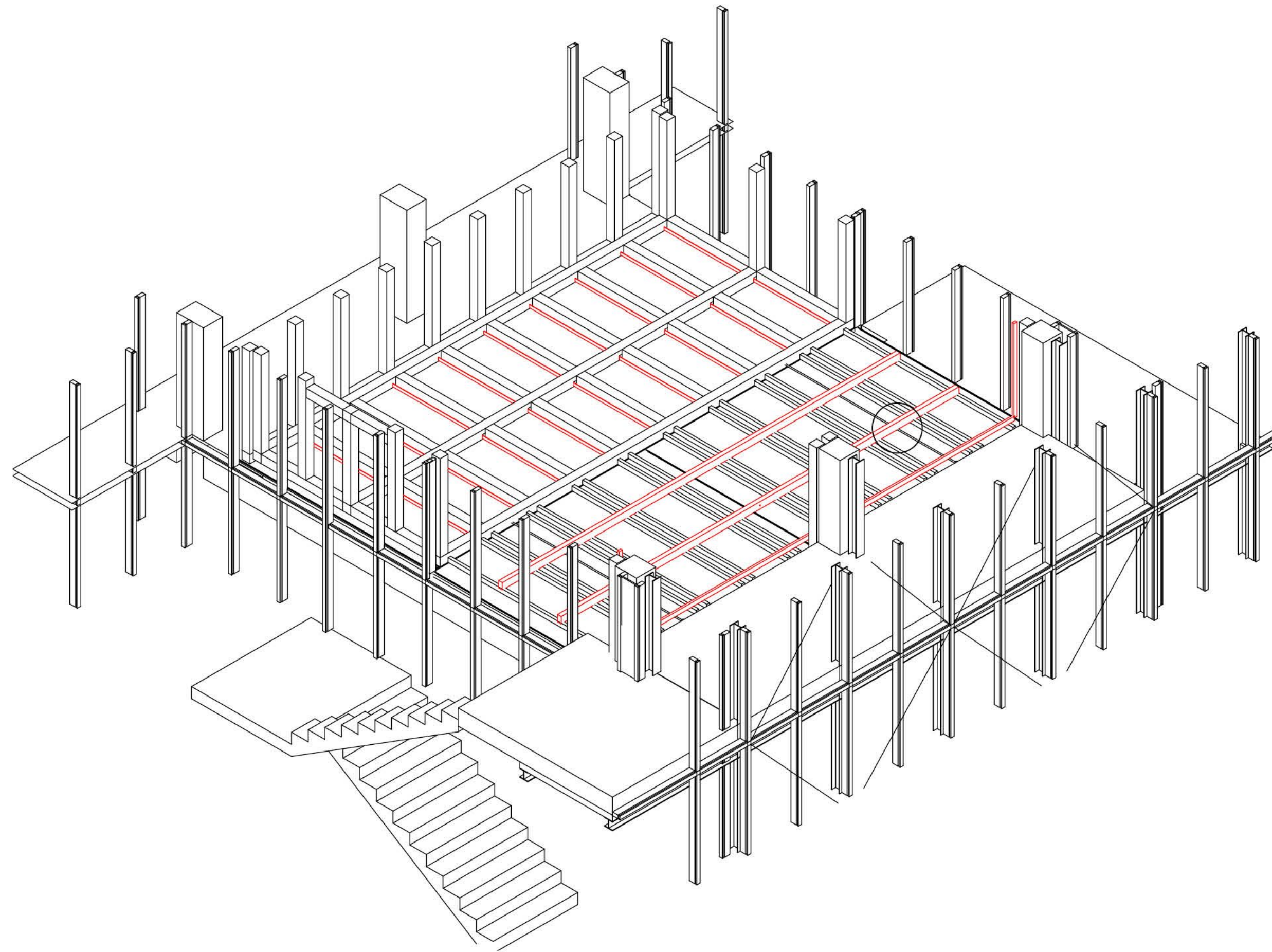


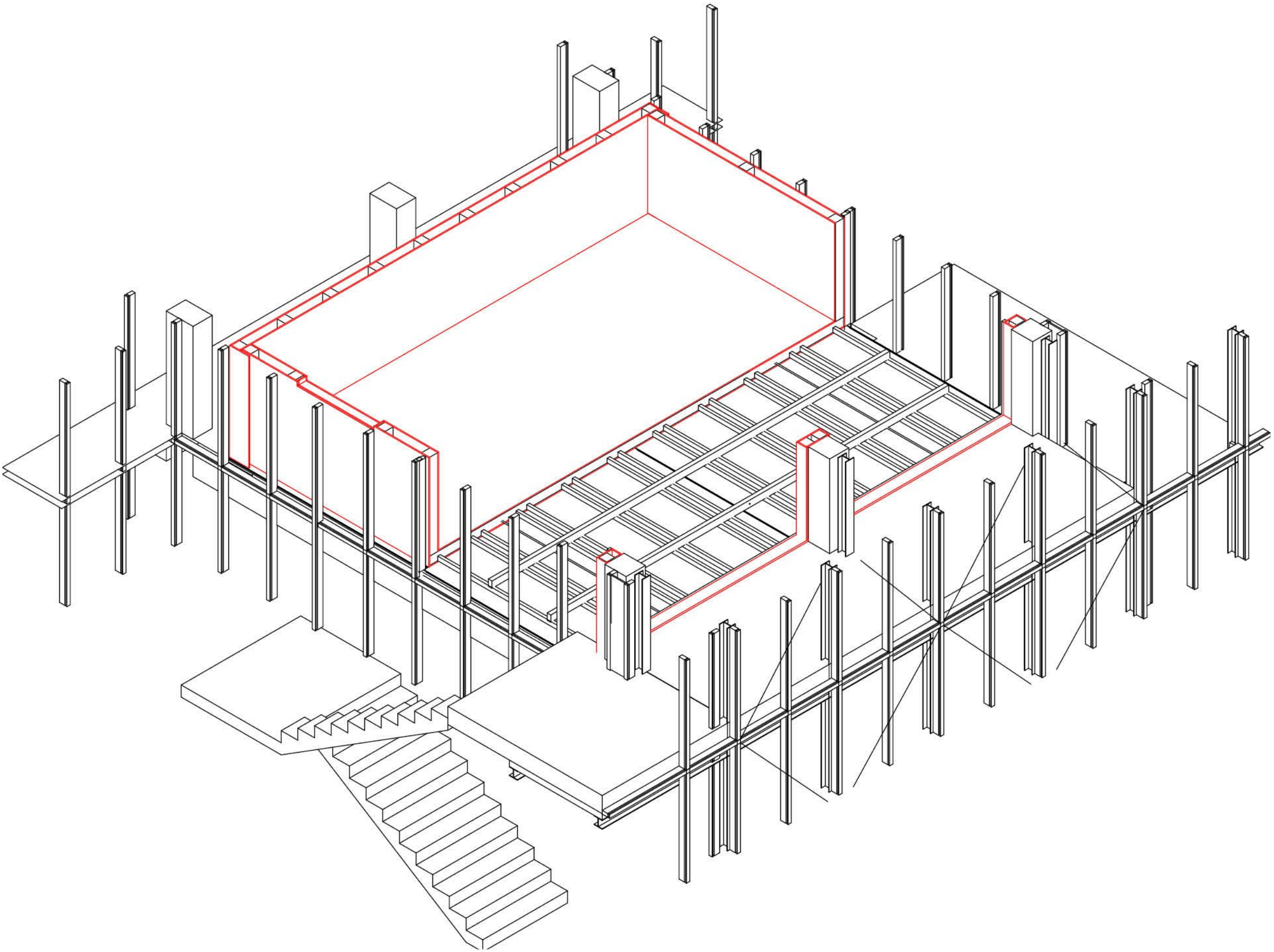


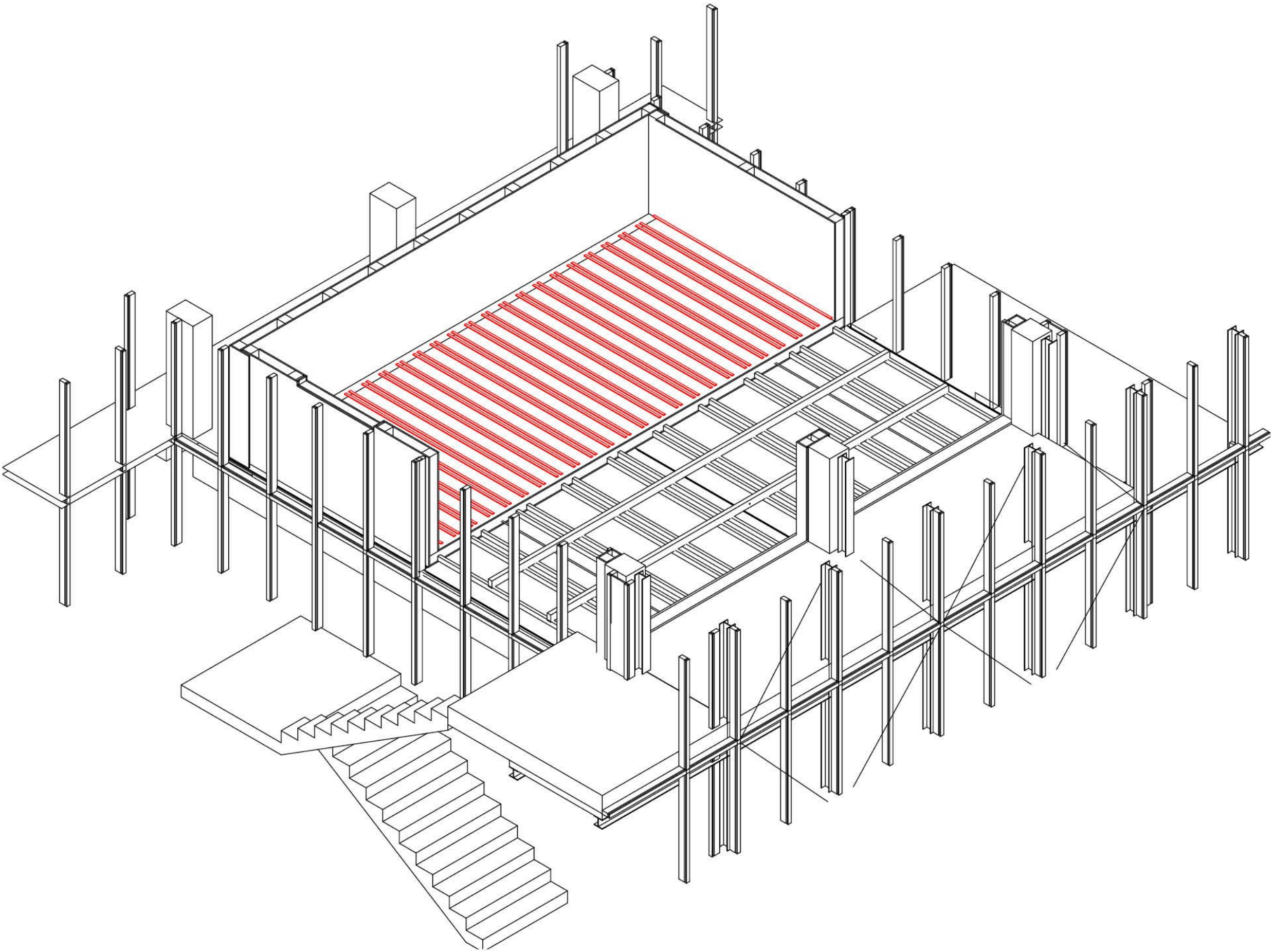


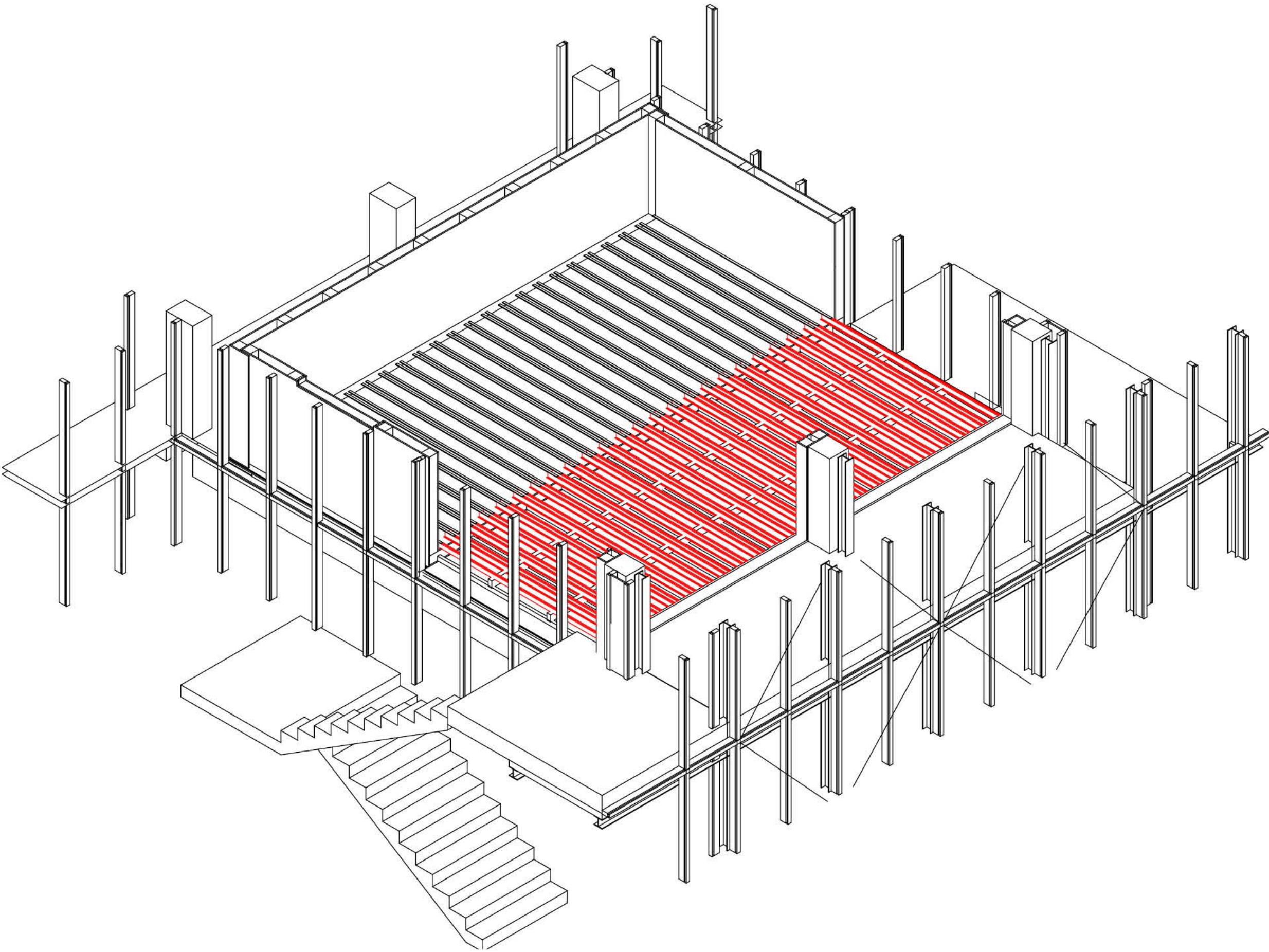


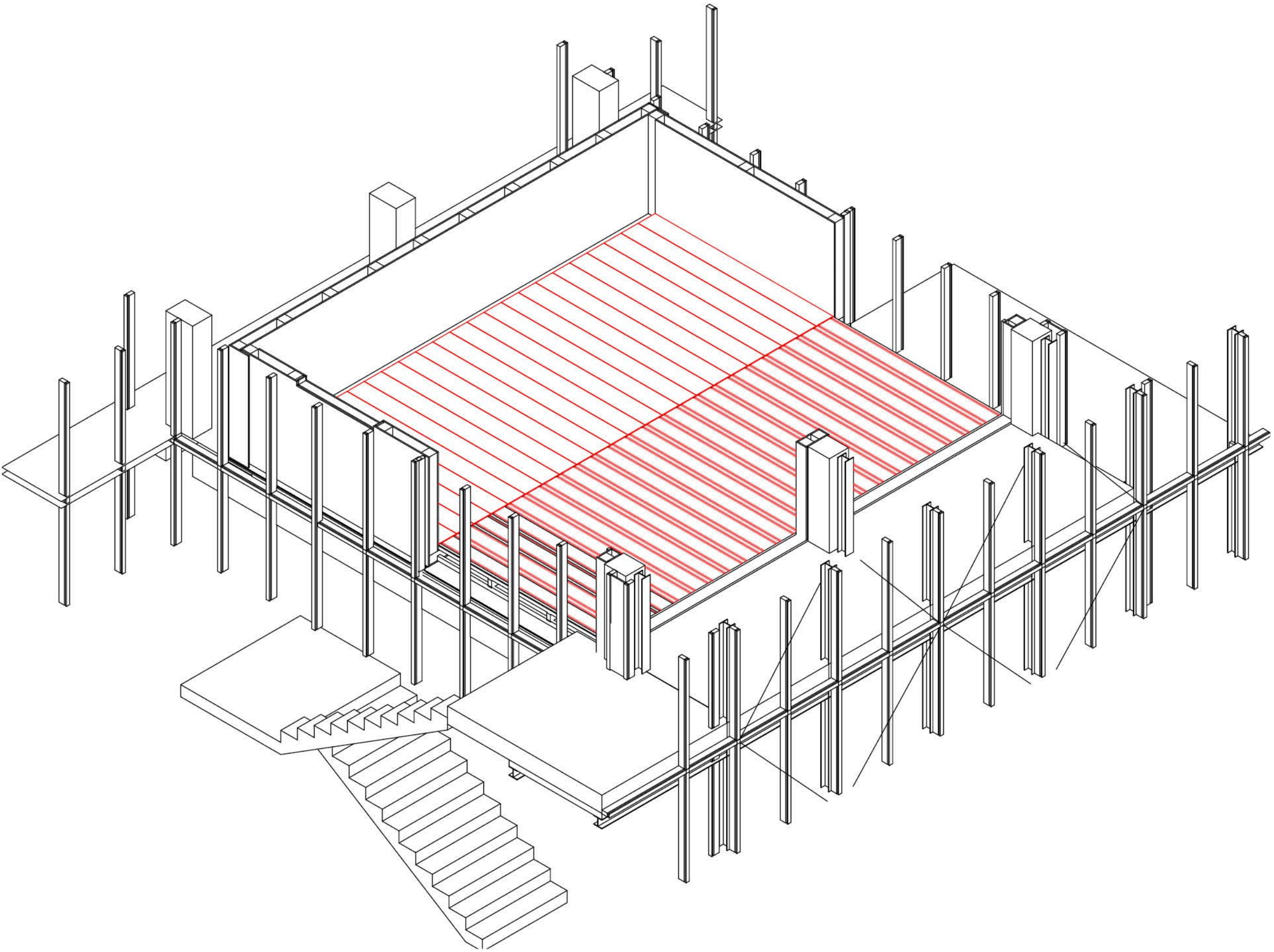


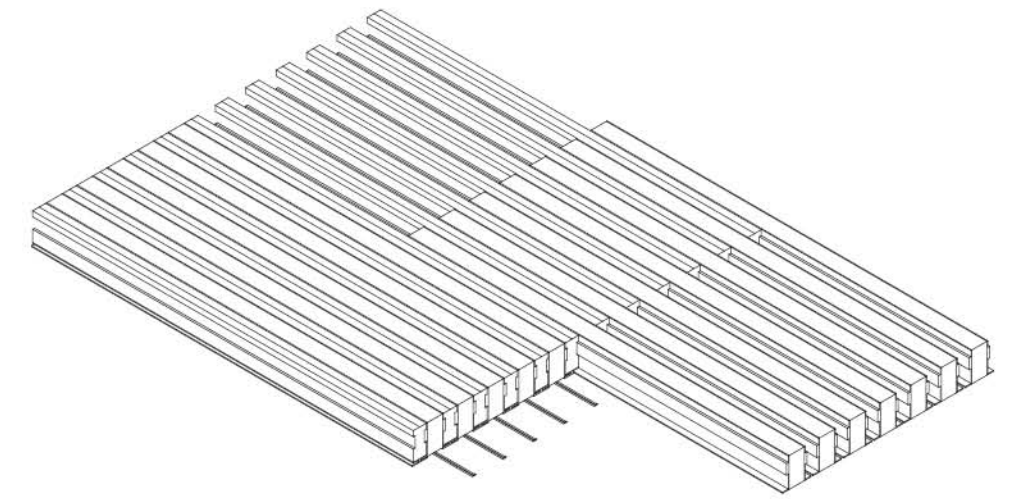
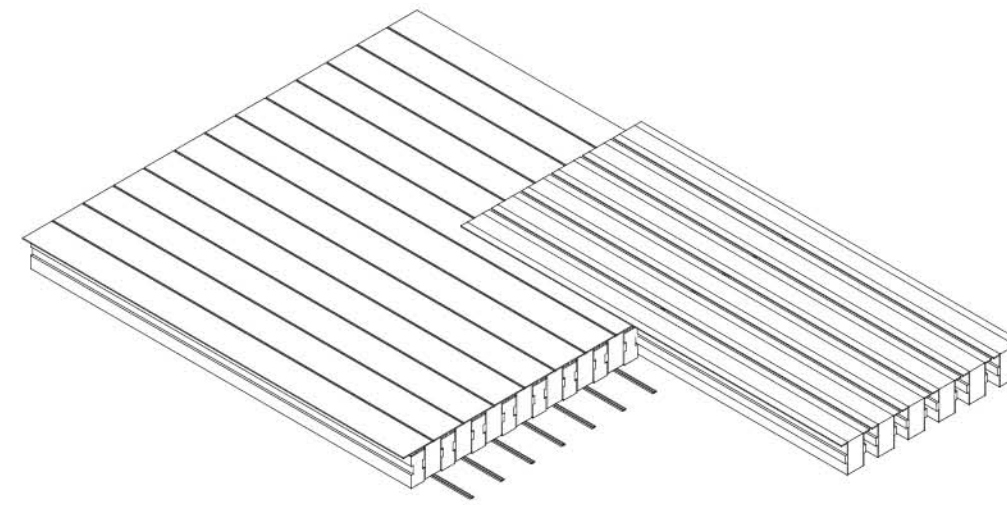
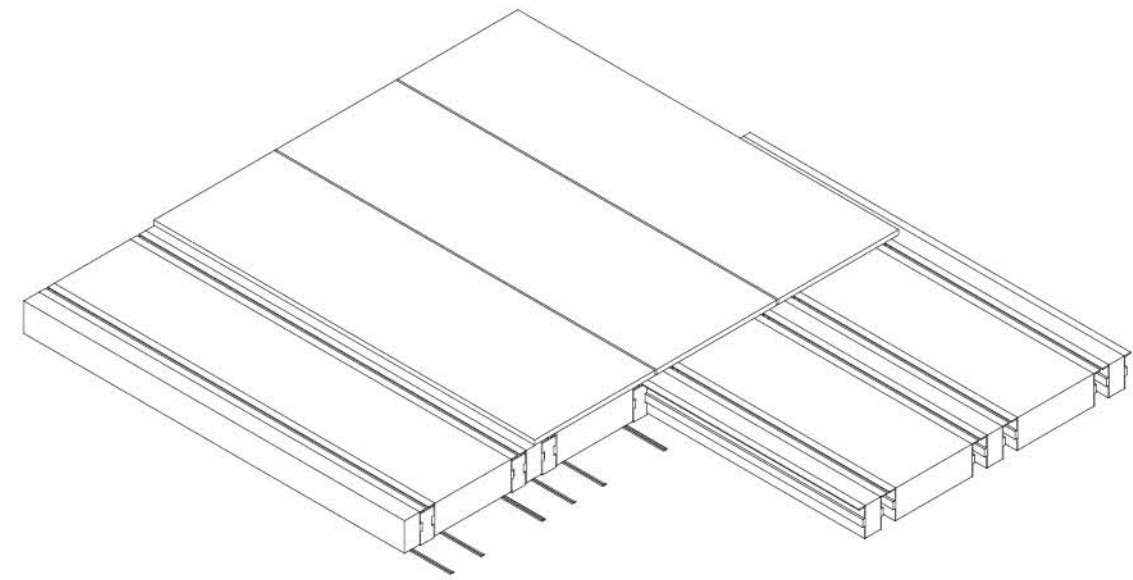


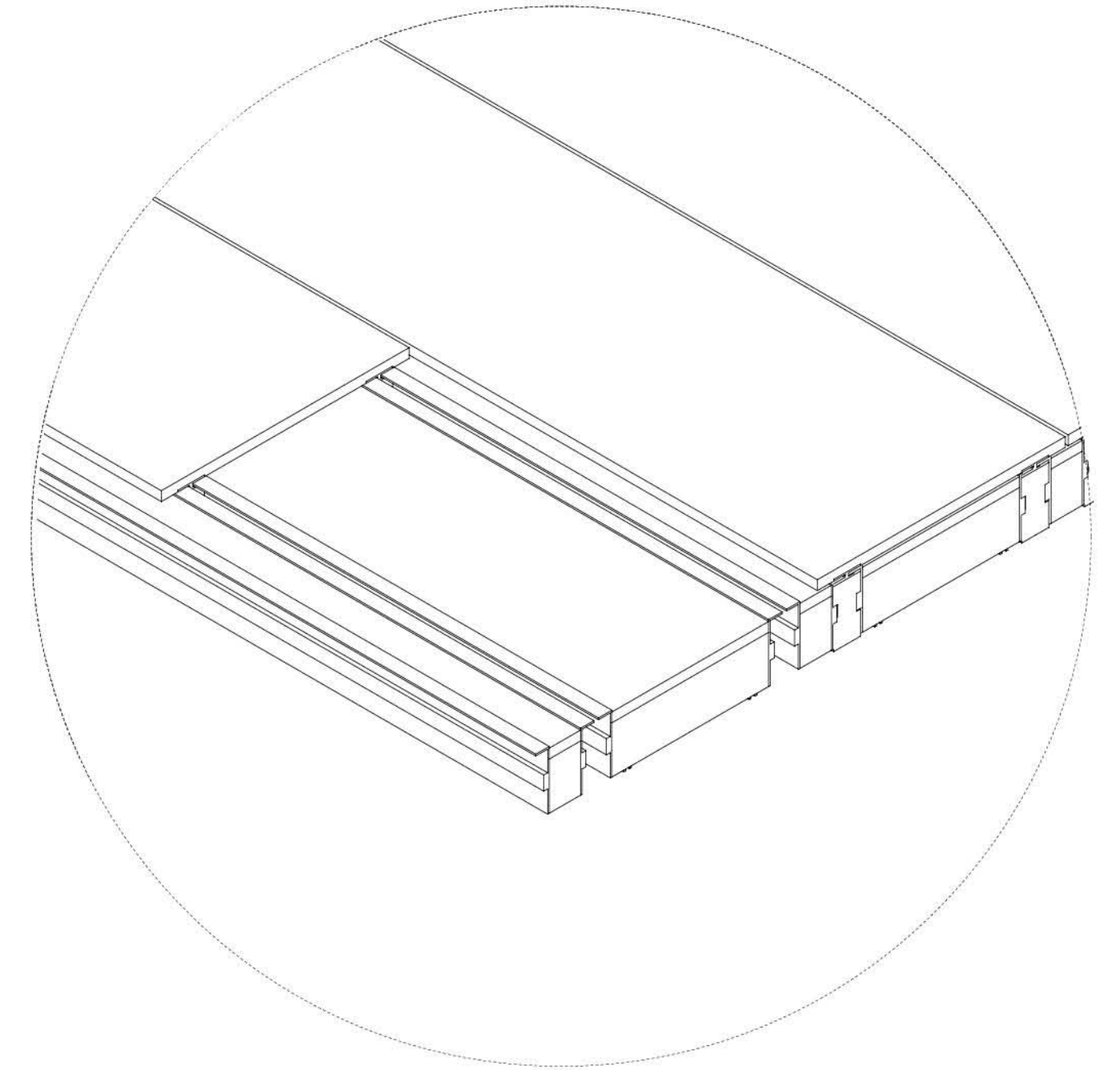
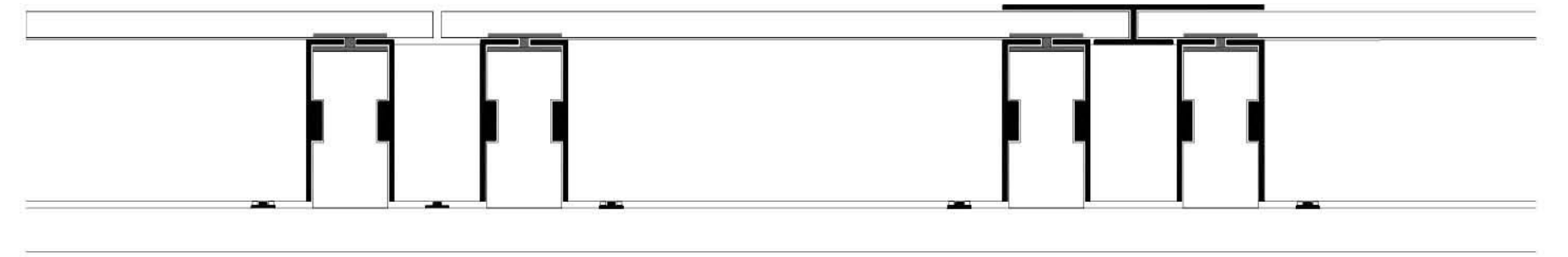
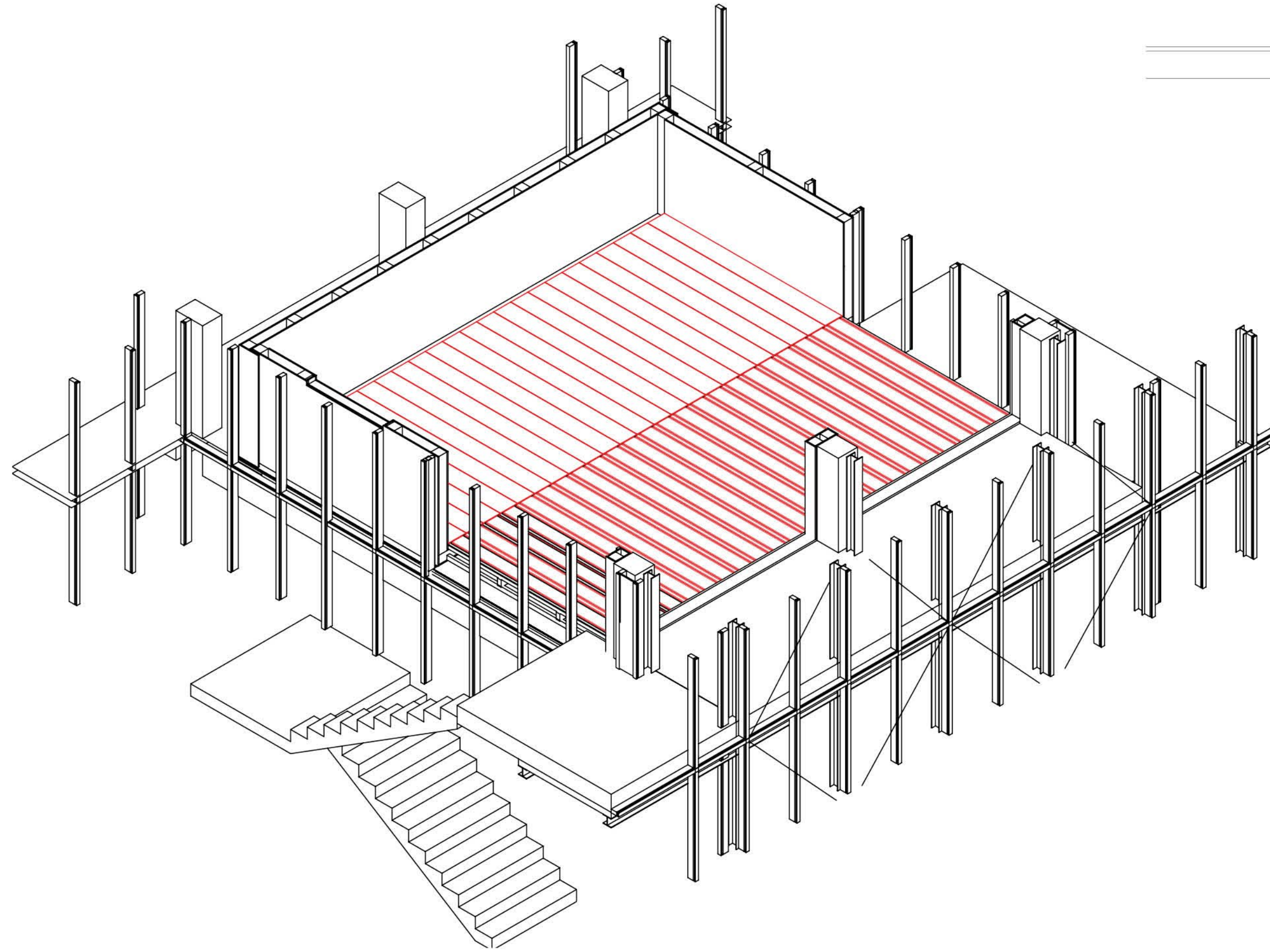


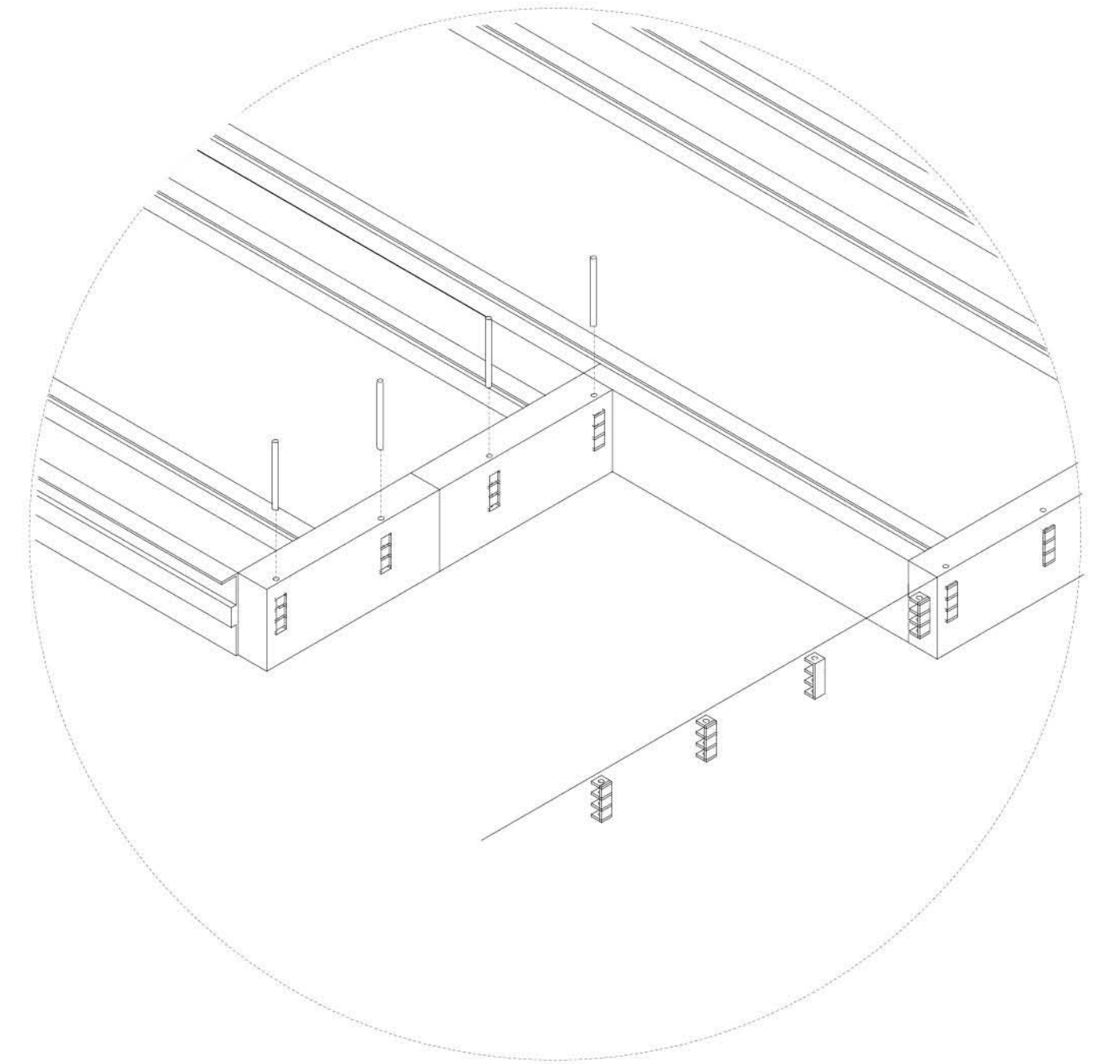
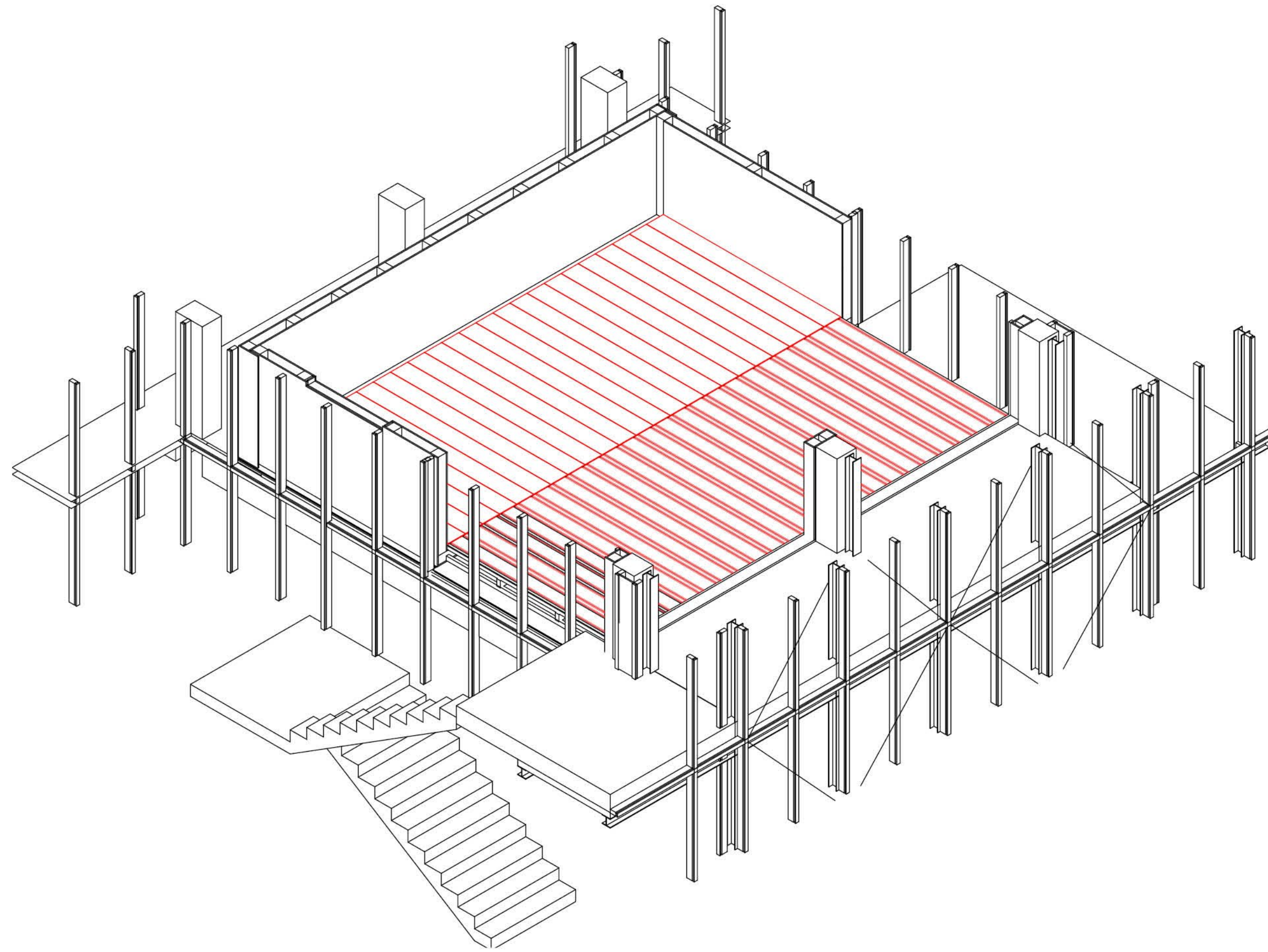


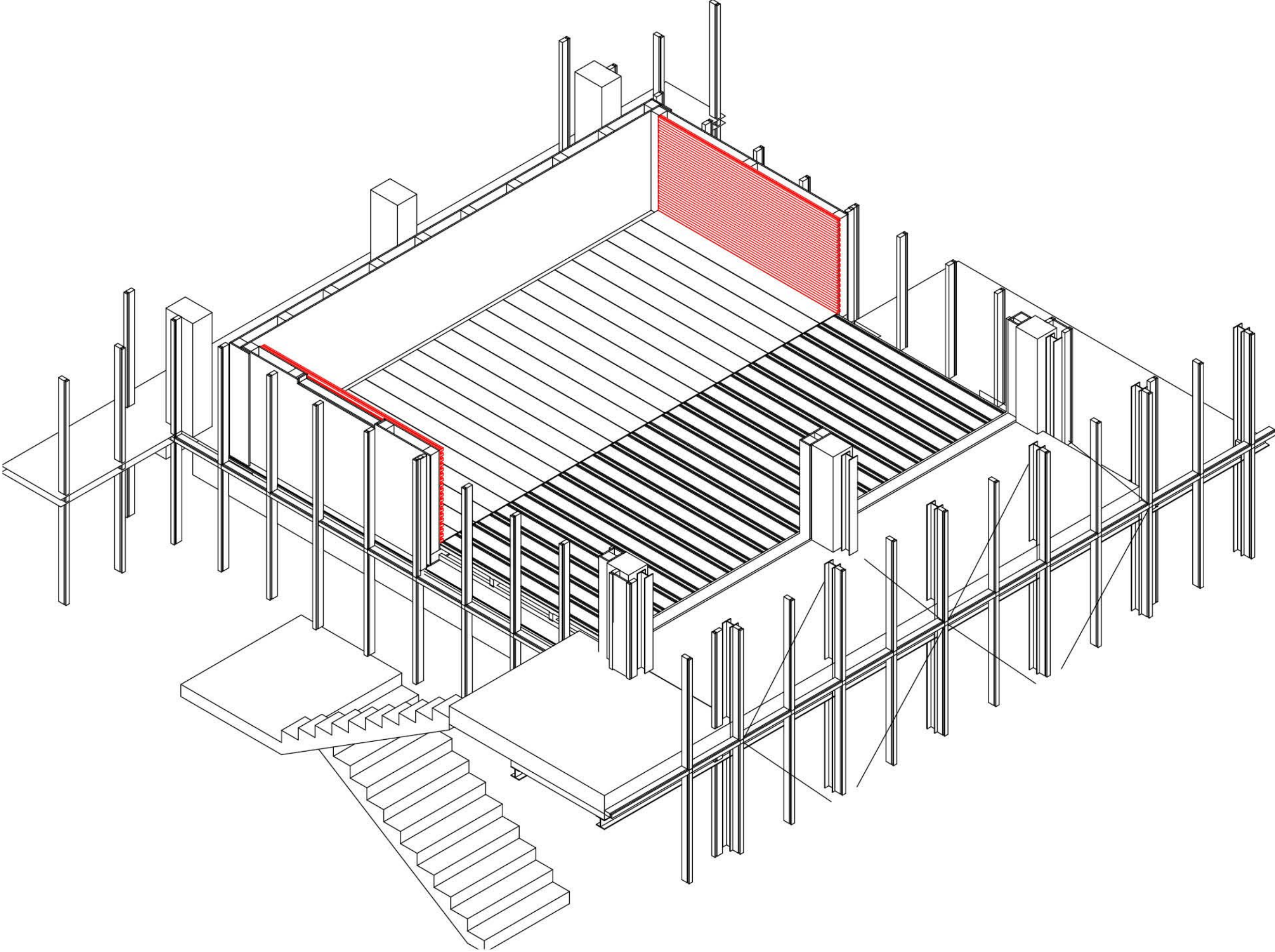


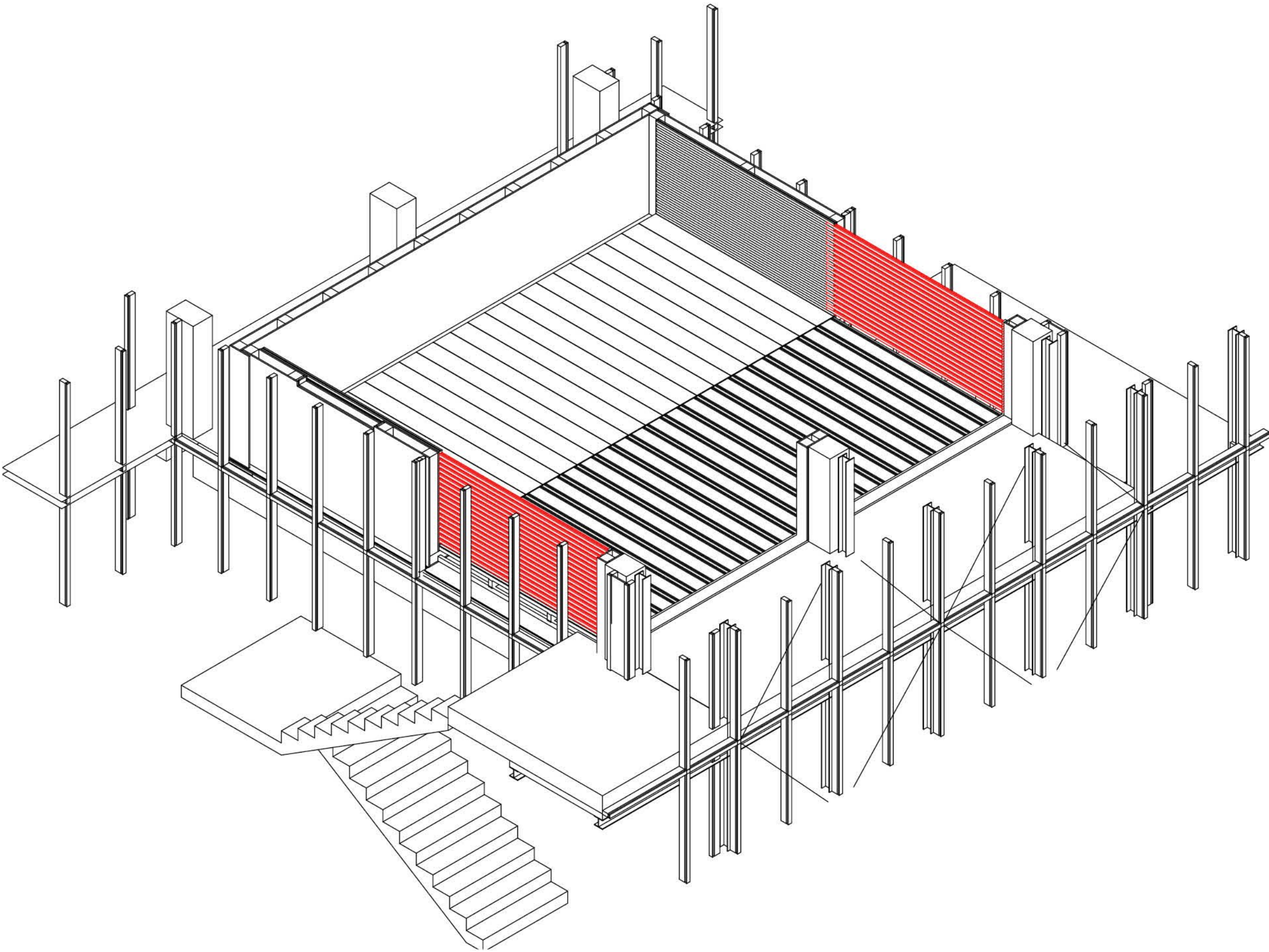


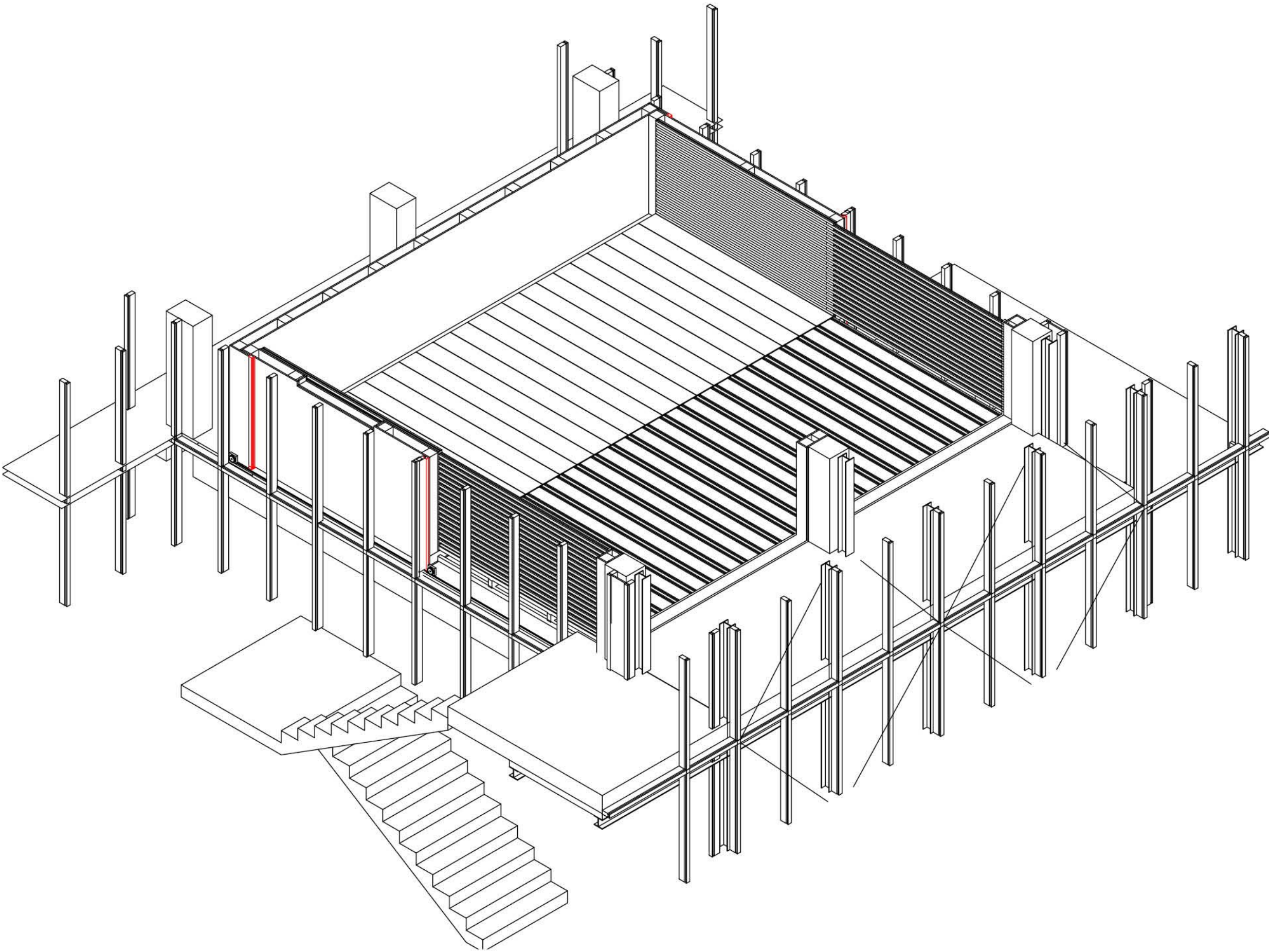


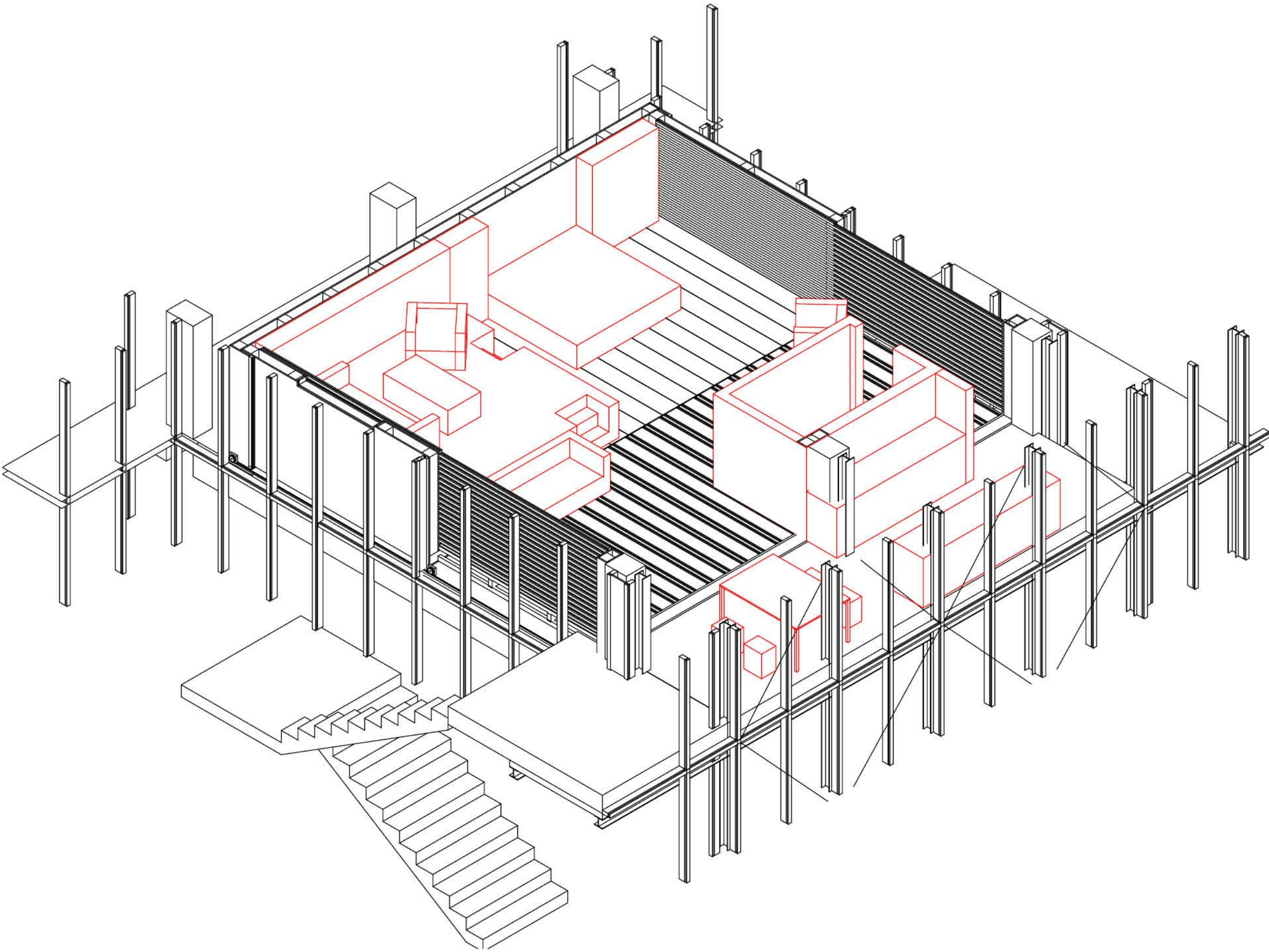


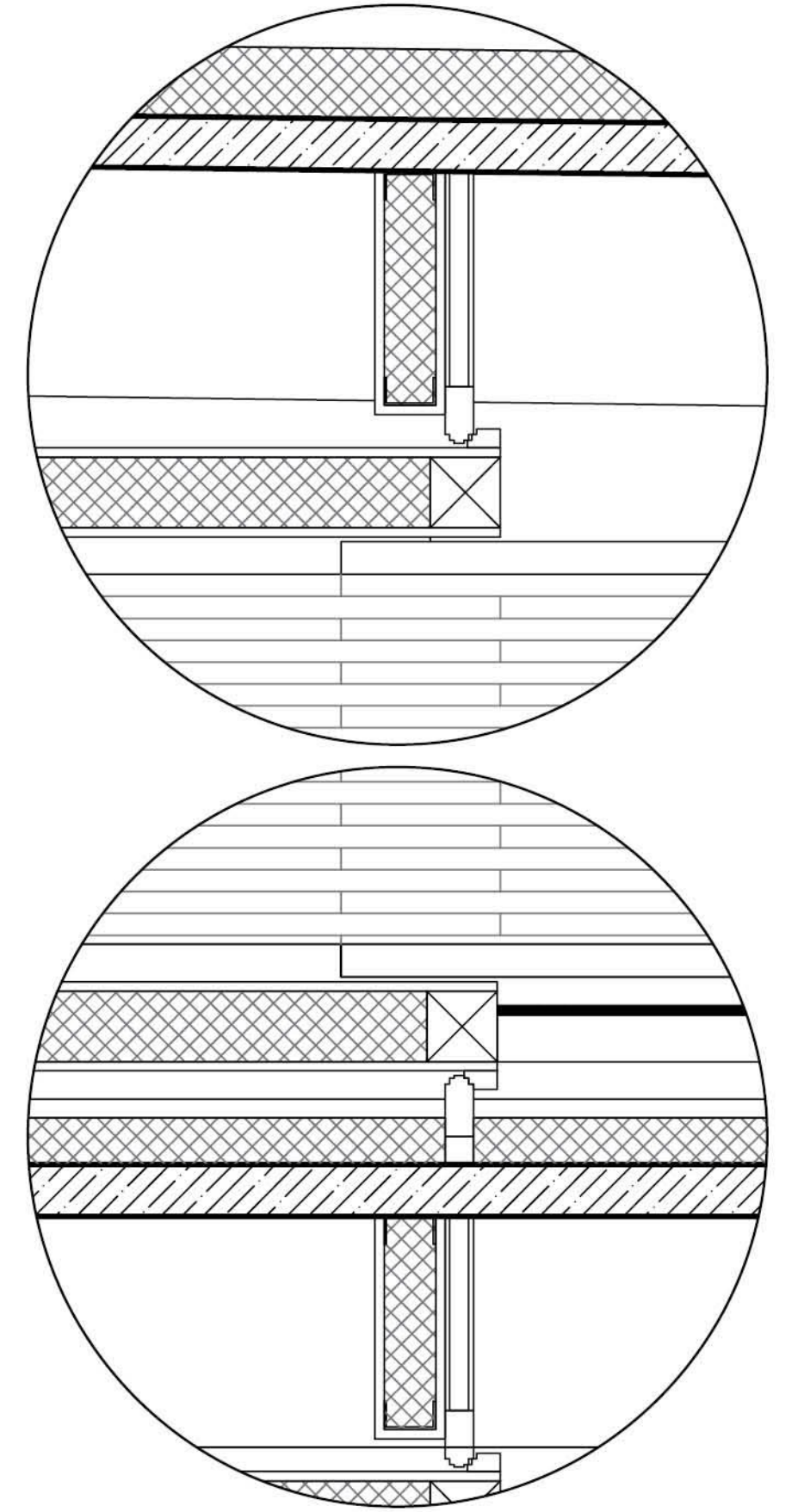
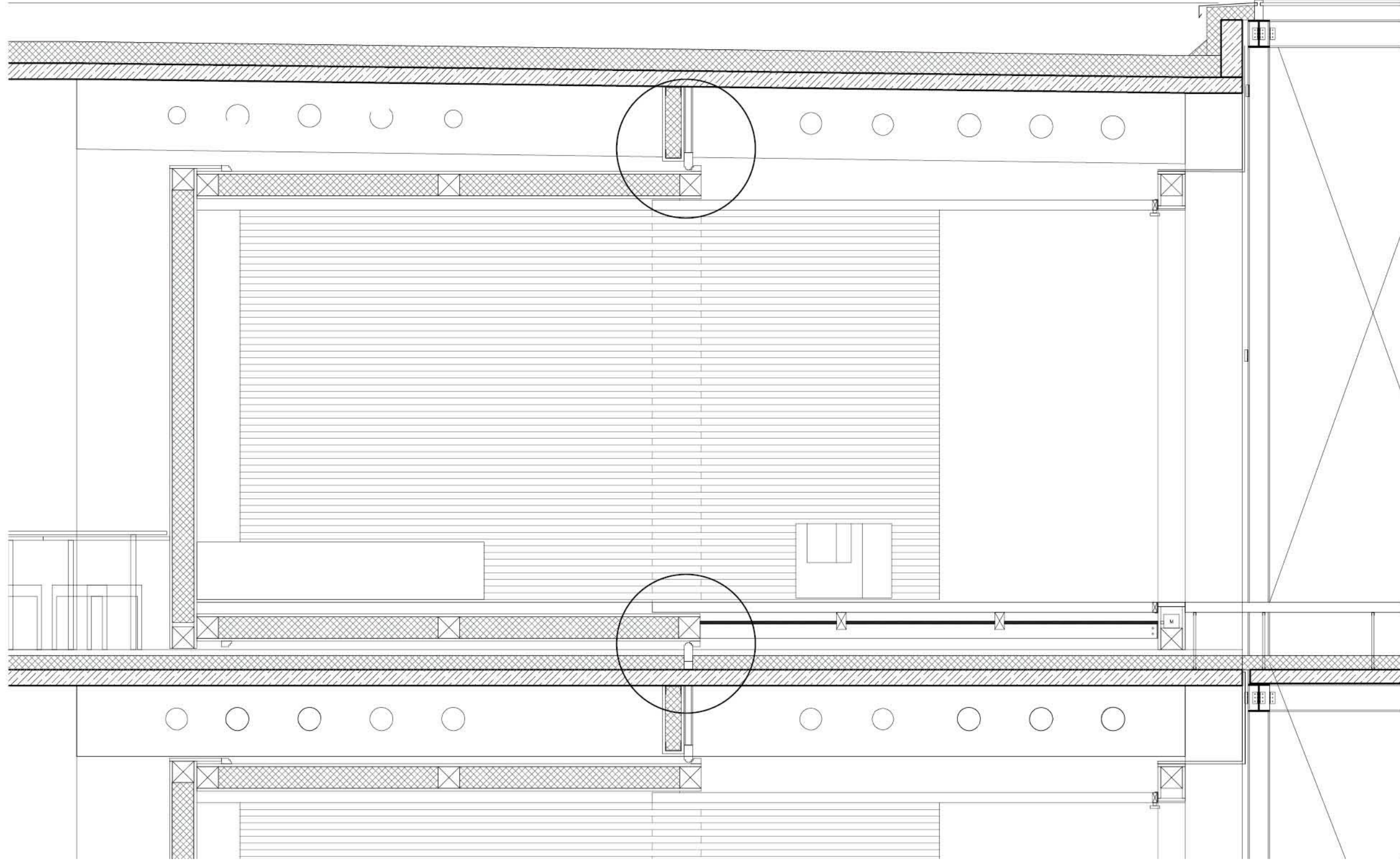


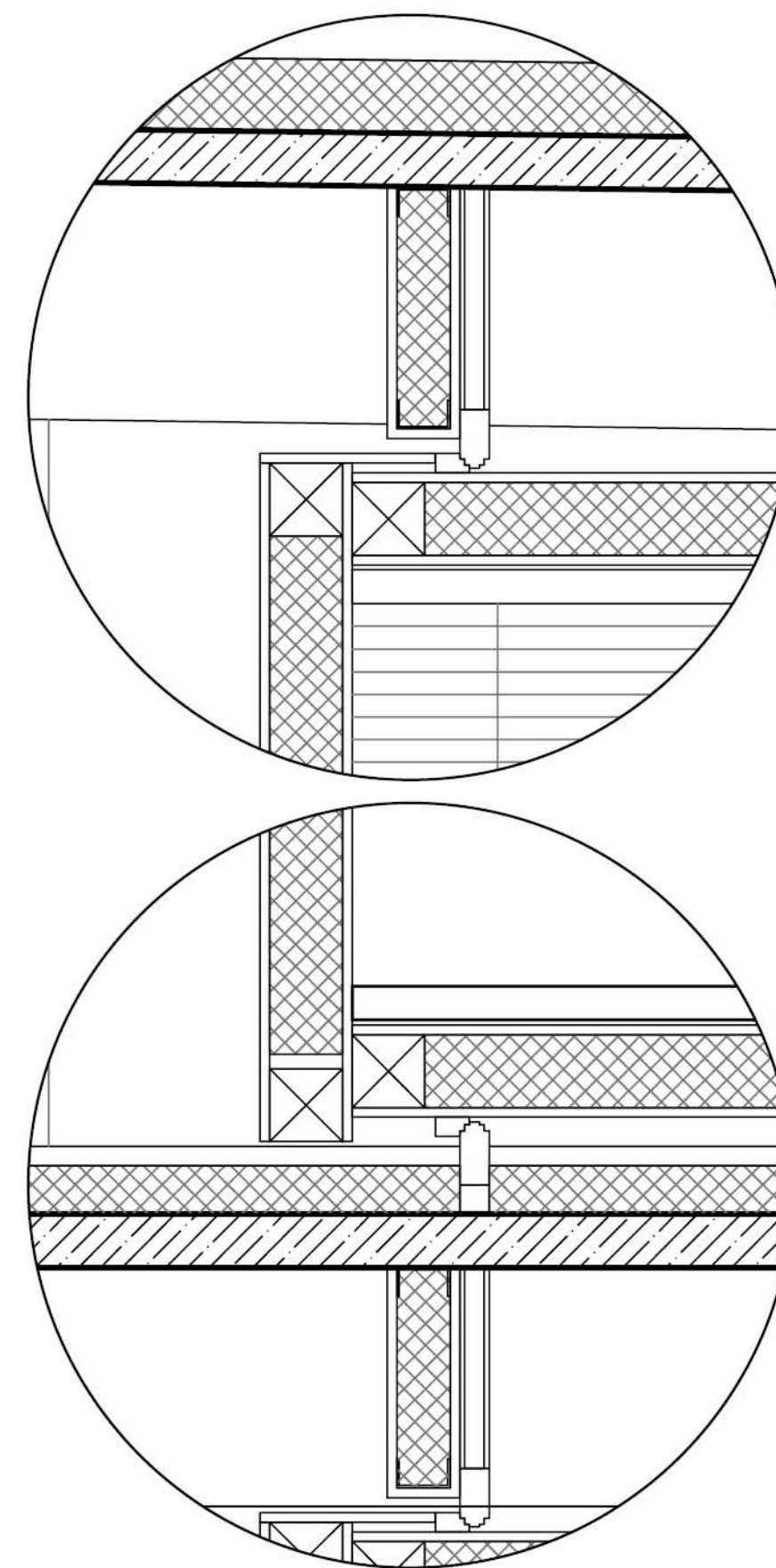
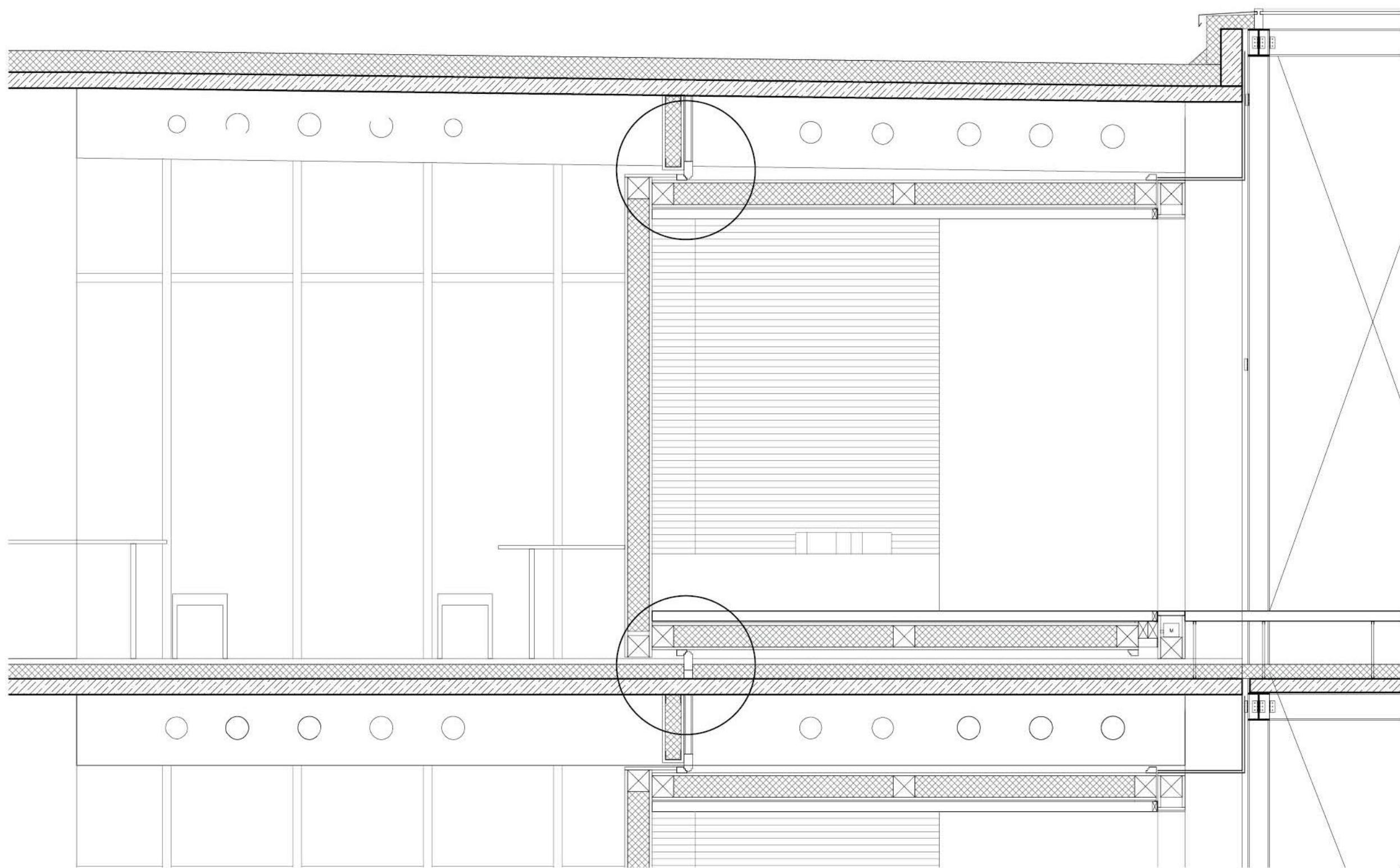


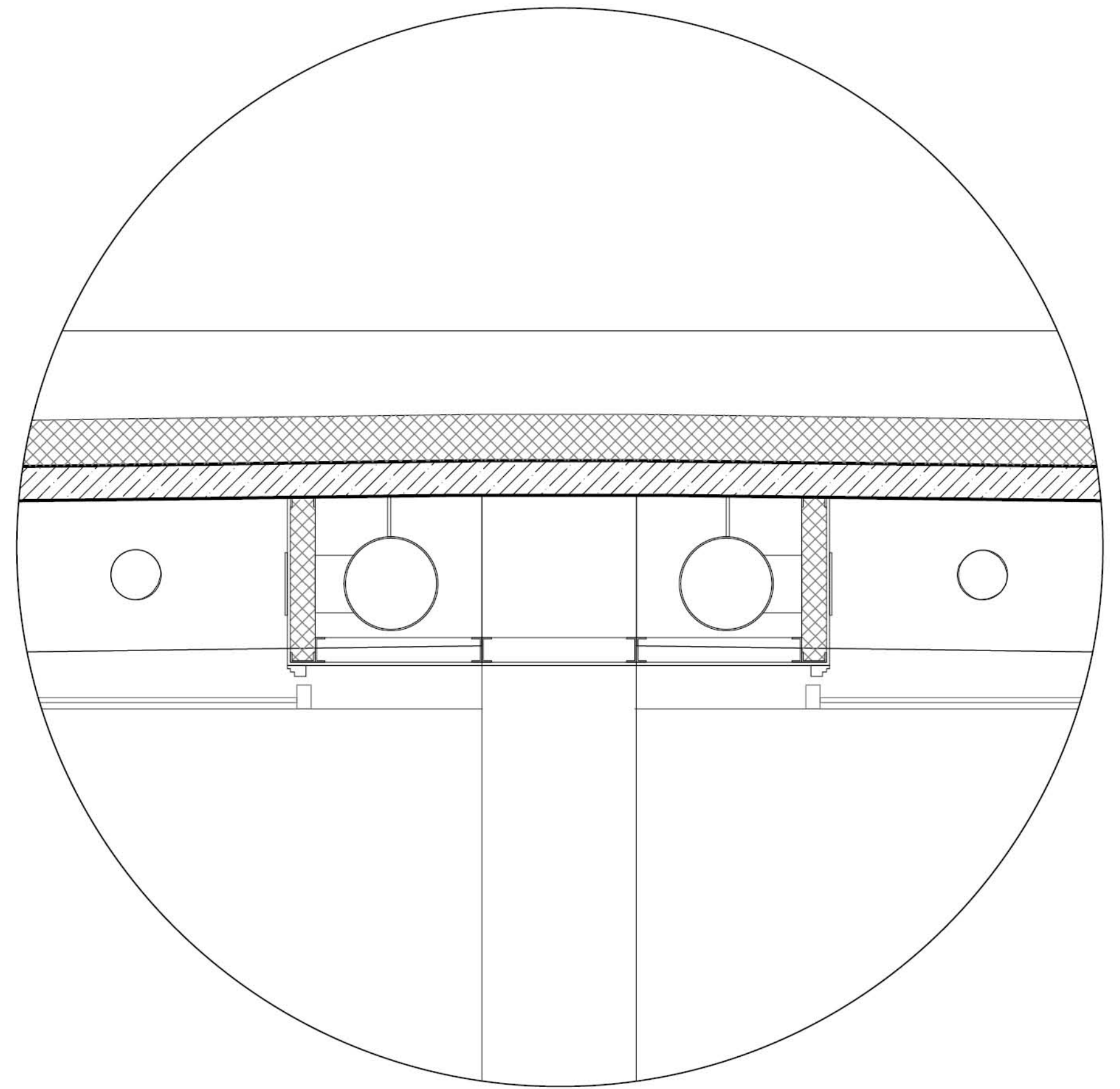
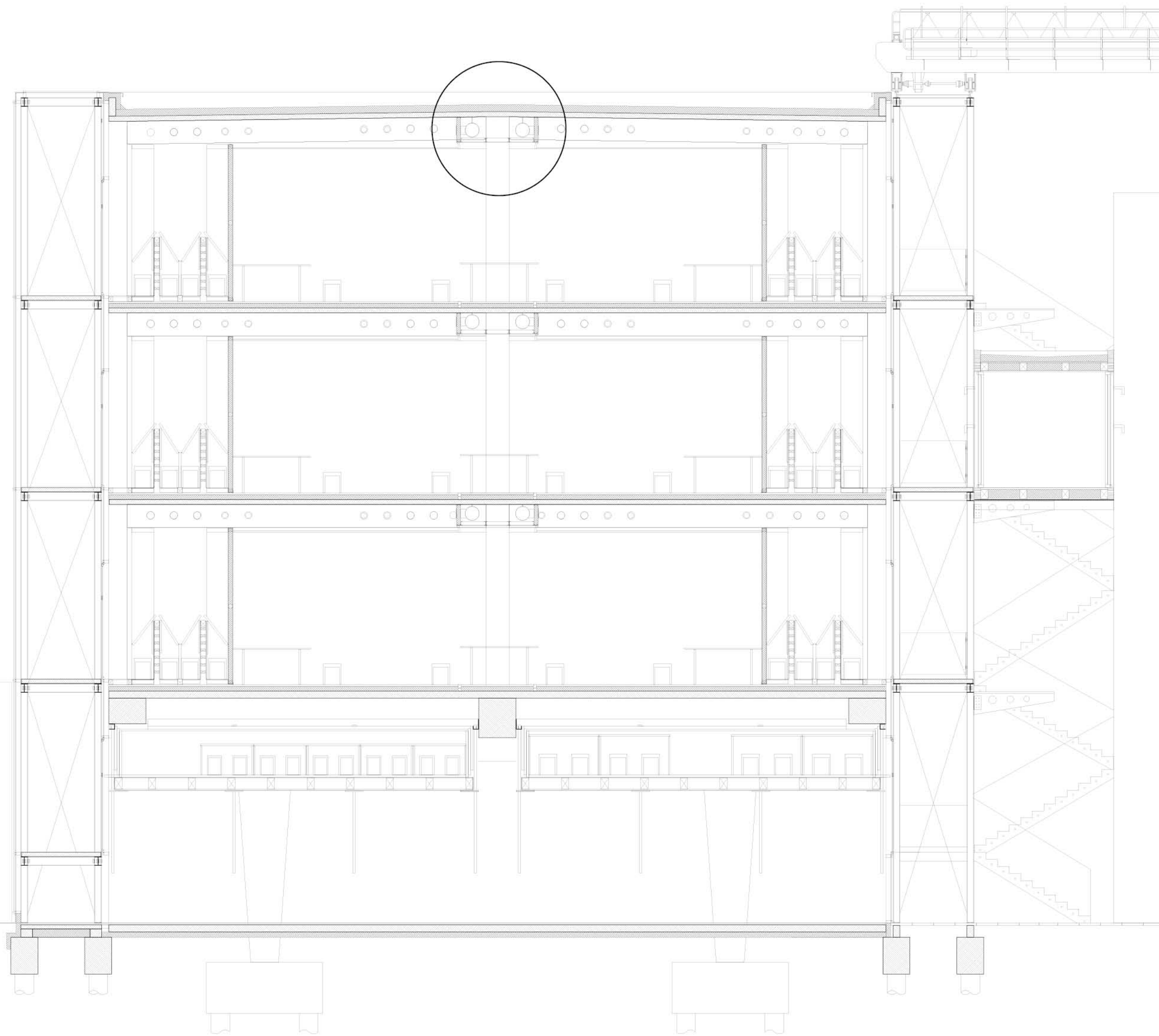


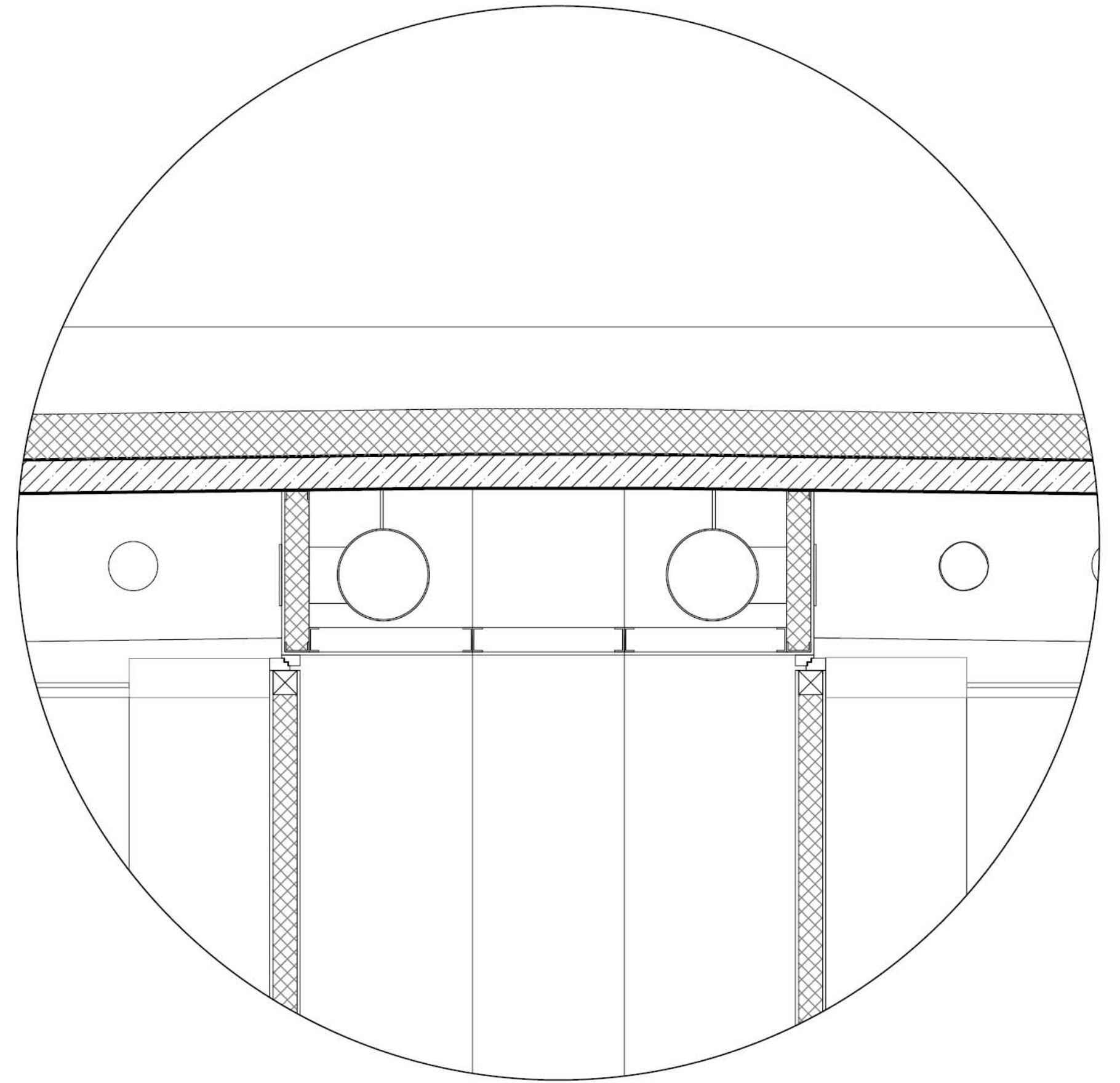
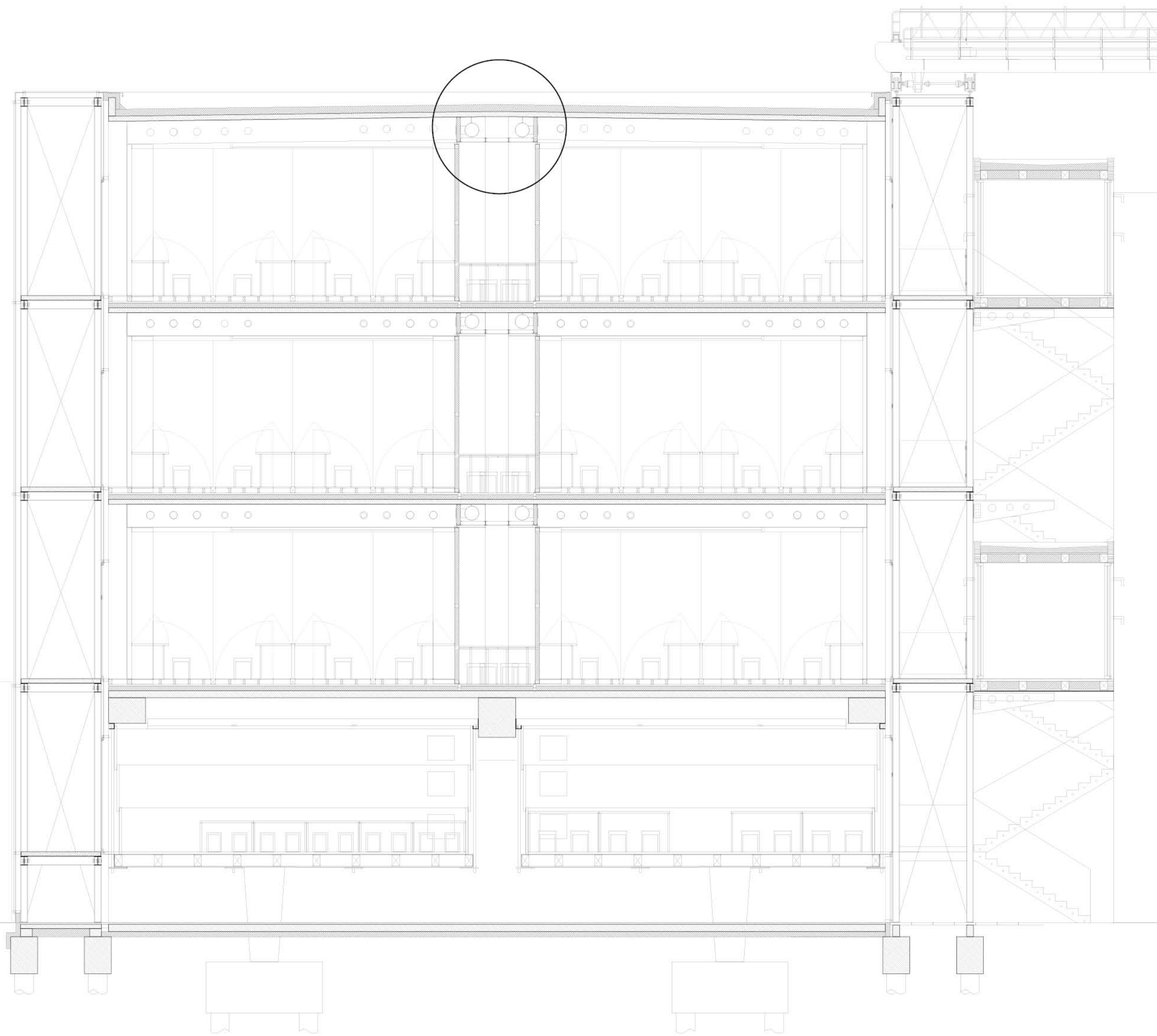


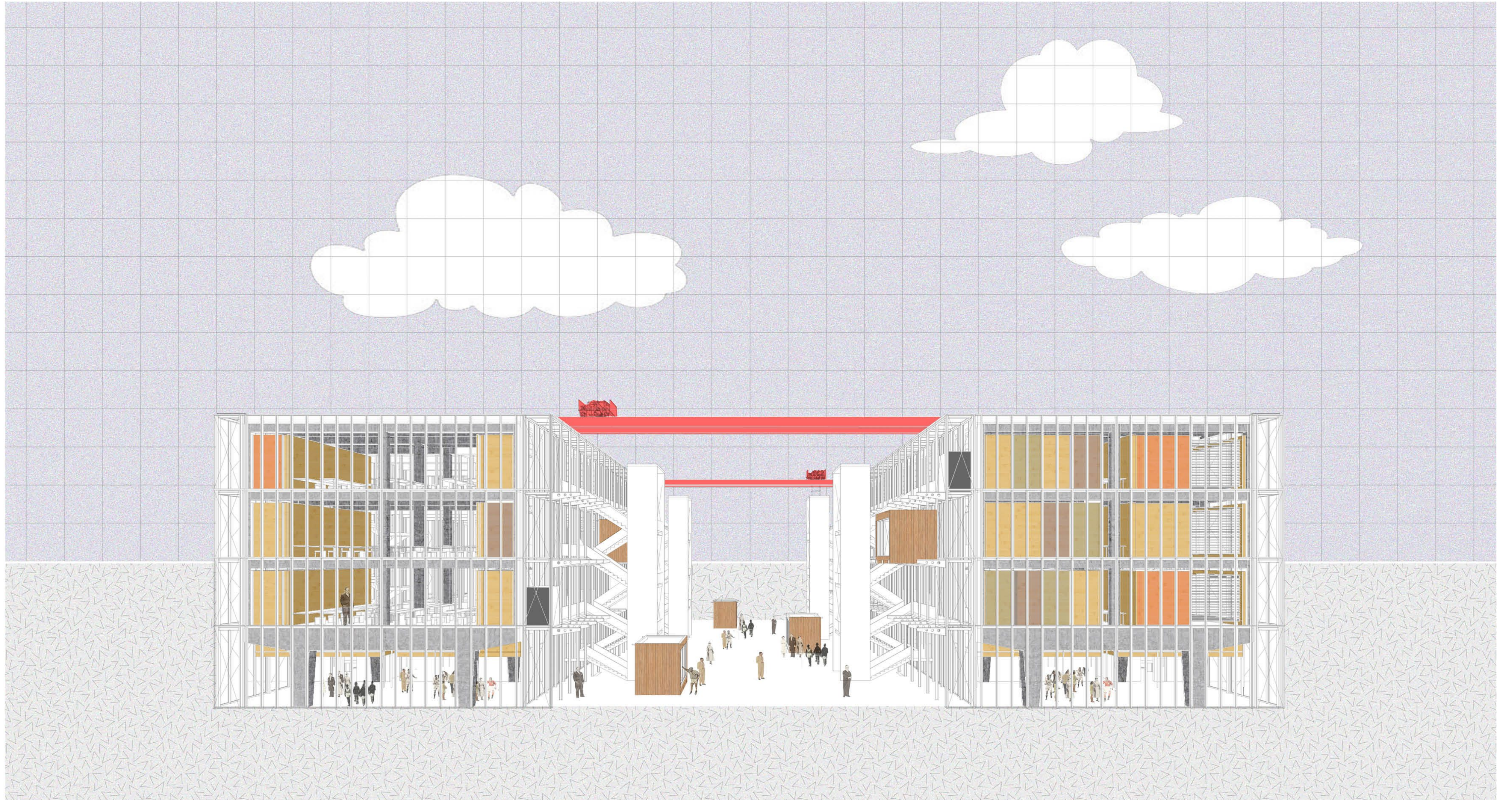


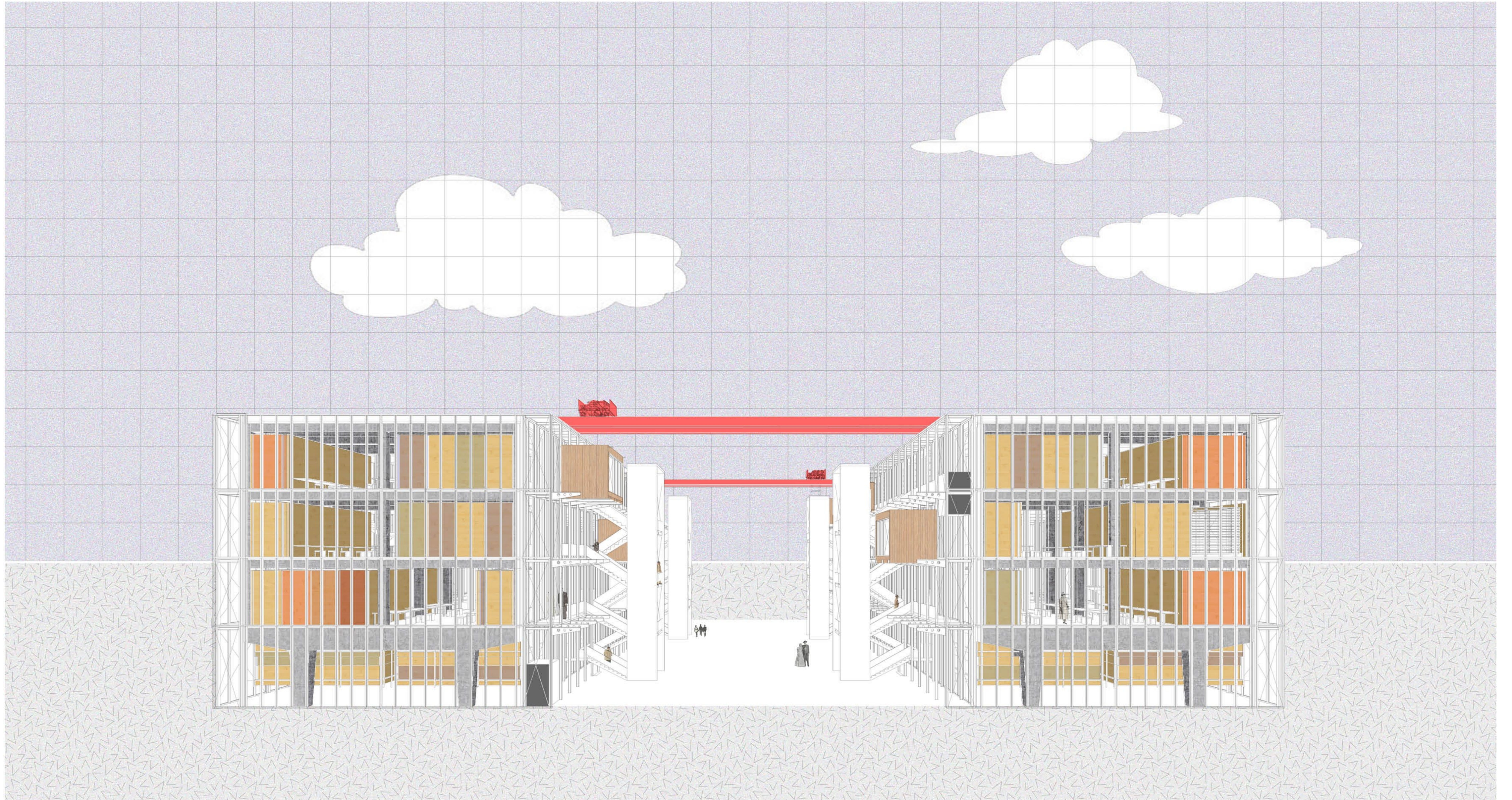


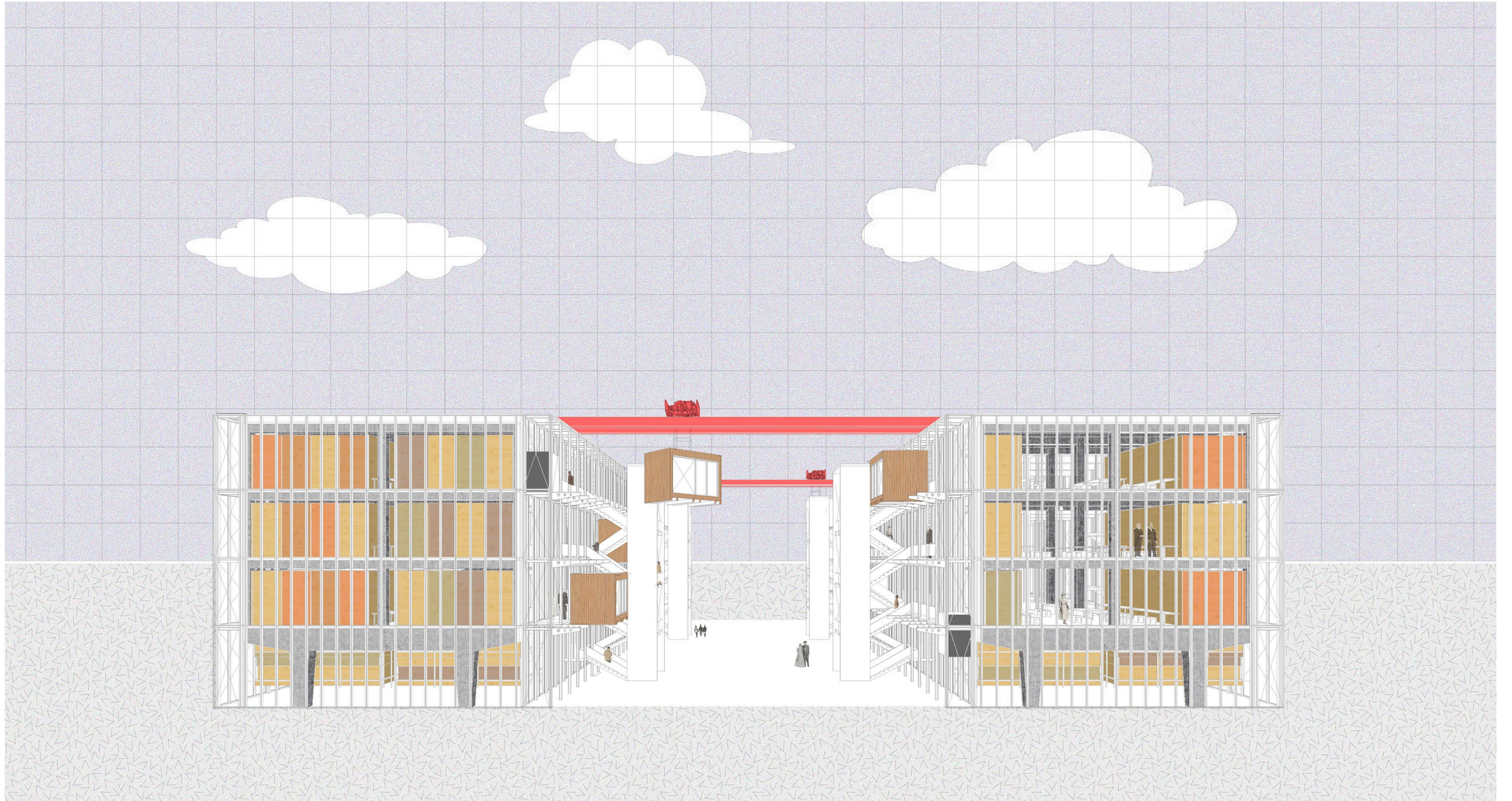


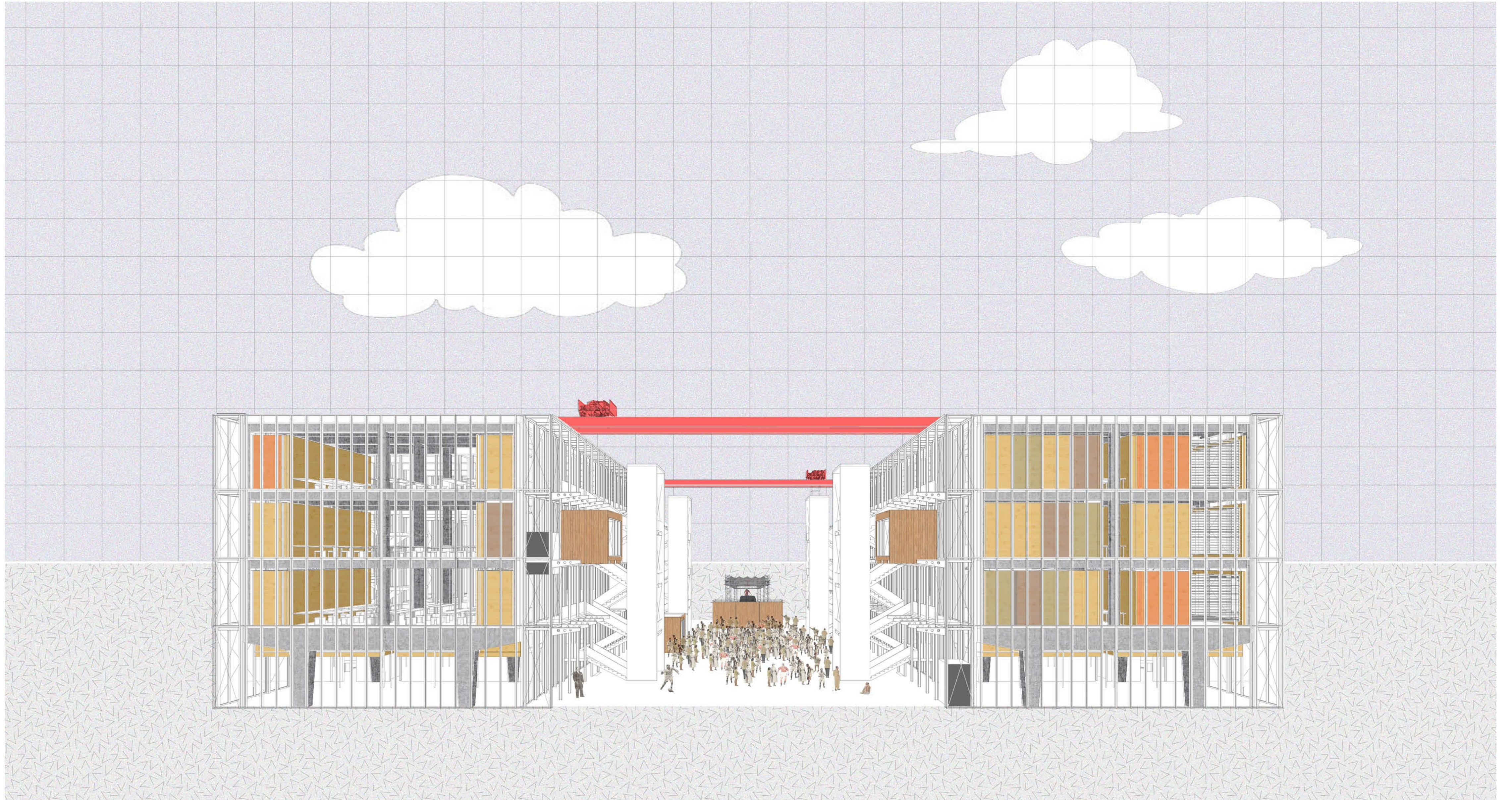


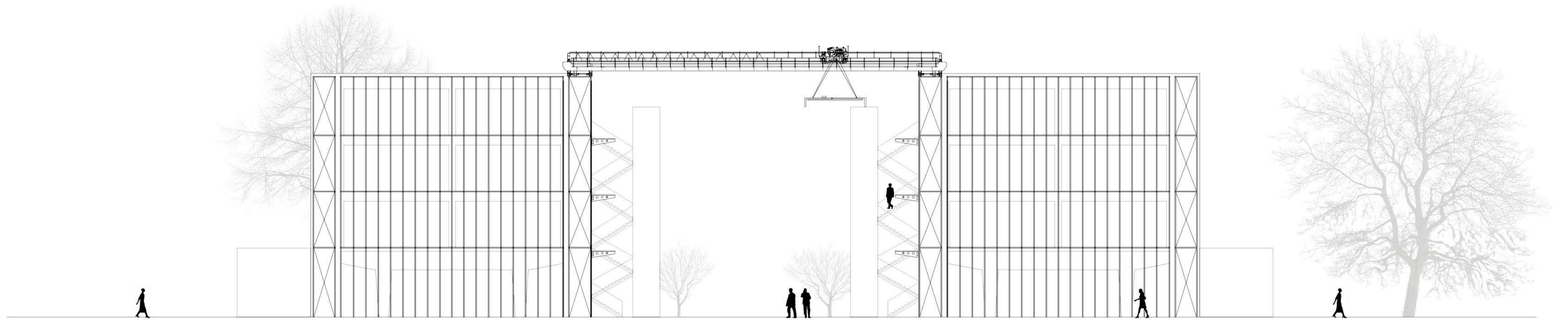


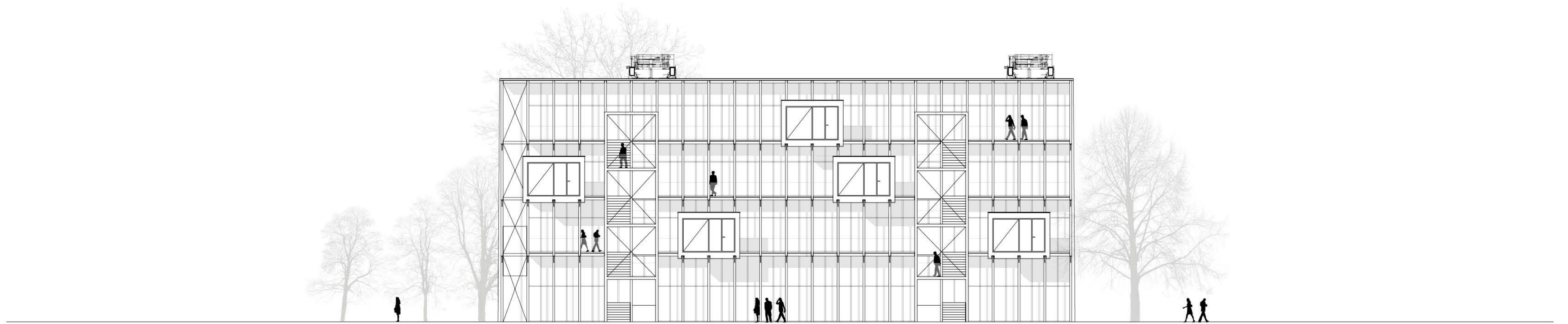
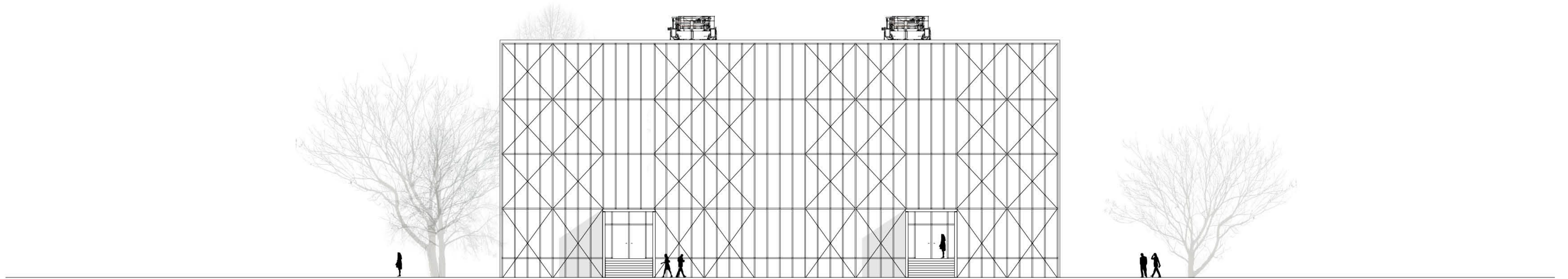


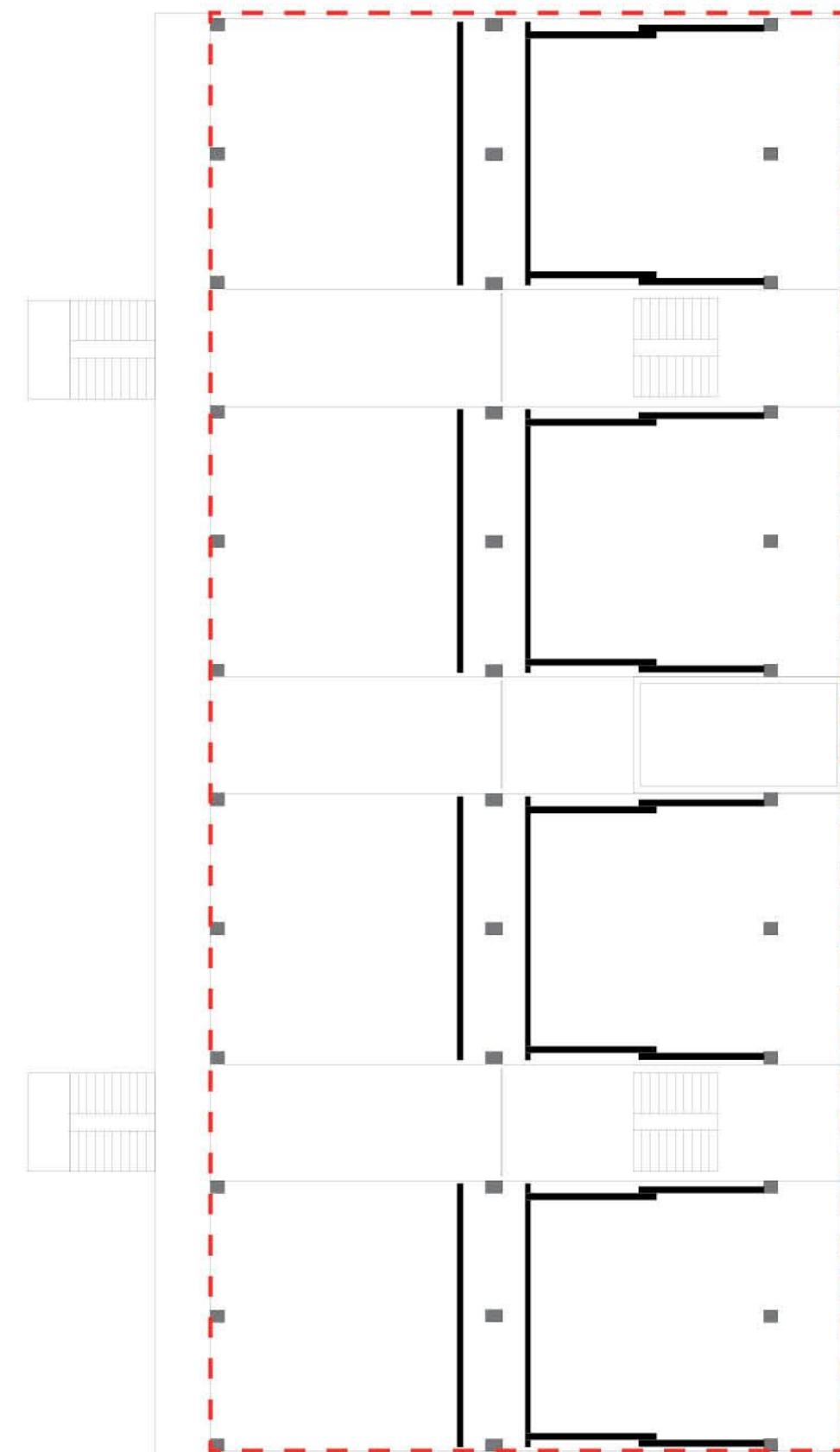
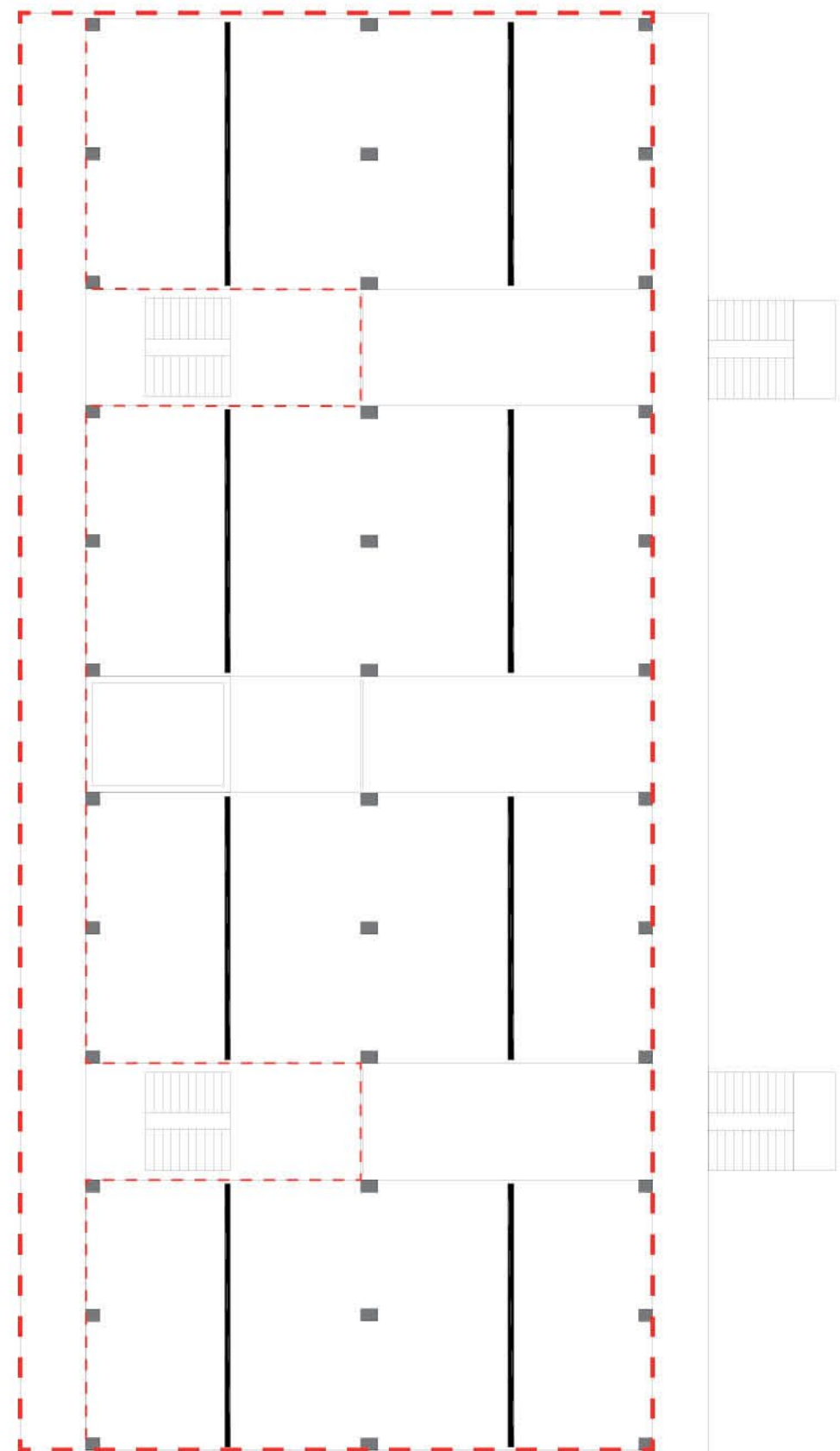


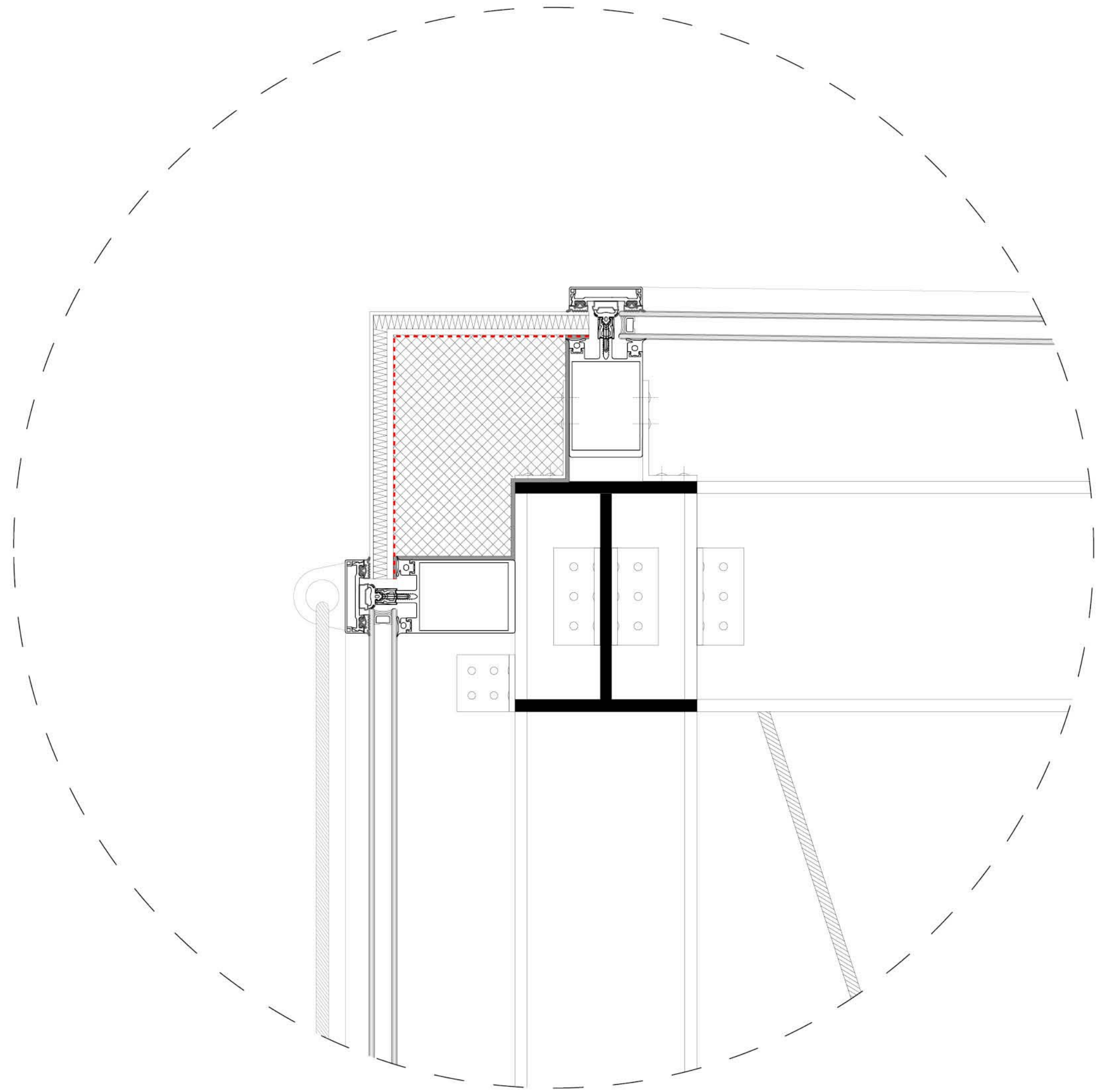
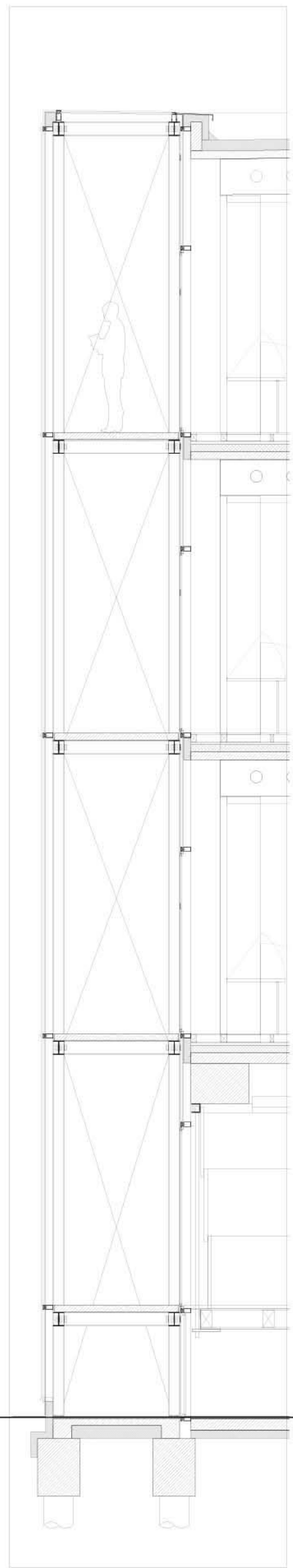


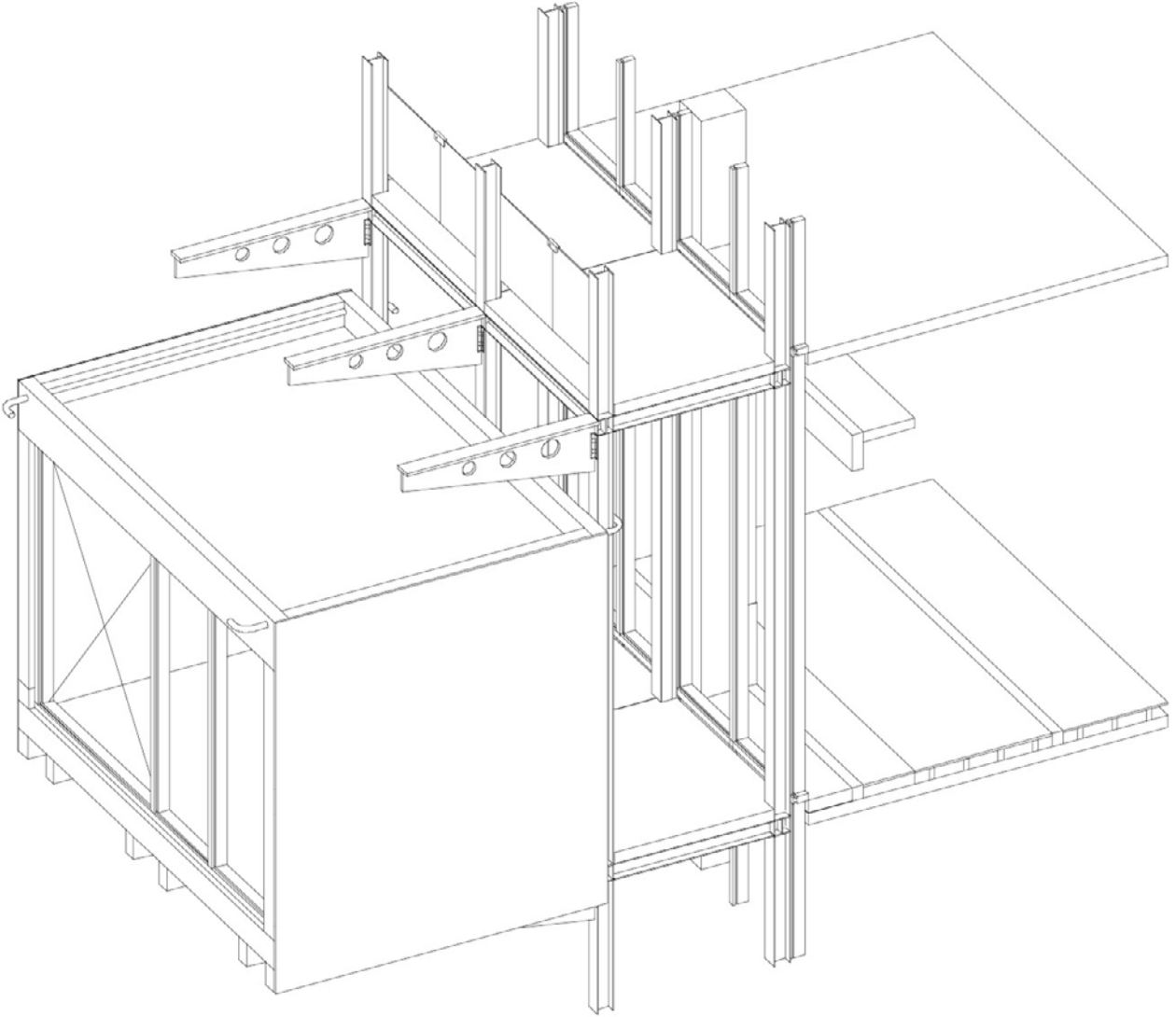


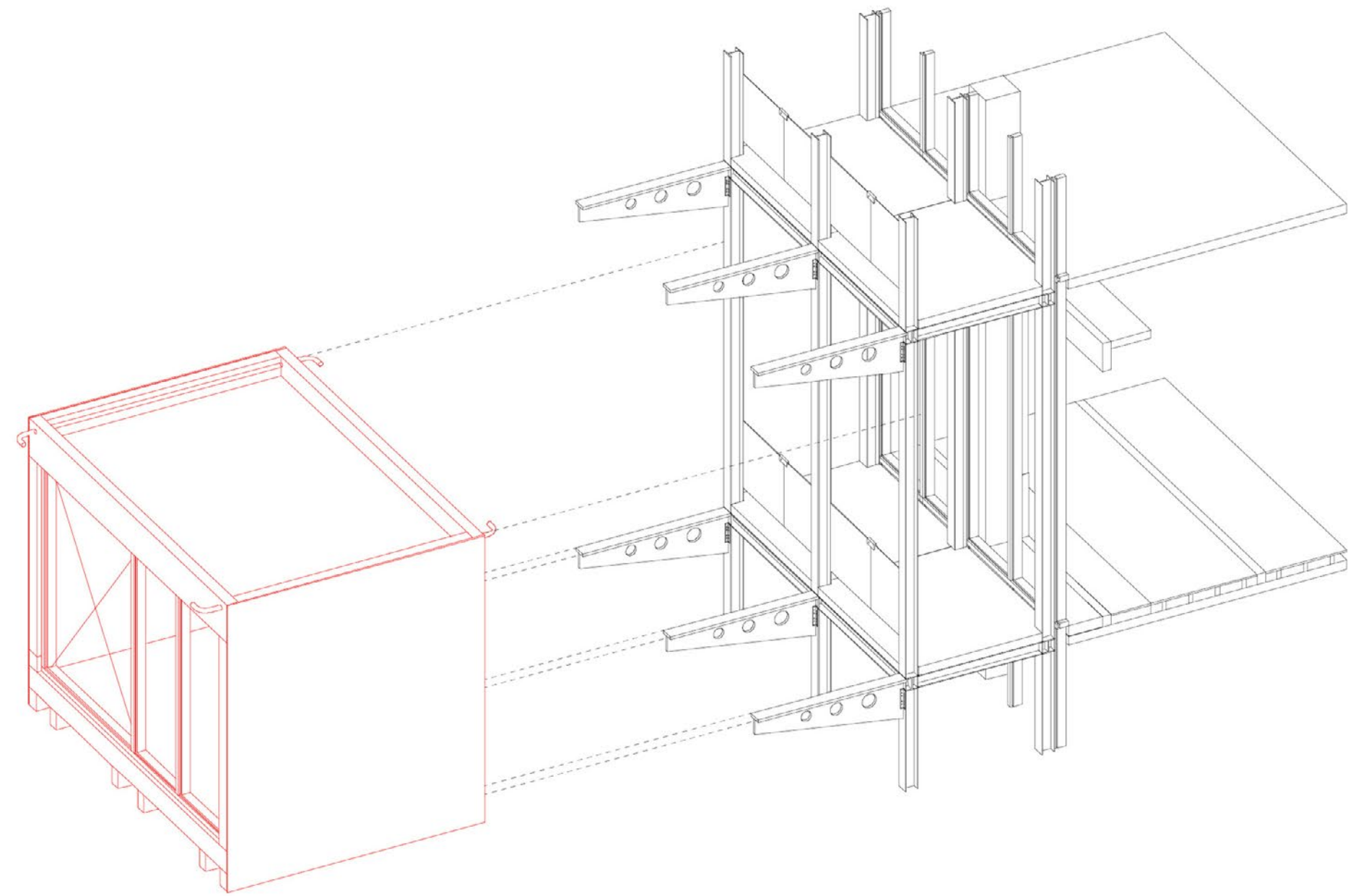


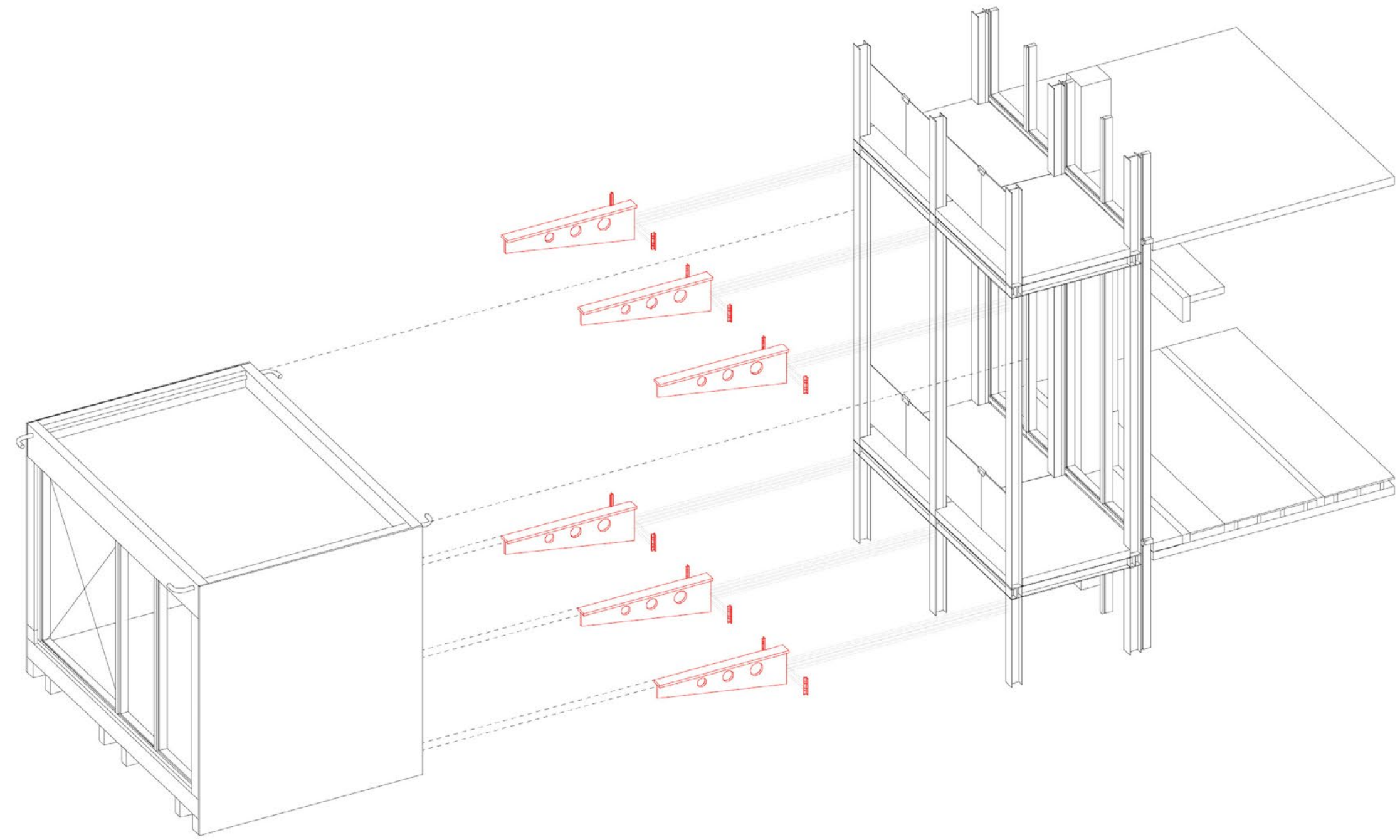


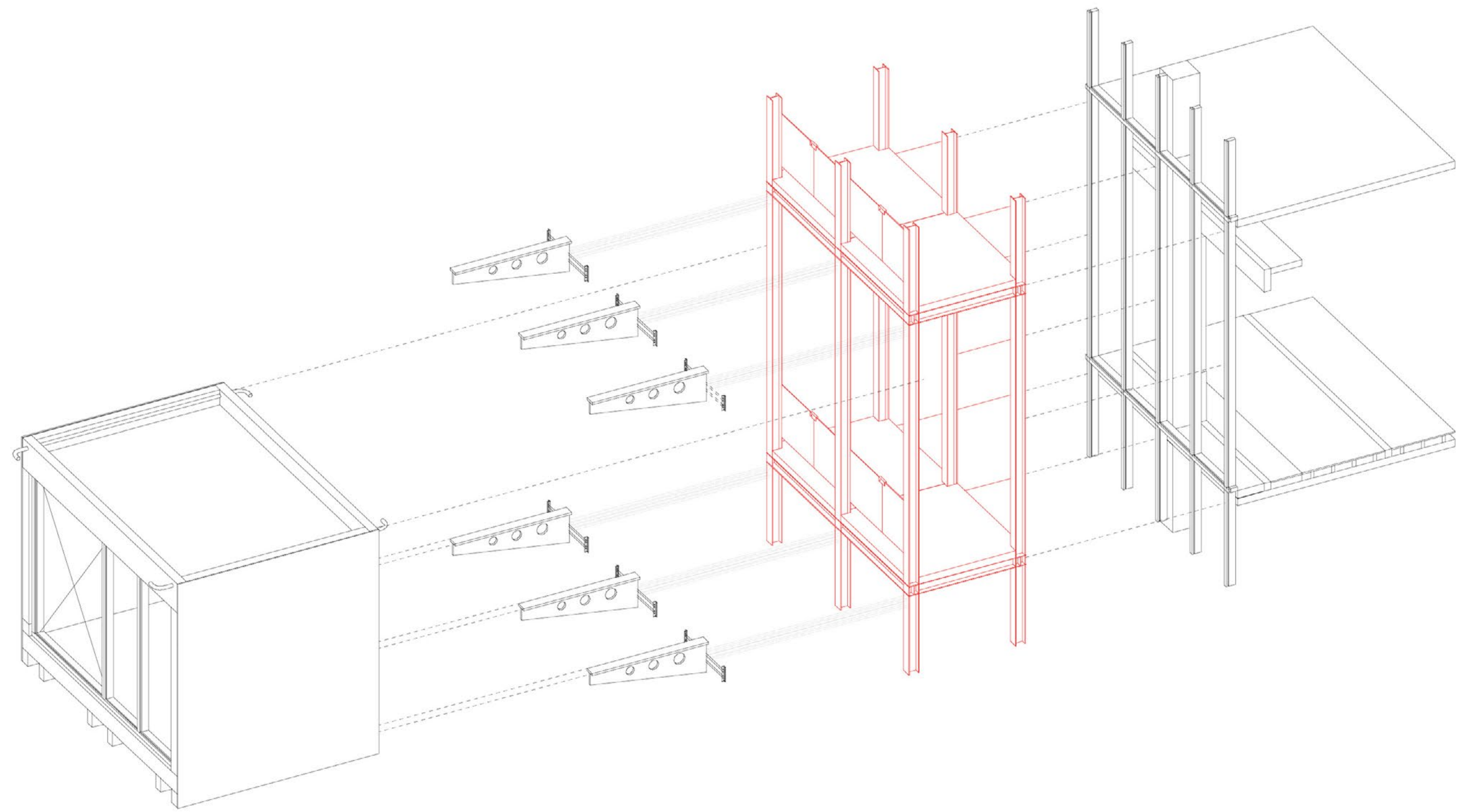


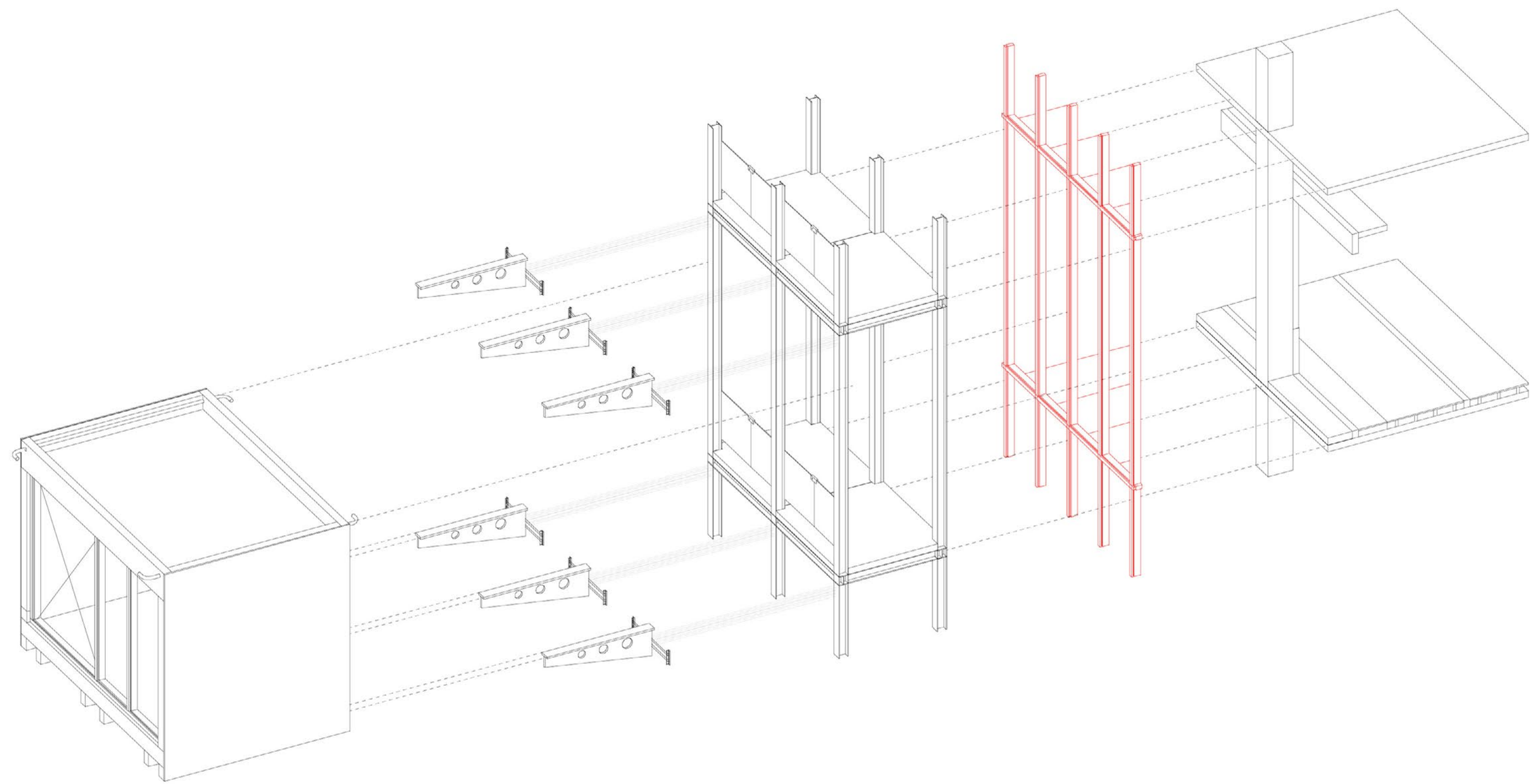


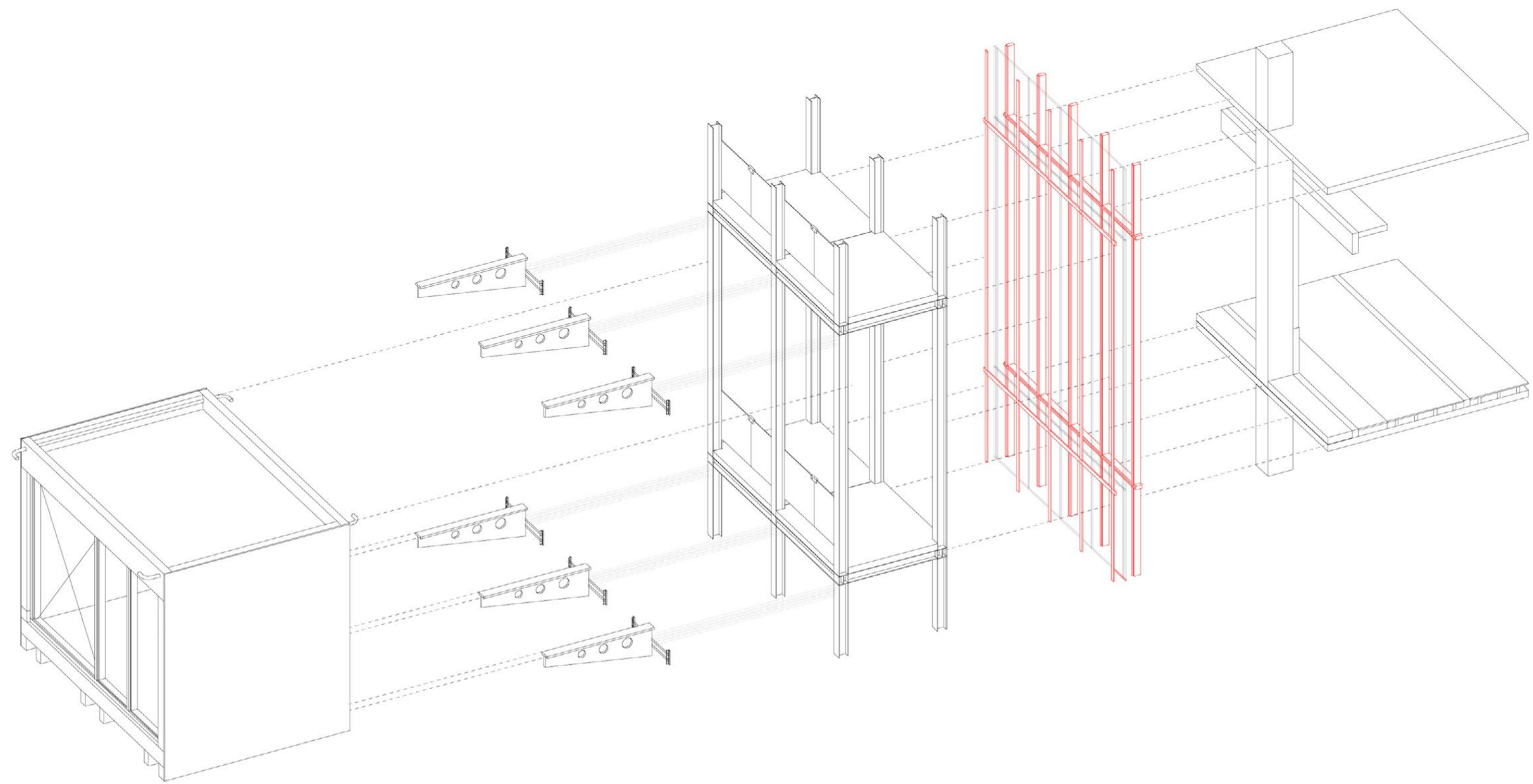


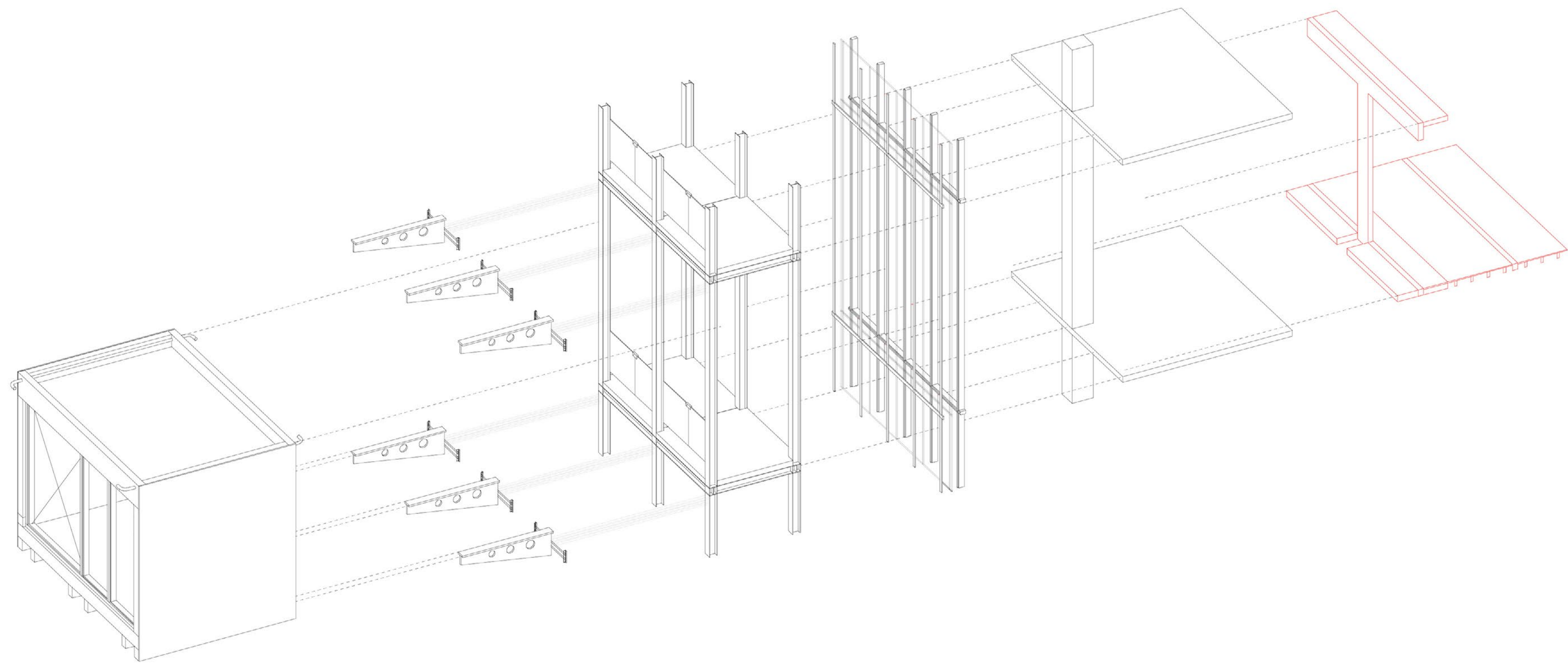


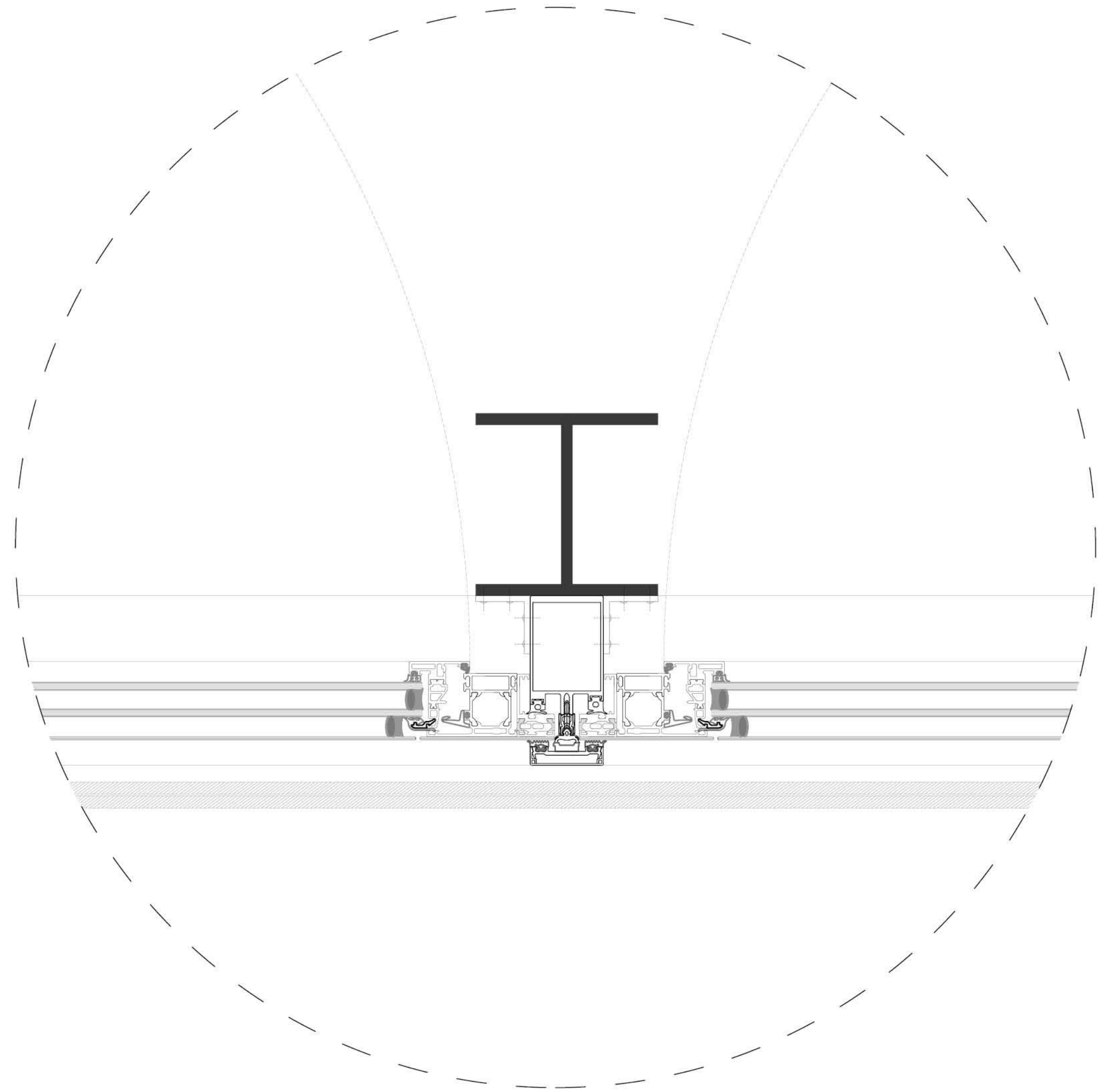


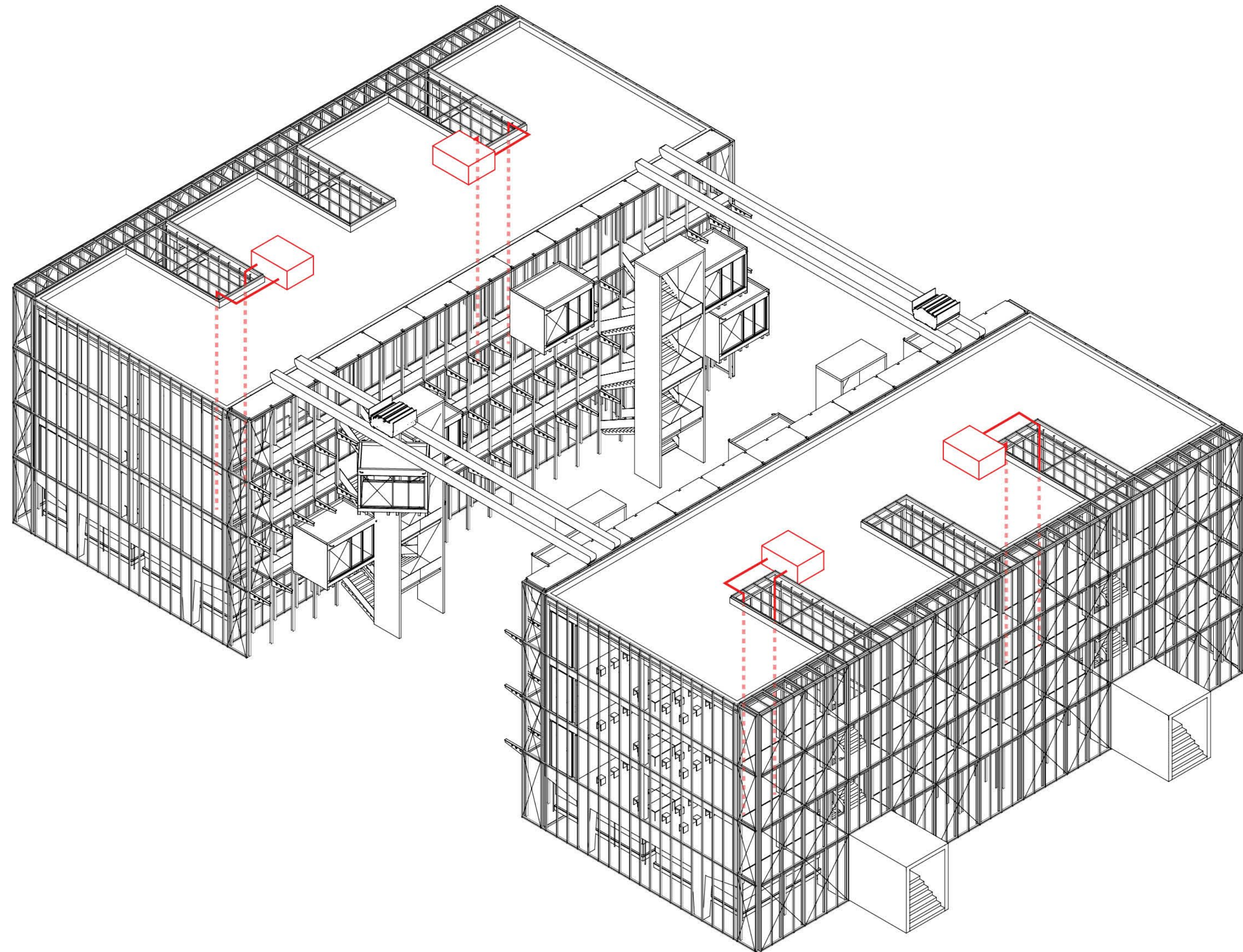


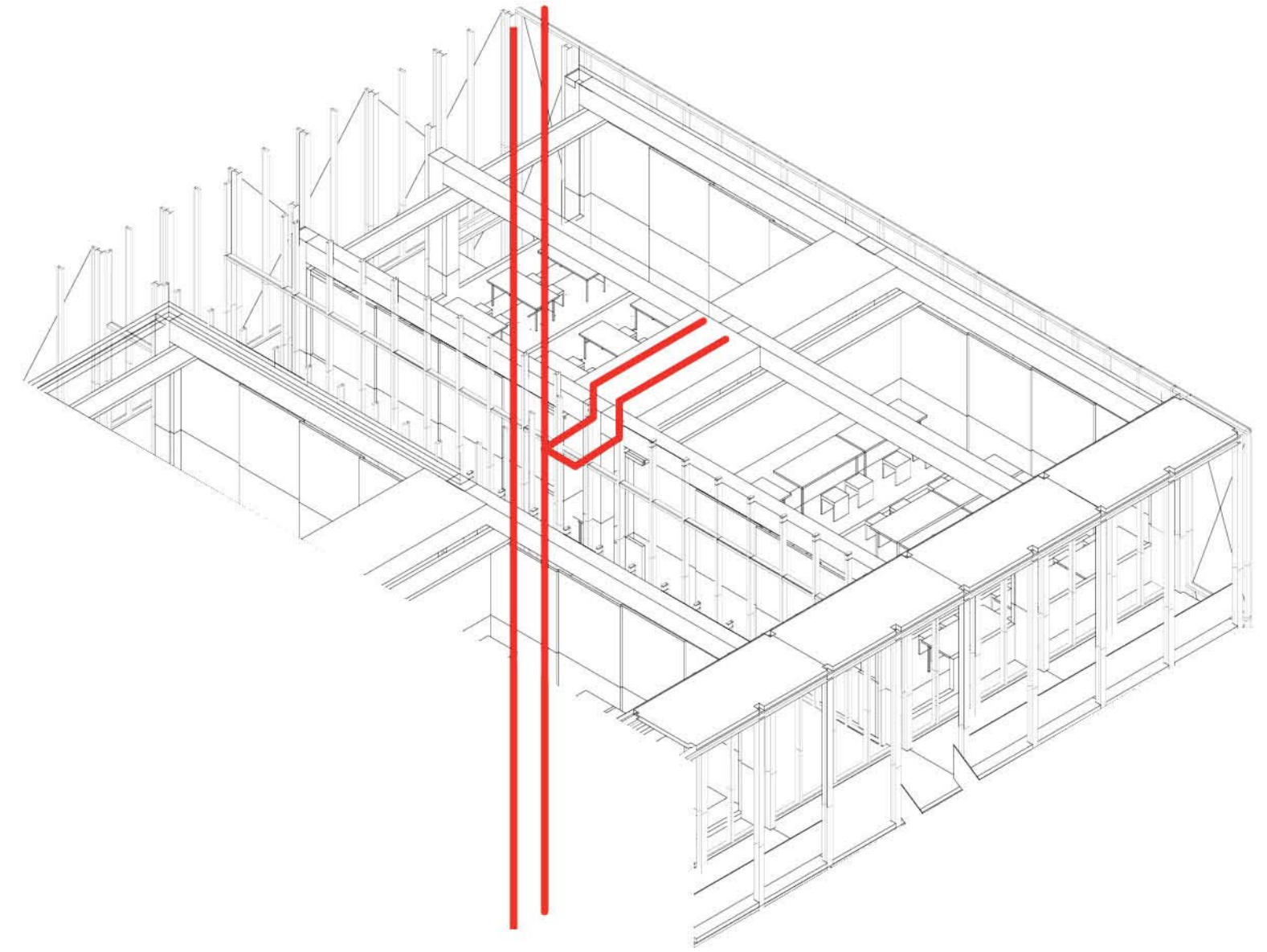
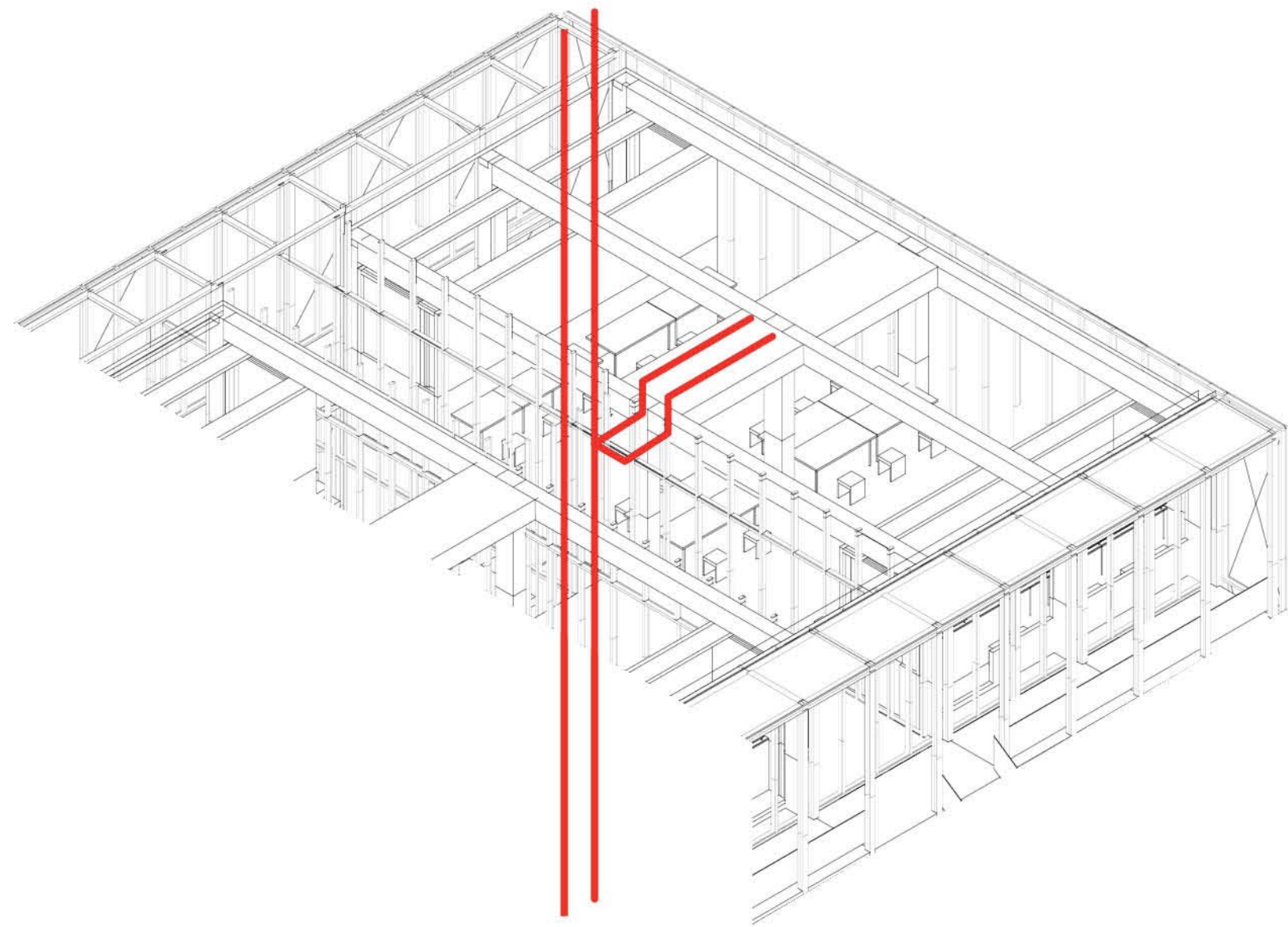


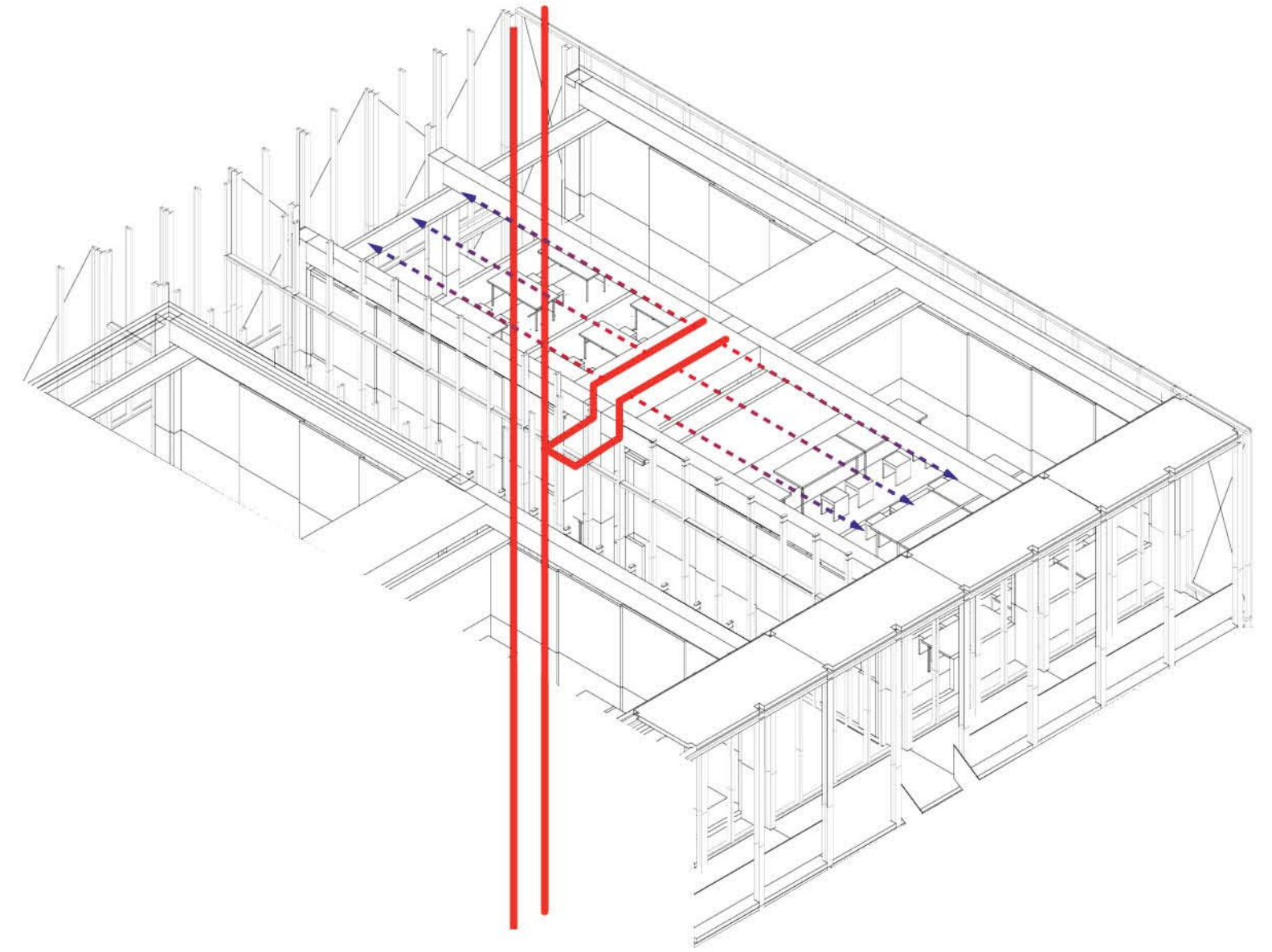
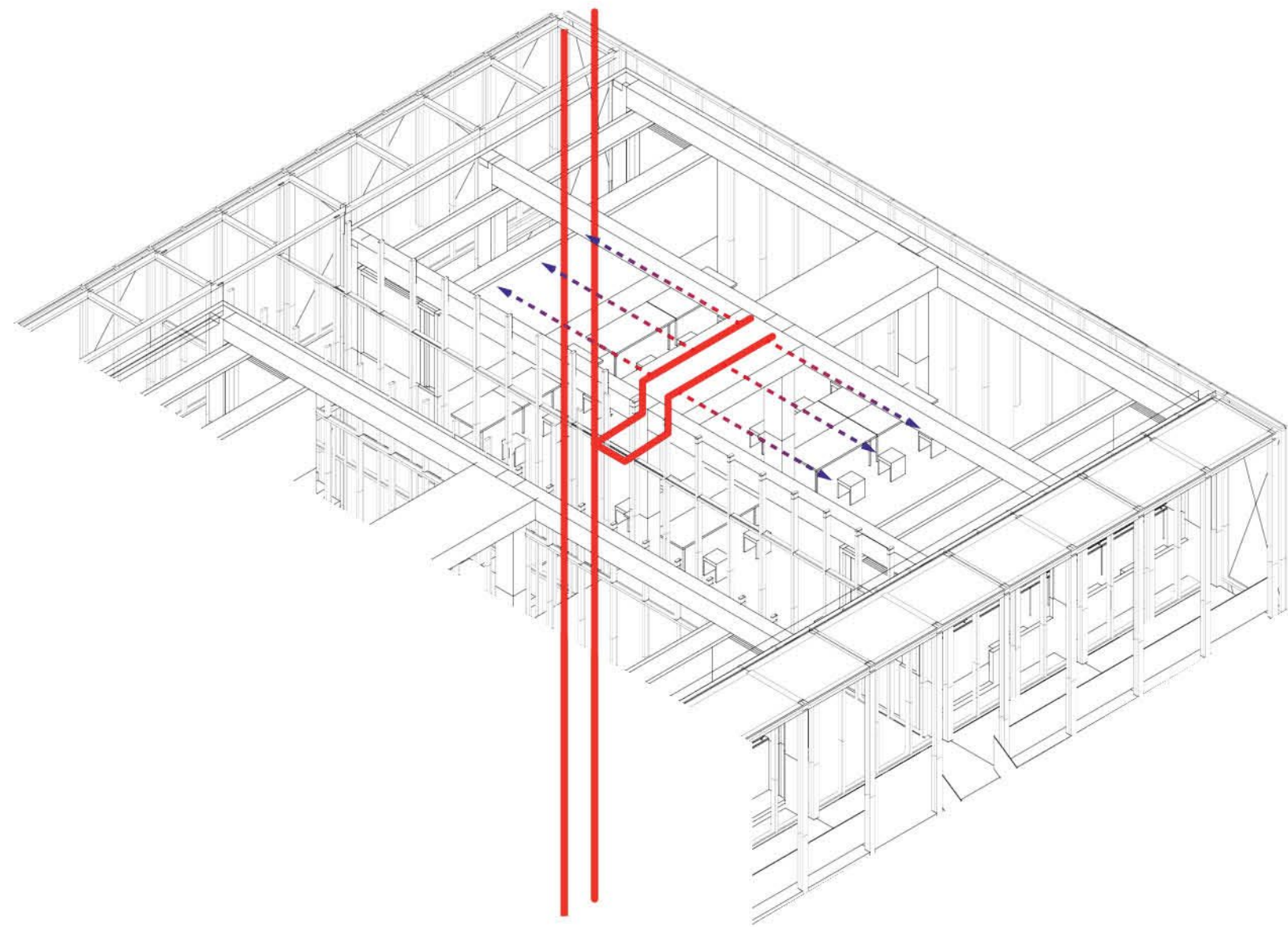


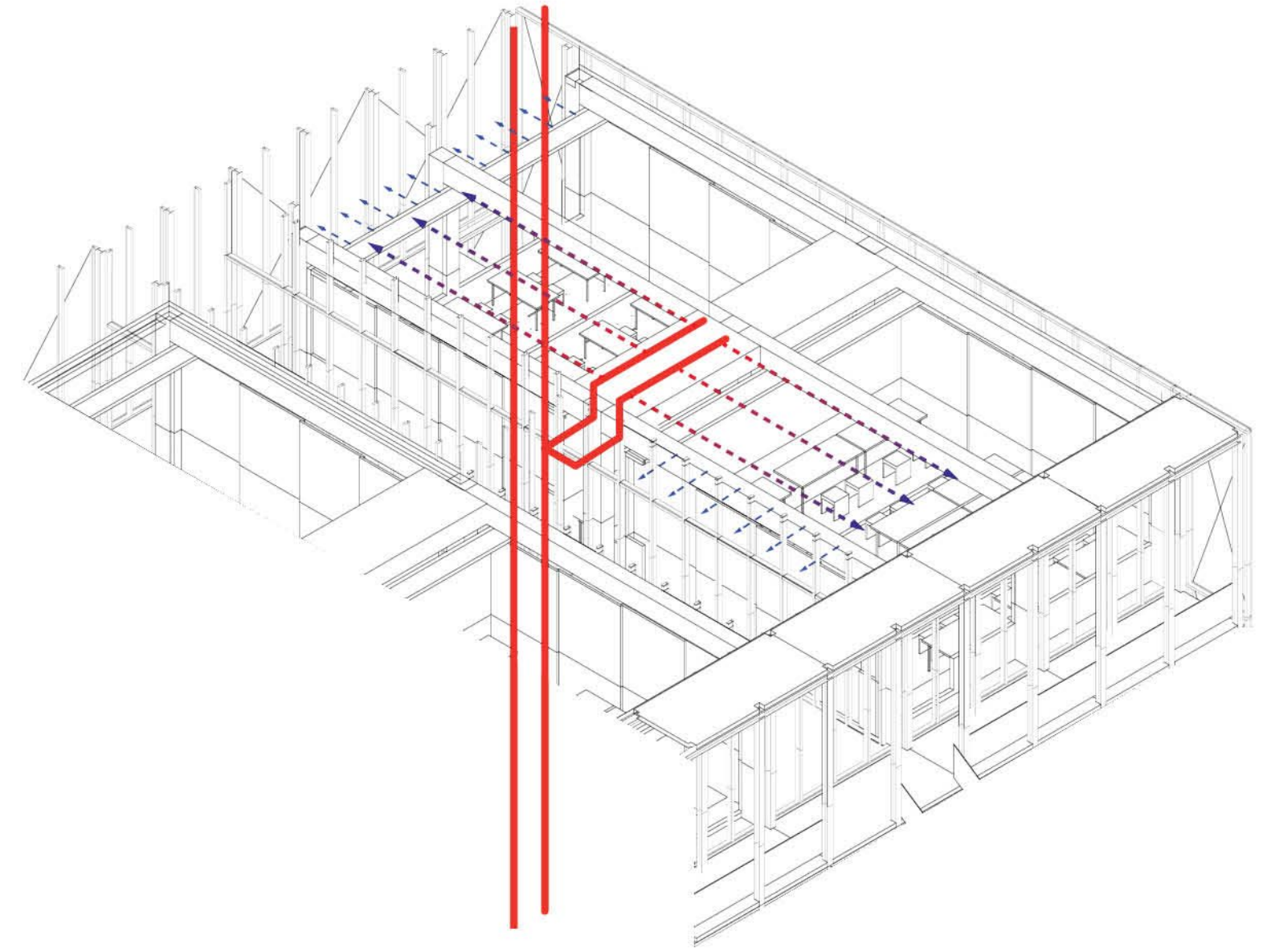
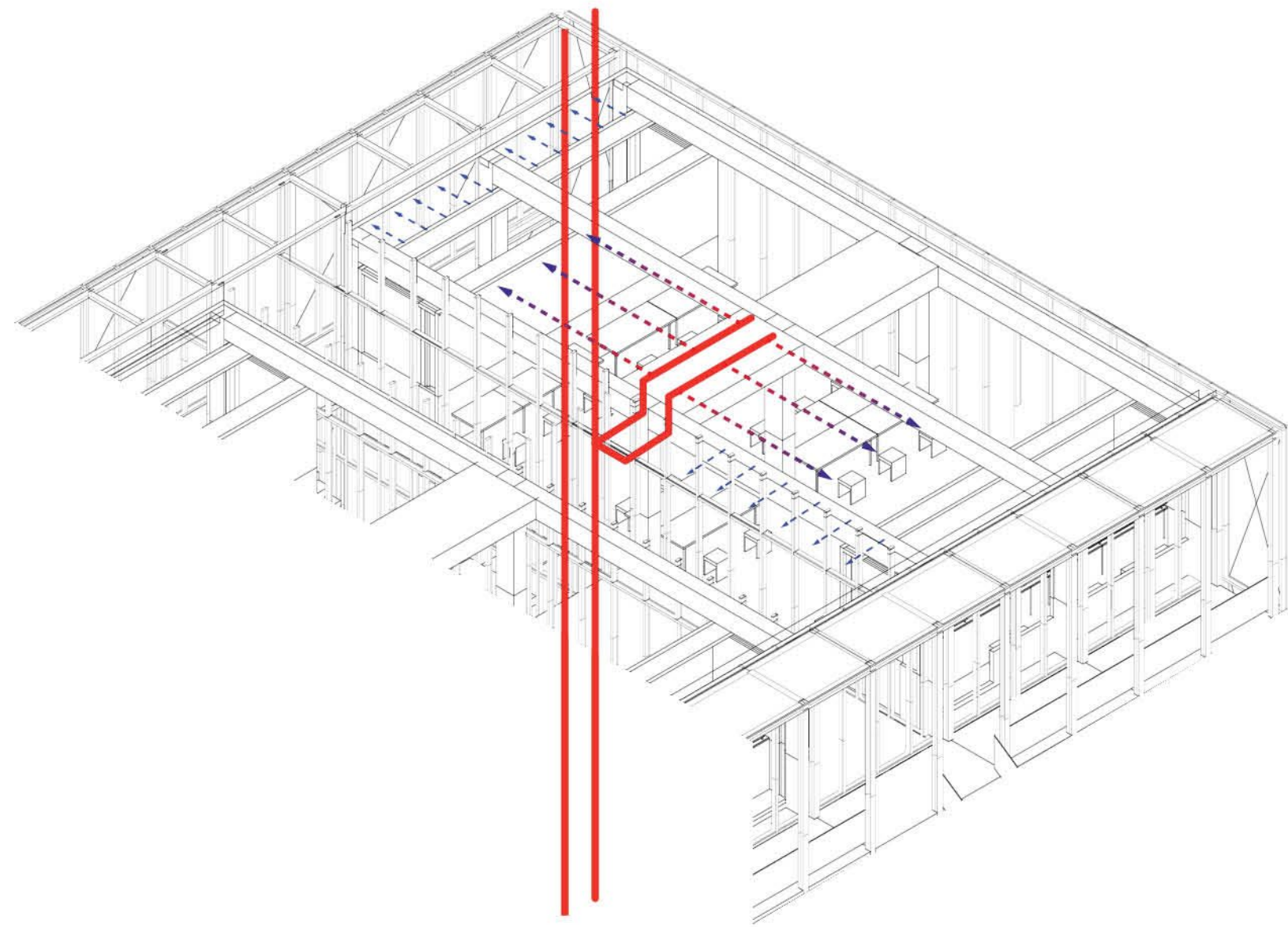


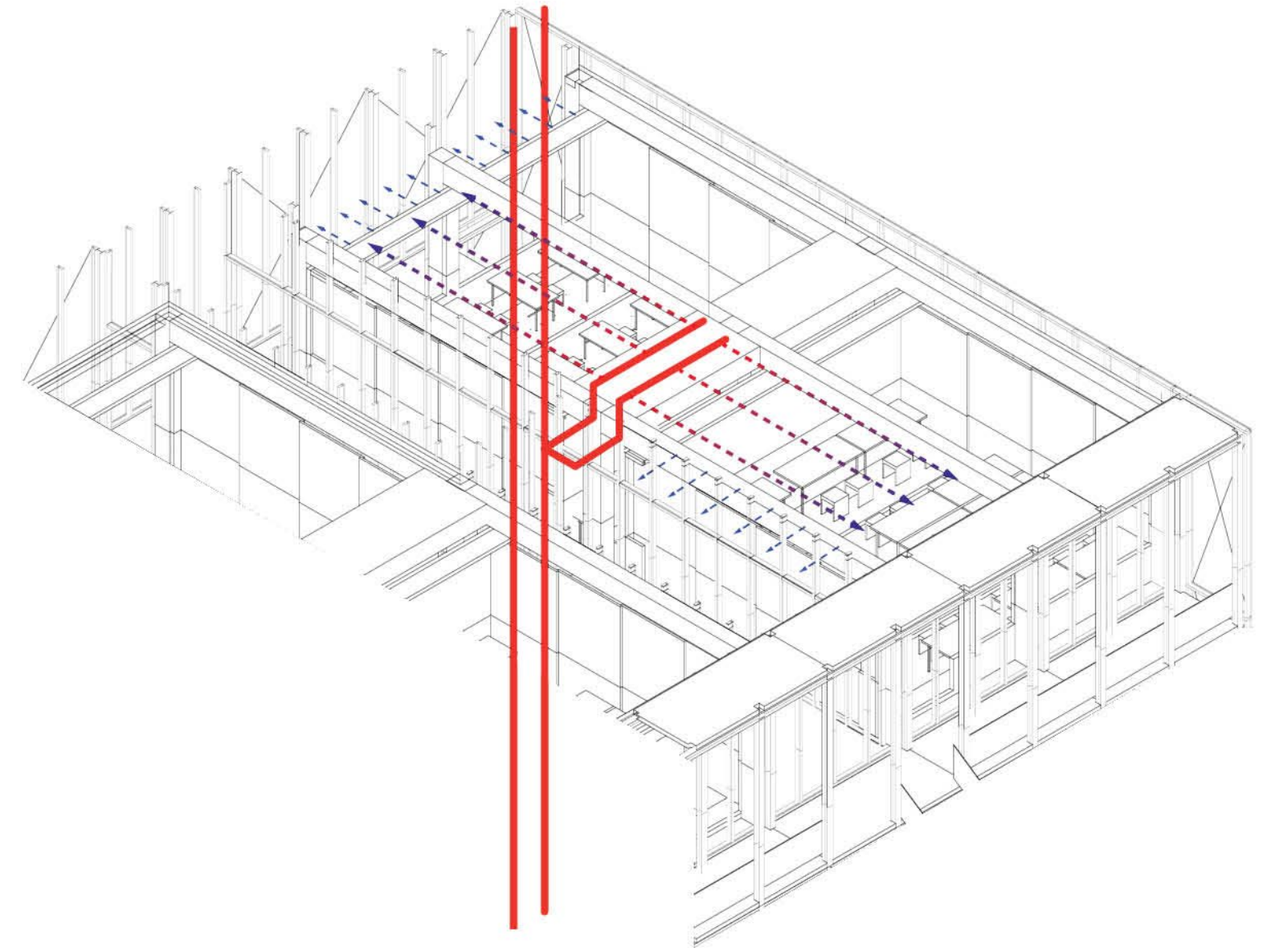
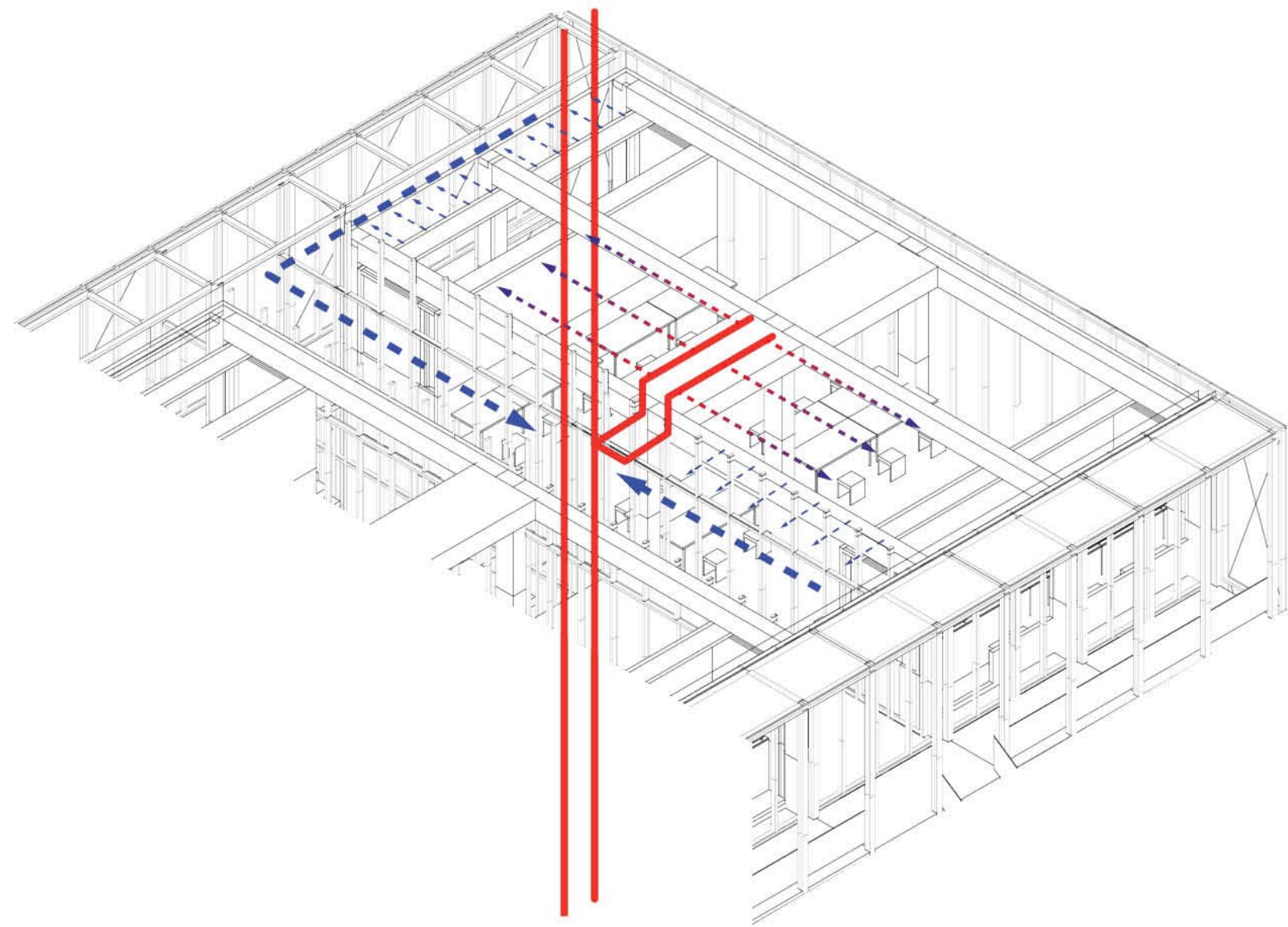


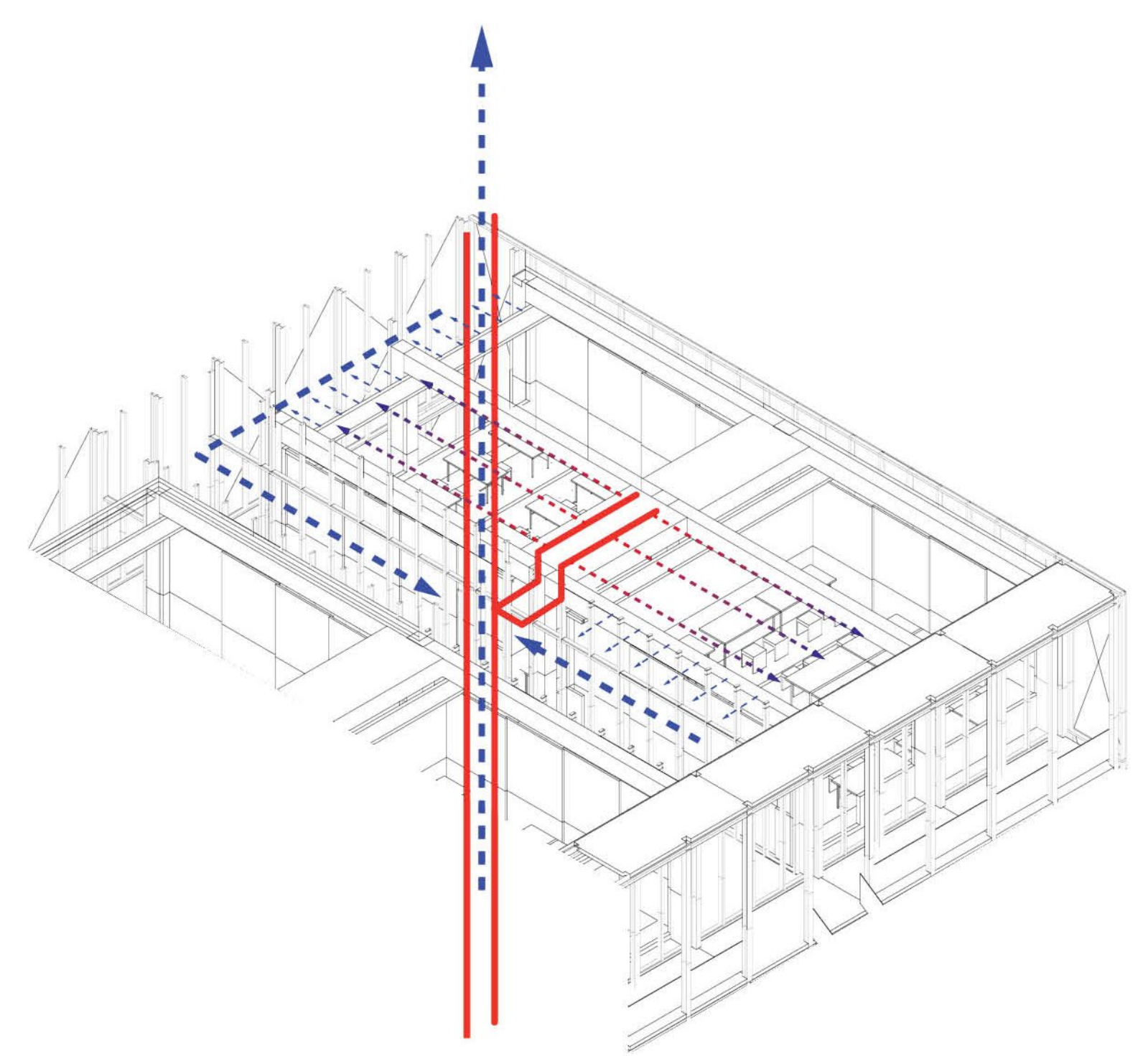
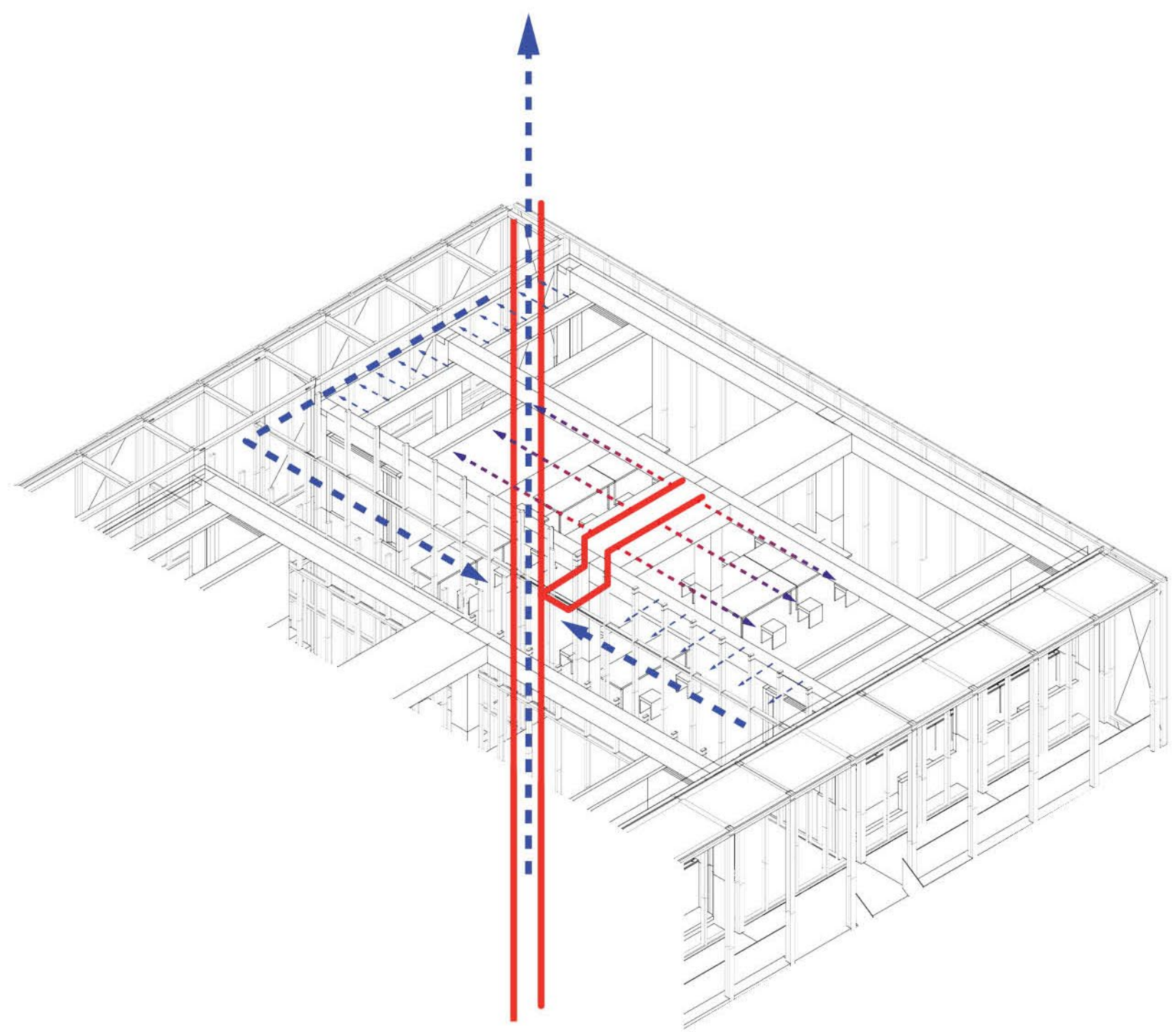












REFLECTION



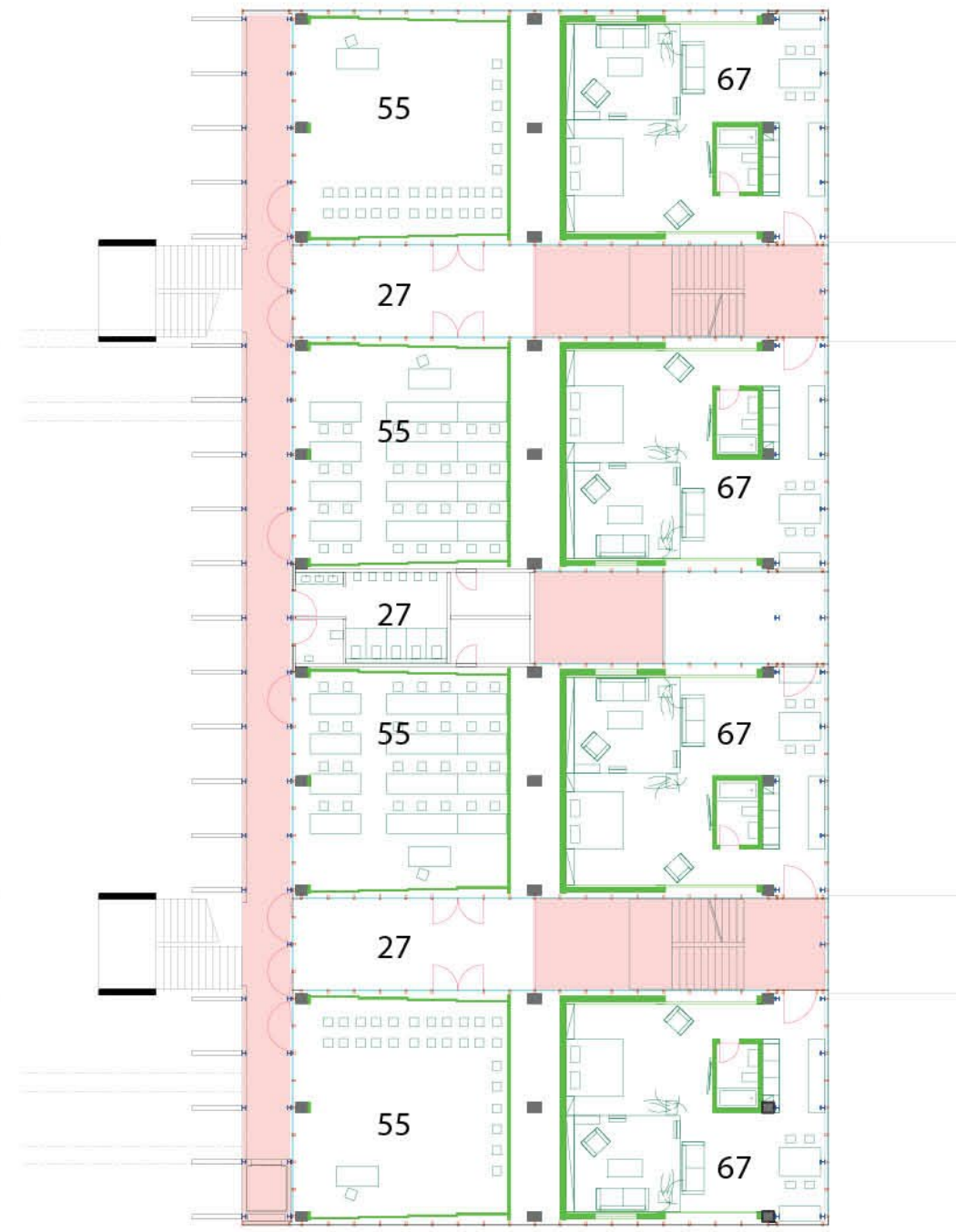
832 m²



$$60 + 32 + 32 + 14 = 138 \text{ m}^2$$

$$395 + 4 \times 42 + 18 = 581 \text{ m}^2$$

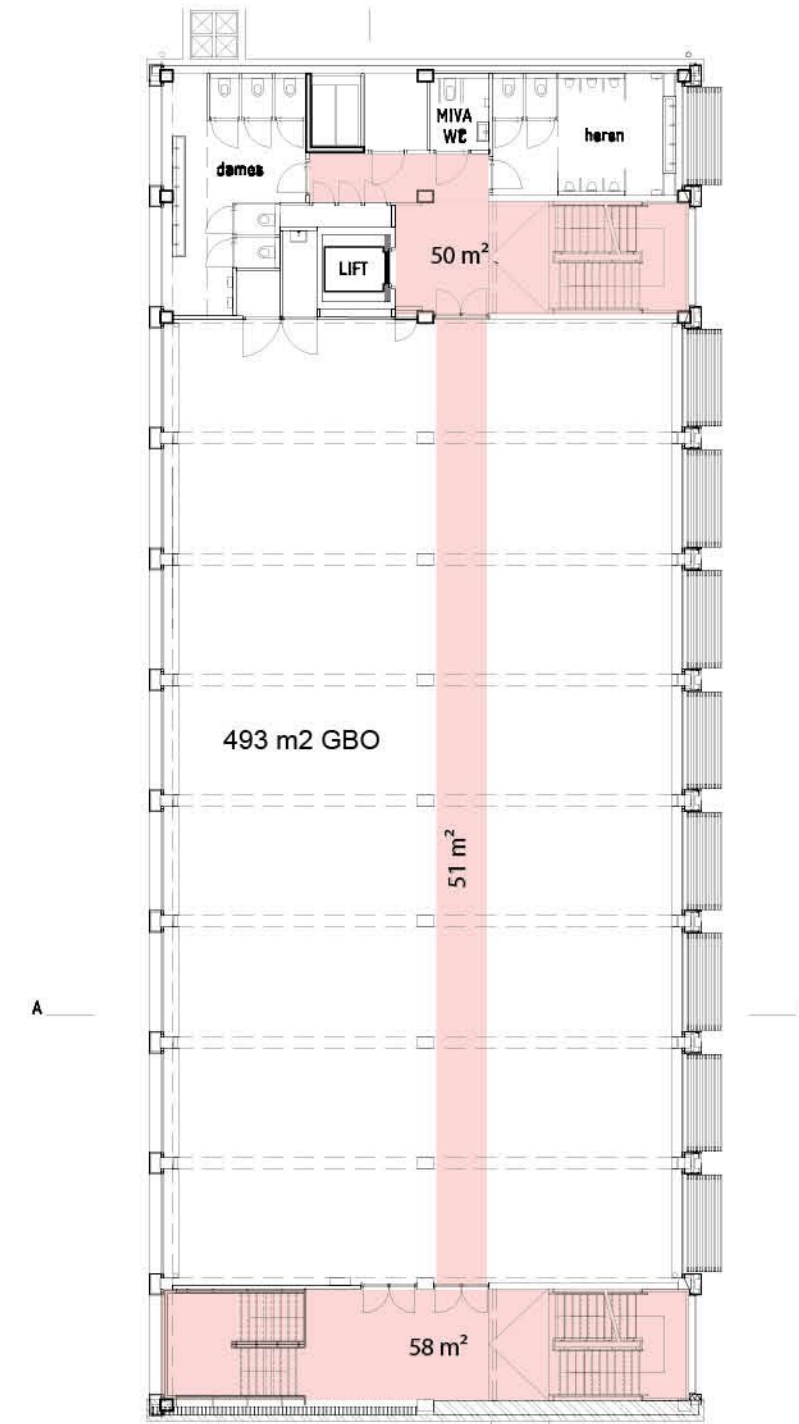
832 m²



$$60 + 32 + 32 + 14 = 138 \text{ m}^2$$

$$4 \times 55 + 3 \times 27 + 4 \times 67 = 559 \text{ m}^2$$

722 m²



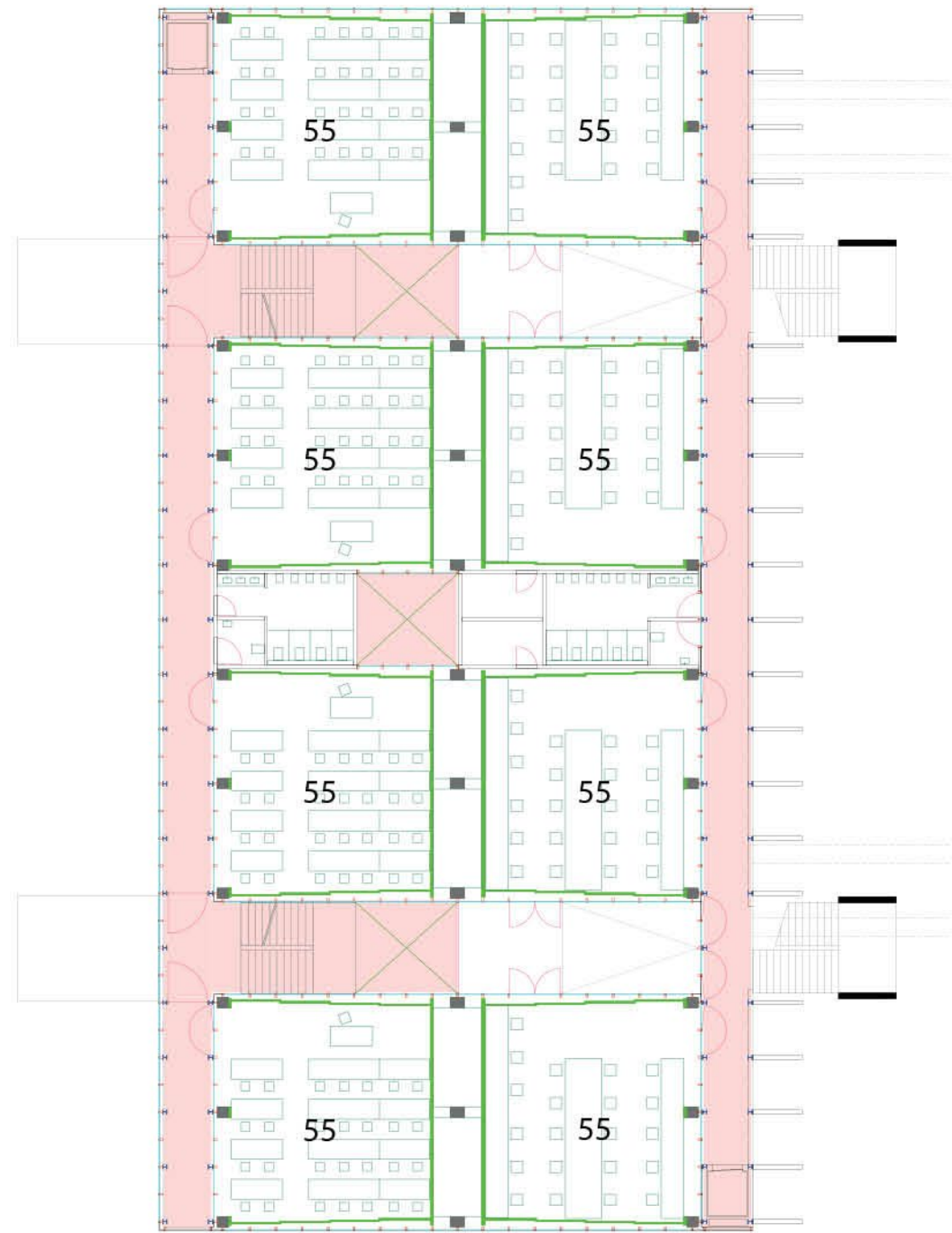
$$50 + 58 + 51 = 159 \text{ m}^2$$

$$72 + 493 = 565 \text{ m}^2$$

$$581 + 559 - (4 \times 42 + 18) = 954 \text{ m}^2$$

954 m² to 565 m²
115 % to 78%

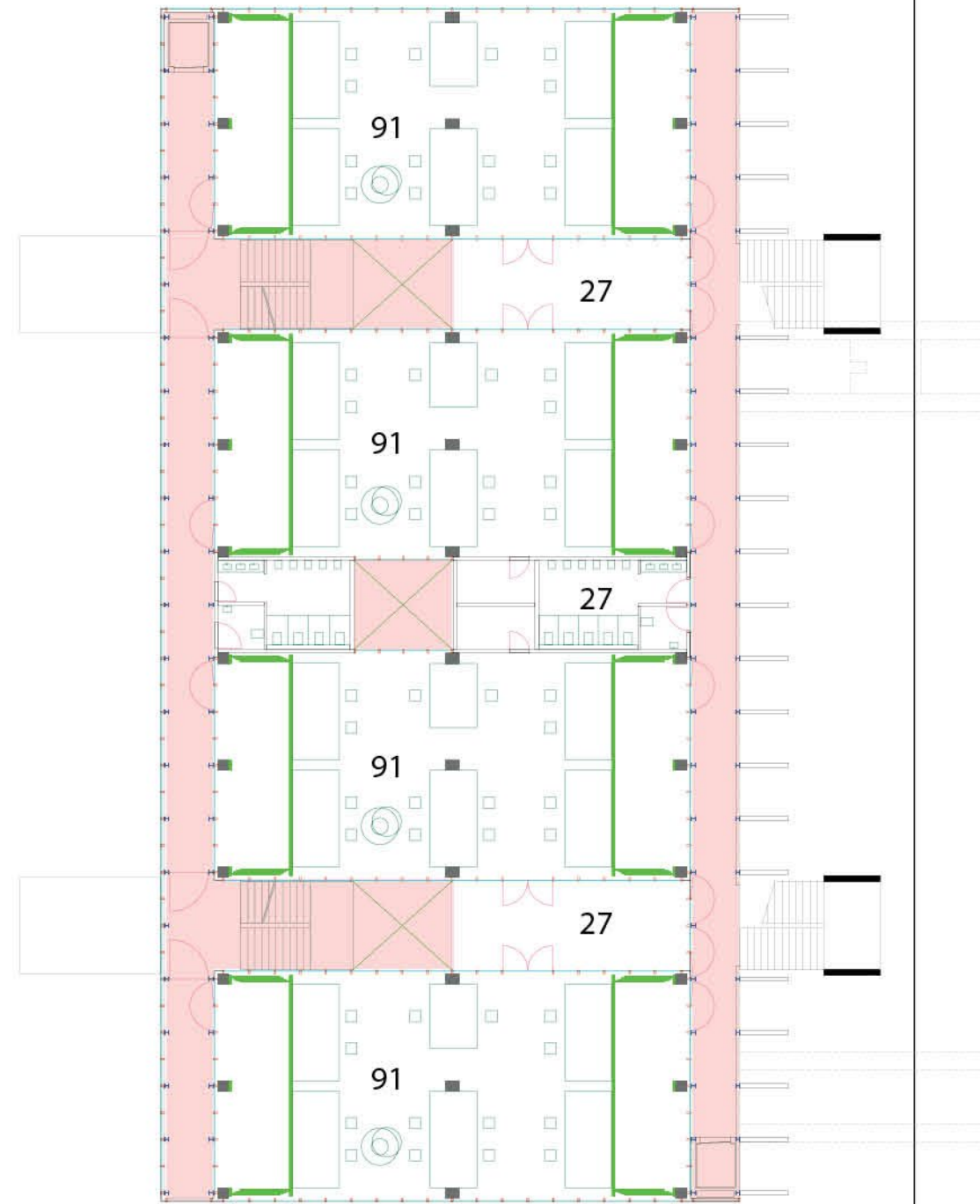
832 m²



$$60 + 60 + 32 + 32 + 14 = 198 \text{ m}^2$$

$$8 \times 55 + 27 + 15 = 482 \text{ m}^2$$

832 m²

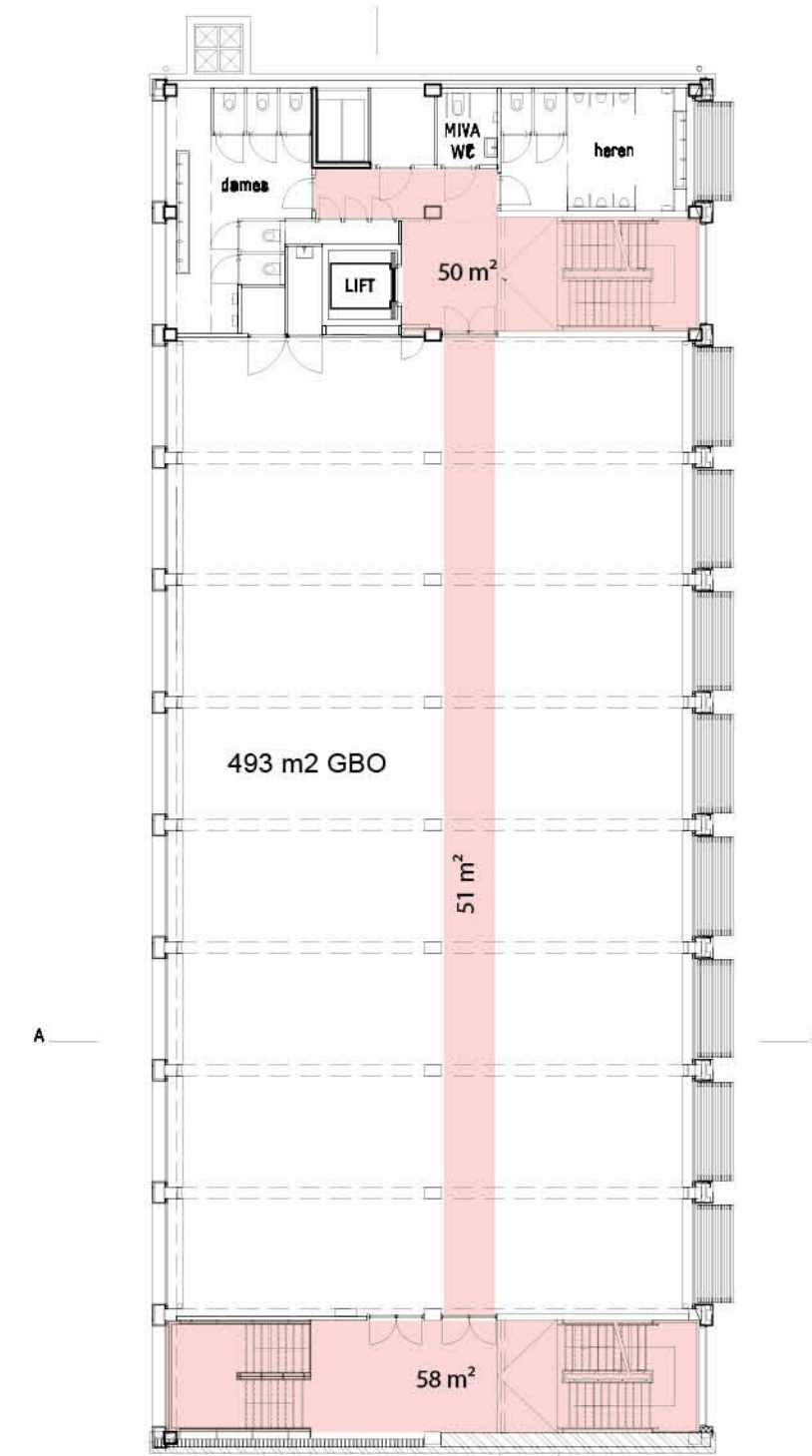


$$60 + 60 + 32 + 32 + 14 = 198 \text{ m}^2$$

$$4 \times 91 + 3 \times 27 = 445 \text{ m}^2$$

$$482 + 445 = 927 \text{ m}^2$$

722 m²



$$50 + 58 + 51 = 159 \text{ m}^2$$

$$72 + 493 = 565 \text{ m}^2$$

927 m² to 565 m²
111 % to 78%

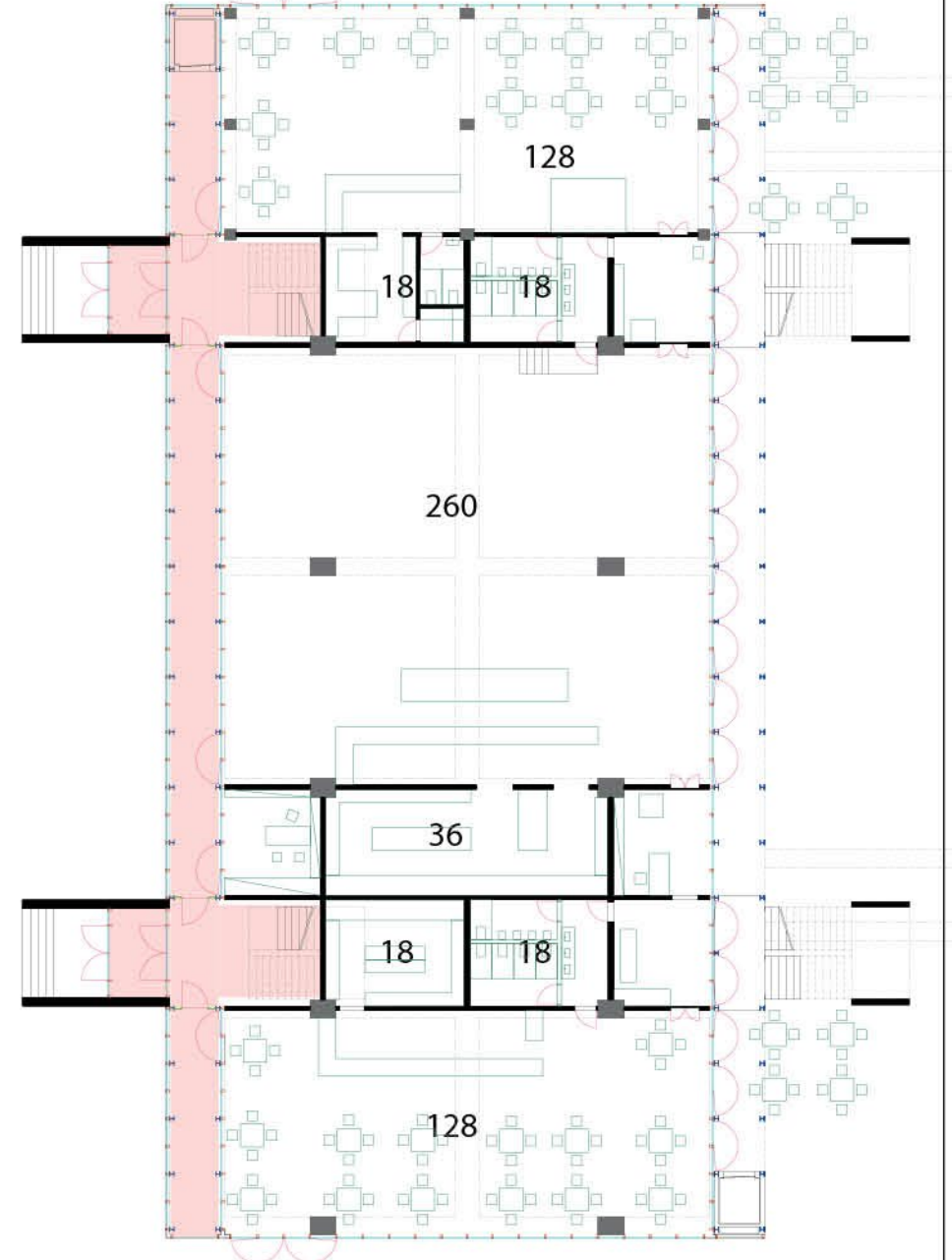
832 m²



$$60 + 12 + 12 = 84 \text{ m}^2$$

$$8 \times 47 + 4 \times 12 + 2 \times 18 = 460 \text{ m}^2$$

832 m²

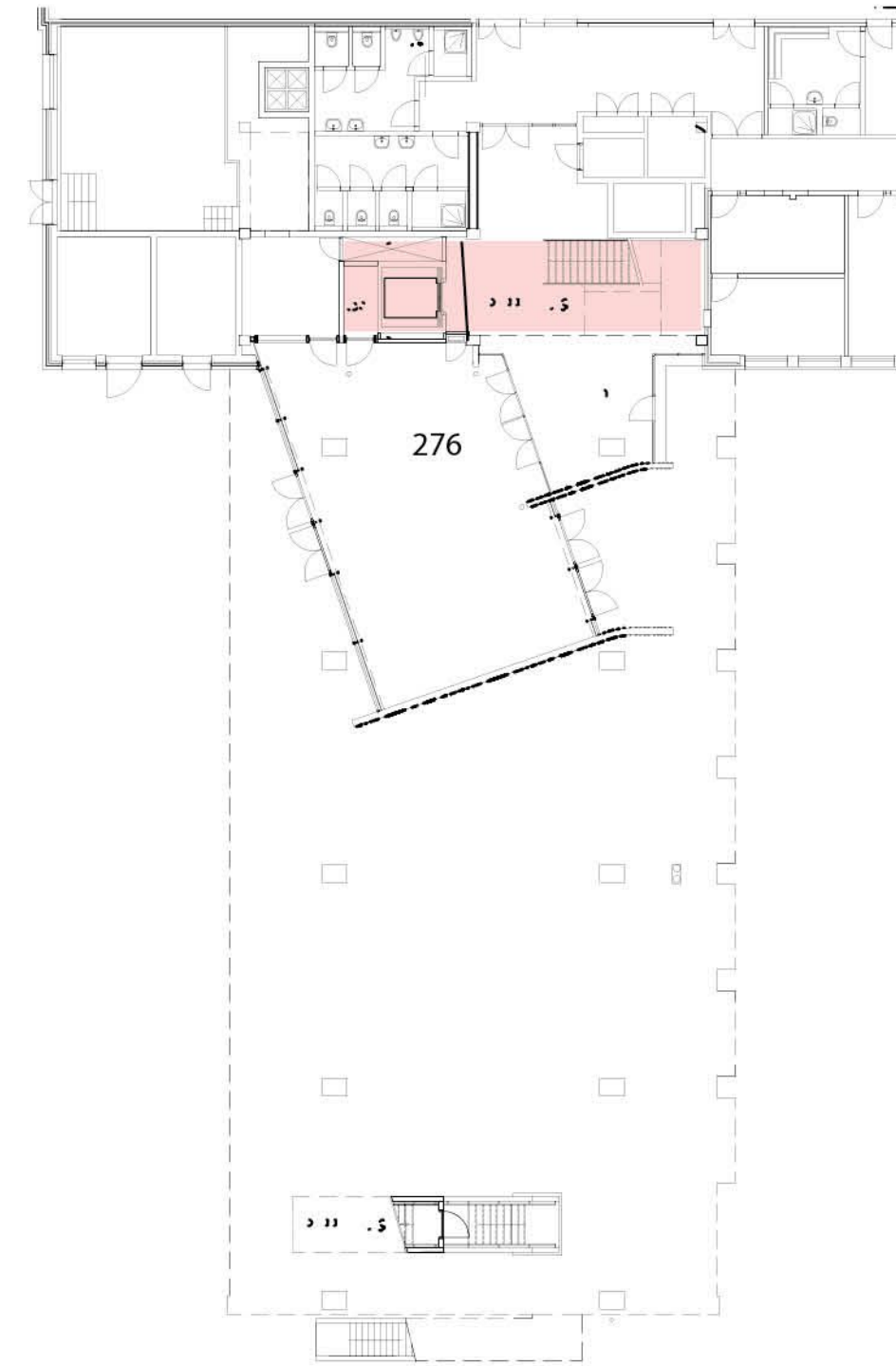


$$60 + 12 + 12 = 84 \text{ m}^2$$

$$2 \times 128 + 260 + 4 \times 18 + 36 = 624 \text{ m}^2$$

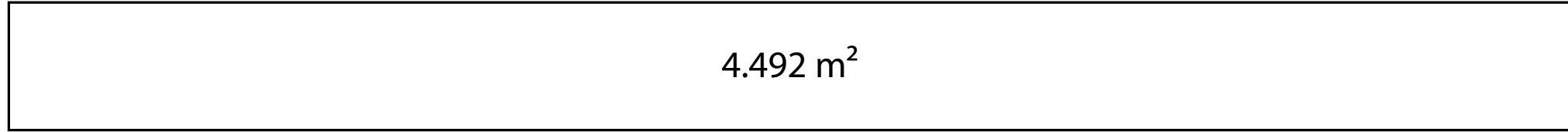
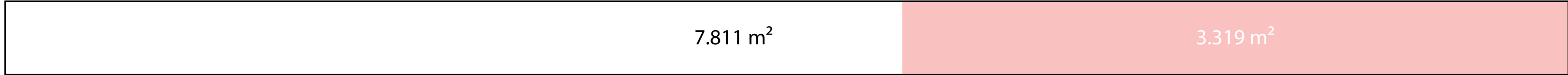
$$460 + 624 = 1084 \text{ m}^2$$

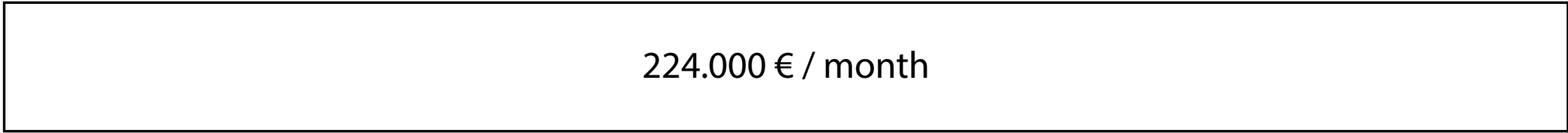
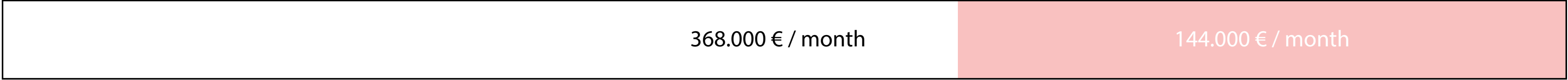
722 m²

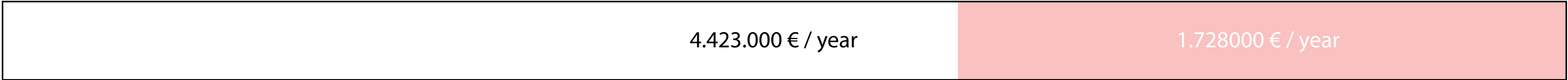
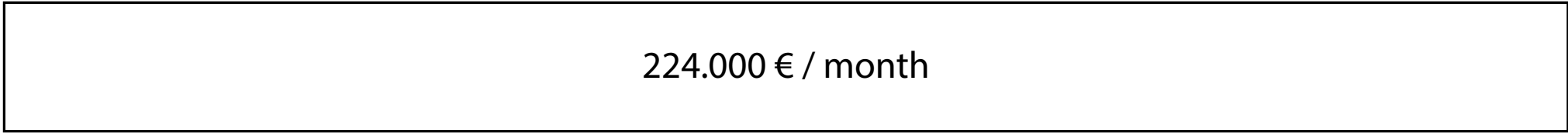
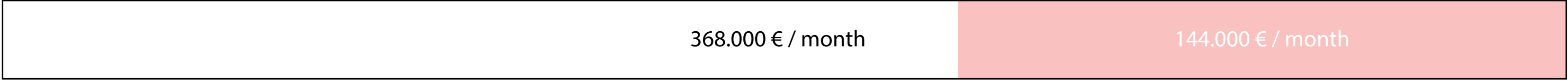


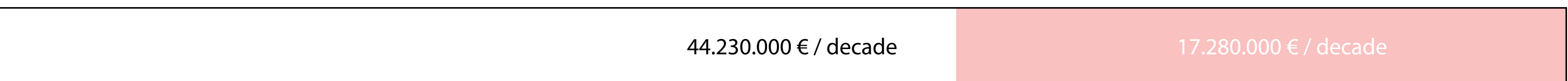
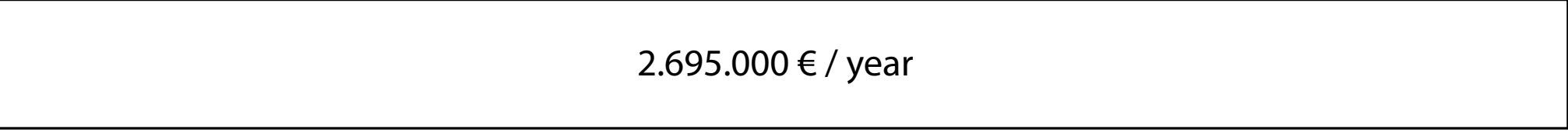
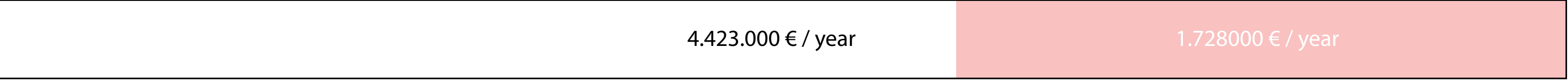
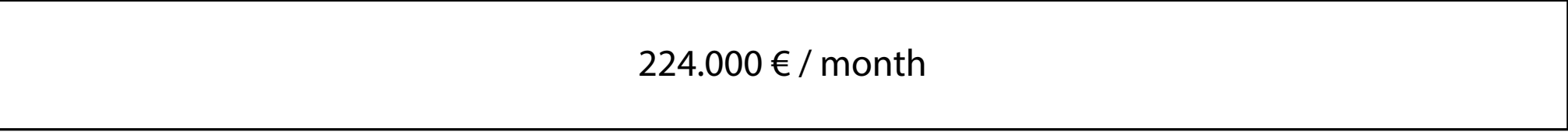
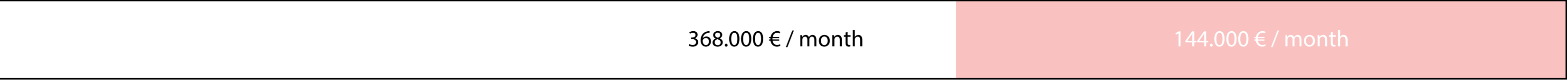
$$278 \text{ m}^2$$

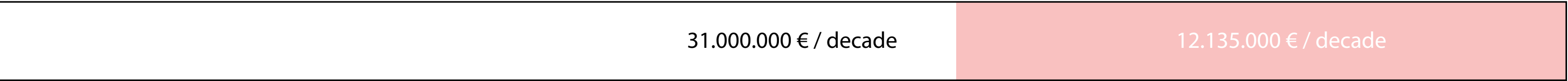
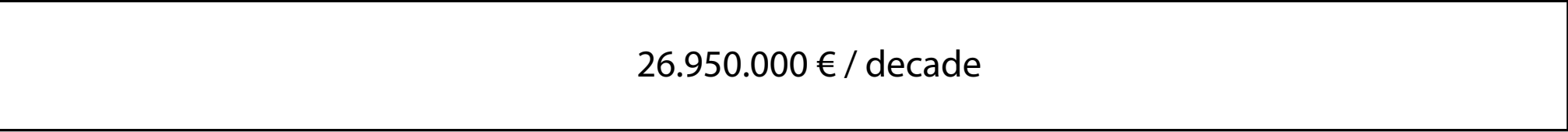
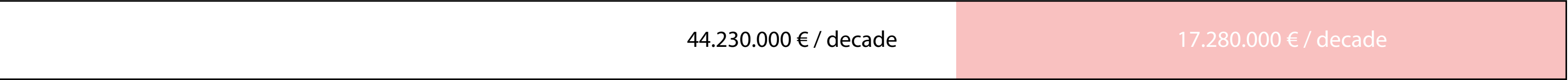
1084 m² to 278 m²
131% to 38%











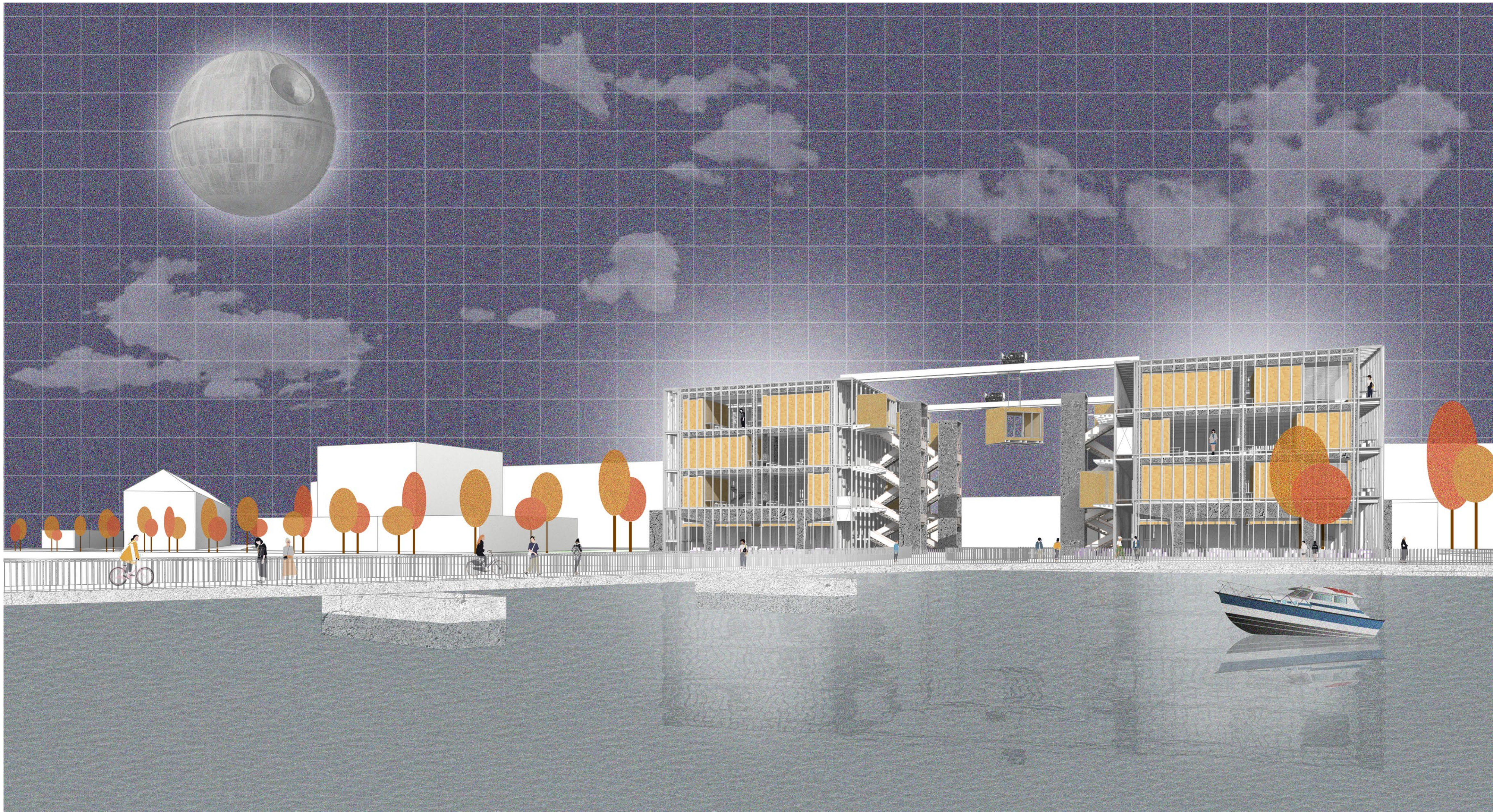


Image credits:

'living room' by seifert + stoeckmann,
<https://www.designboom.com/architecture/designboom-book-report-in-detail-small-structures/>

United Nations, Department of Economic and Social Affairs, Population Division (2017).
World Population Prospects: The 2017 Revision. New York: United Nations.

<https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=79940&printable=1>

<https://www.theverge.com/2018/5/8/17331250/automated-warehouses-jobs-ocado-andover-amazon>

<https://e.huawei.com/topic/leading-new-ict-en/yangshan-port-case.html>

<http://www.stefaneberstadt.de/rucksack.html>

<https://www.submission.de/news.php/Mobile-Apotheke.html>

<https://www.despiertaymira.com/index.php/2013/07/casa-transportable-aph80/>



