

Acoustics Consultant:	NAGATA ACOUSTICS, Inc.
Architect:	Toyo Ito & Associates, Architects
Owners:	City of Nagaoka
Theatre Consultant:	Professor Shozo Motosugi (Nihon University)
Sound & Communications:	NAGATA ACOUSTICS, Inc.
Construction Cost:	¥ 6,000 Million JPY

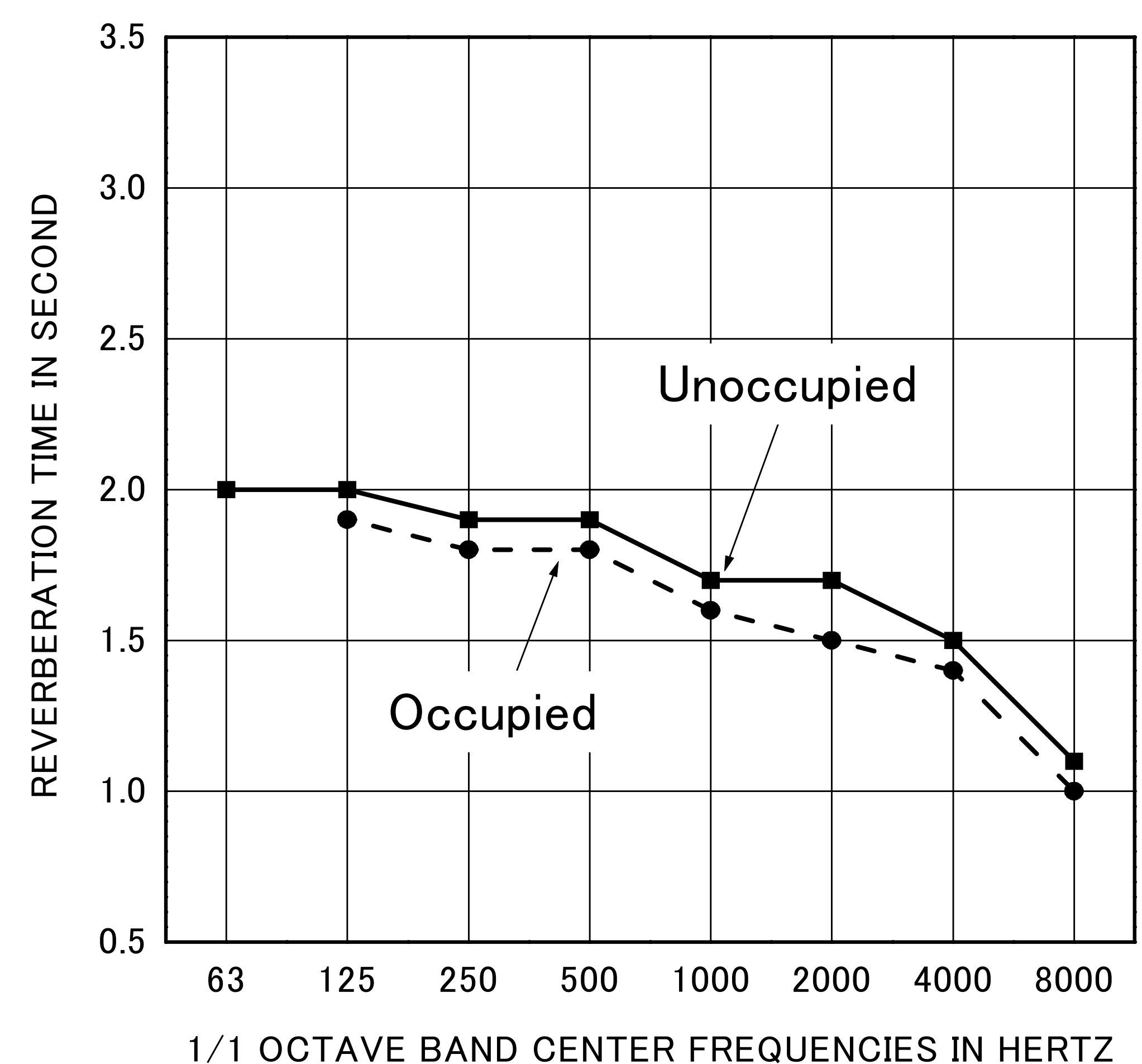
The hall was designed as a chamber hall with 700 seats mainly for classical music. An oval shape in plan was proposed by the architect and the main issue of the room acoustical design was to avoid detrimental echoes caused by the predetermined room shape.

Computer simulations were carried out to study the room shape. Some acoustical countermeasures, such as a big flat panel at the front wall of the stage, were introduced to break the oval shape acoustically while keeping the visual image of an oval room. Some acoustically absorptive materials at strategically identified places were also introduced to offset the effects of the oval shape.

The result works extremely well with no acoustically harmful phenomena. The hall is used as a home for the Sawa String Quartet, and is greatly appreciated by both musicians and audience.

BUILDING DETAILS AND ACOUSTICS DATA

Location	315 Terajima-machi Nagaoka City 940-2101, Japan
Tel	0258-29-7711
Seating Capacity	700
Room Volume	9,500 CM
Surface Area	3,300 SM
Stage Area	134 SM
Reverberation Time (Mid-Frequency)	
Unoccupied	1.9 sec
Occupied	1.8 sec
Finishing Materials	
Ceiling	: 3 layers of glassfiber reinforced gypsum board (8mm x 3)
Lower Wall	: wooden board on concrete
Upper Wall	: 2 layers of glassfiber reinforced gypsum board (10+12 mm)
Floor	: 50 mm wooden board on concrete
Seat	: upholstered
Noise Level	: NC - 20
Other Facilities	: Theater (450 seats)
Total Cost	: ¥ 6,000 Million JPY
Total Floor Area	: 9,708 SM



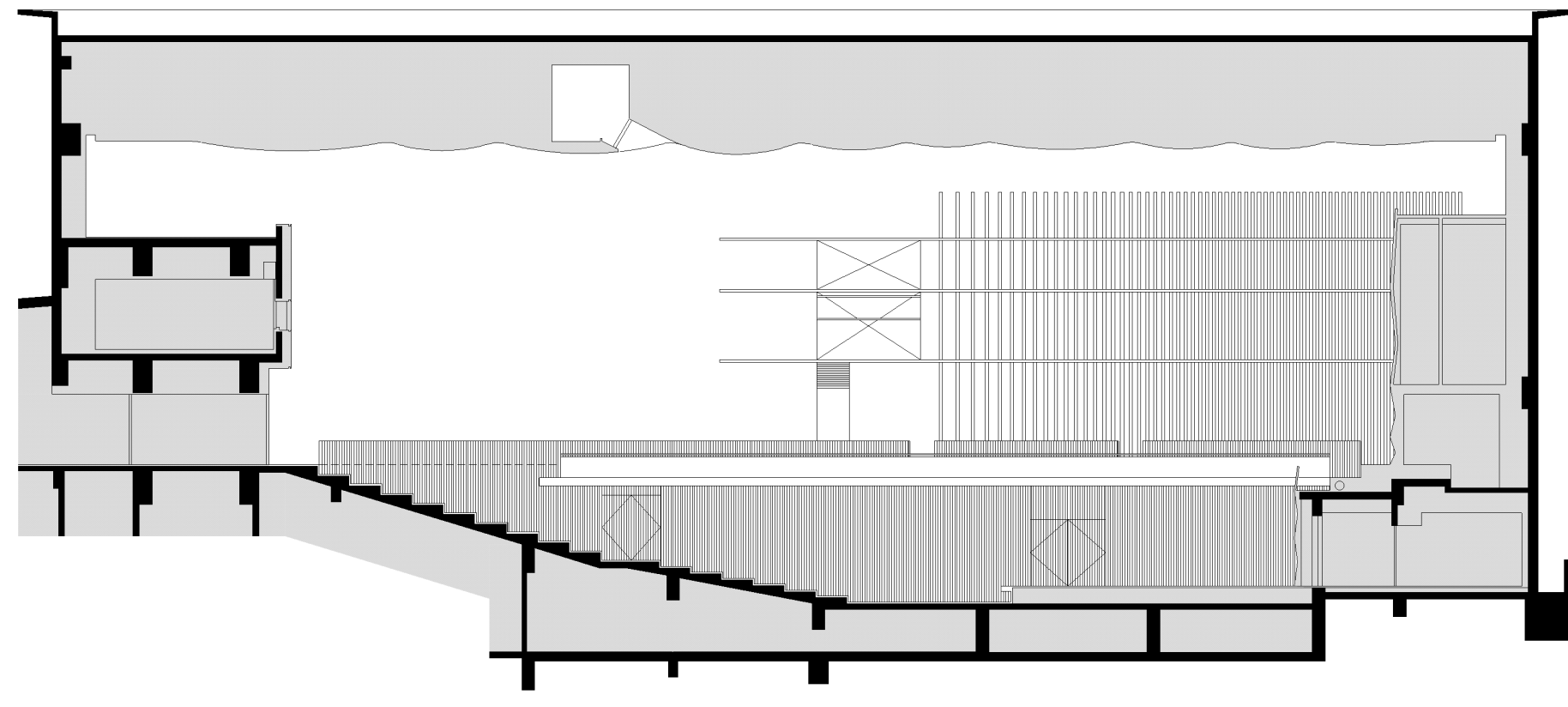
REVERBERATION TIME

NAGAOKA LYRIC HALL CONCERT HALL

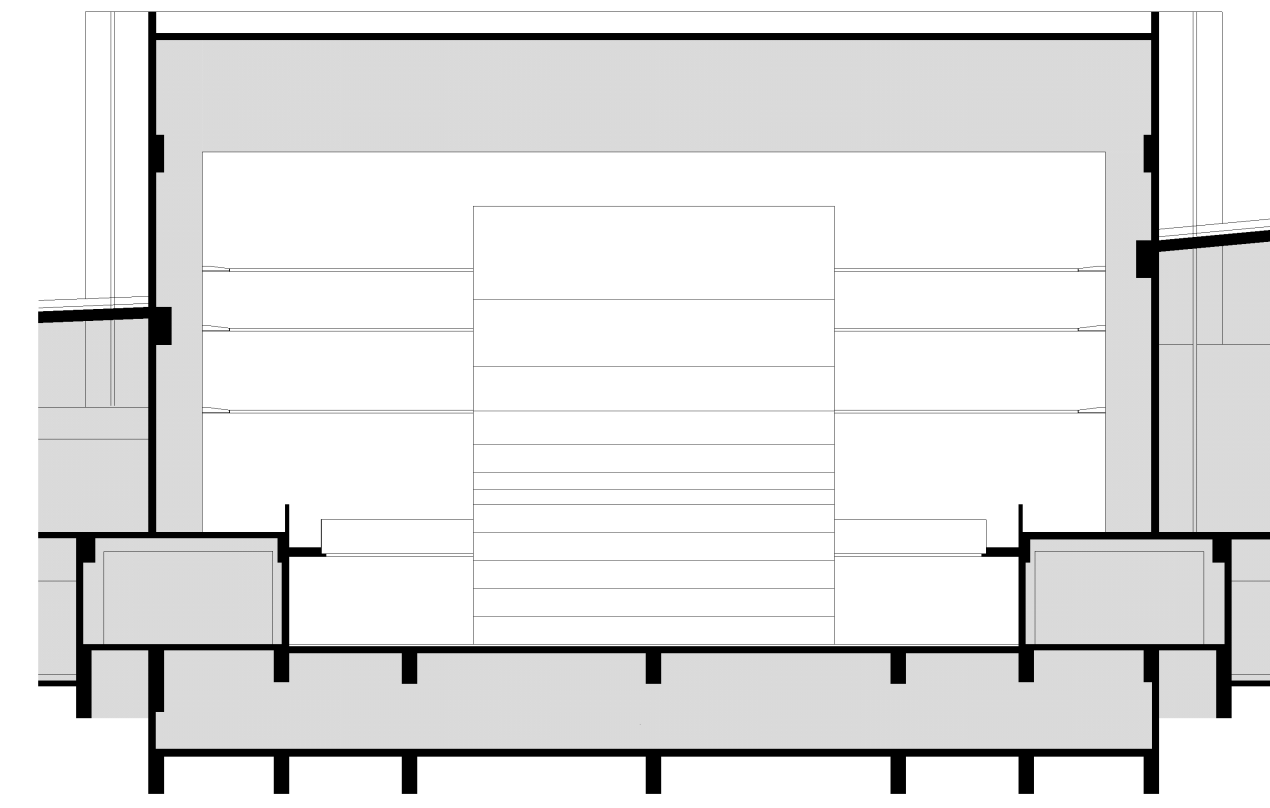
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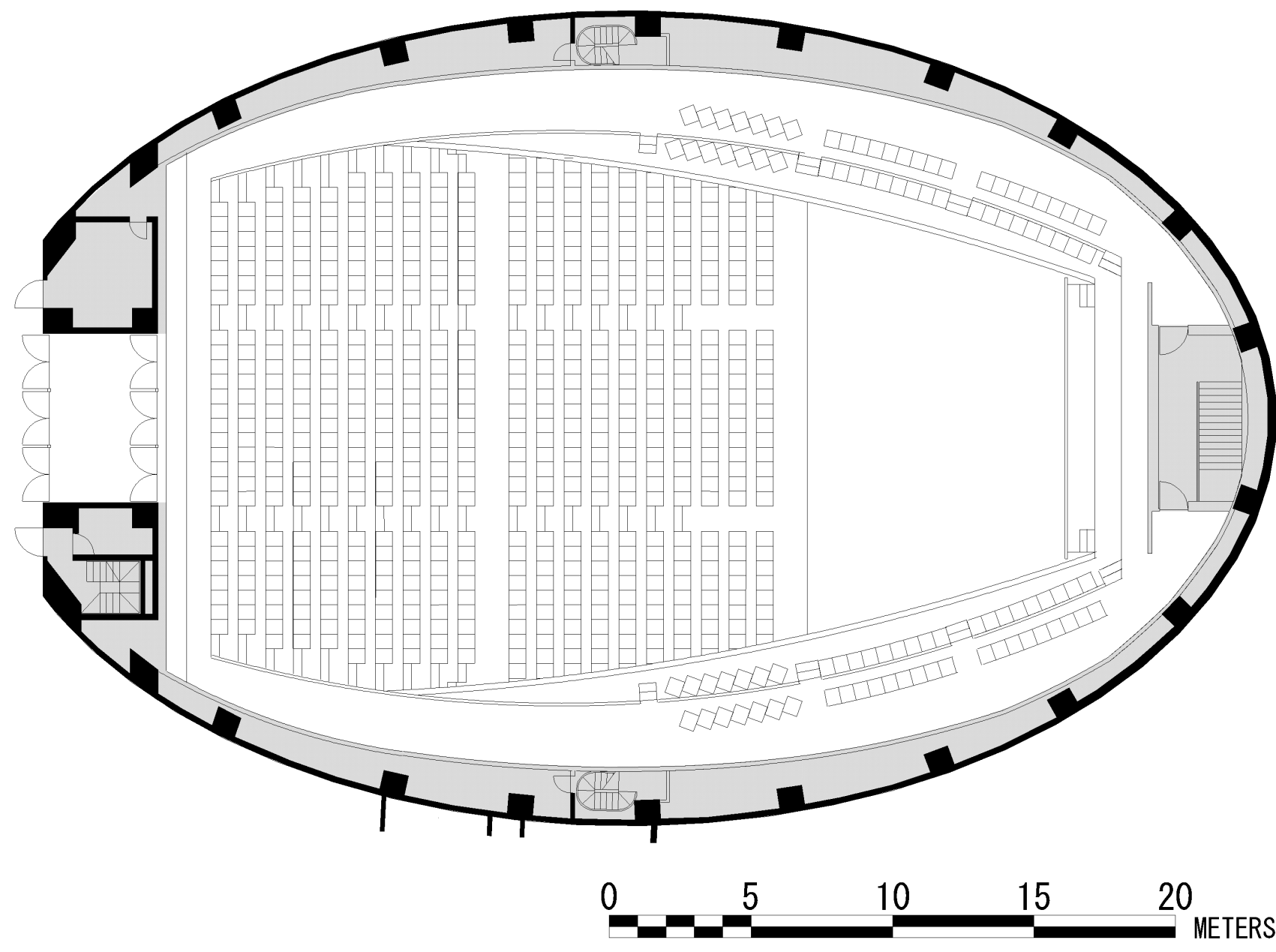
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ACOUSTICS



LONGITUDINAL SECTION



TRANSVERS SECTION



PLAN

