CROUND

Design Development Package

Jami Sparano

MA Exhibition and Experience Design SUNY Fashion Institute of Technology



Drawing Index

Executive Summary

EX.100	Statements
EX.101	Client / Venue
EX.102	Site Plan / Photos
EX.103	Sponsorship
EX.104	Audience
EX.105	Goals
EX.106	Interpretive Approach
EX.107	Concept Diagram
EX.108	Concept Floor Diagram
EX.109	Area Summaries / Flow
EX.110	Energy Diagram

Programming

EX.200	Entry Experience
EX.201	Introduction Wall
EX.202	Intro Wall Detail
EX.203	Frequency Functioning
EX.204	Sound Will Bounce

EX.205	Frequency Slides
EX.206	You Are the Sound
EX.207	Hair Cell Swing
EX.208	Sound Sensation
EX.209	Chladni Sandbox
EX.210	SpectroGram Screen
EX.211	Spectro Gram Filter
EX.212	Chromesthesia Sketching
EX.213	Ambient Thumper
EX.214	Emotion Composer
EX.215	Emotion Composer Cloud
EX.216	Sound Simplified

Schedules

EX.300	Graphic Schedule
EX.301	Graphic Specifications
EX.302	Material Schedule
EX.303	Lighting Schedule
EX.304	Media Schedule

Plans

EX.400 Dimensional Plan

- EX.401 Material Plan
- EX.402 Reflected Ceiling Plan
- EX.403 Graphic Location Plan
- EX.404 Power Plan
- EX.405 Media Plan

Graphics

EX.500	Graphic Identity
EX.501	Logo
EX.502	Typography
EX.503	Area Graphic Cues
EX.504	Look + Feel Inspiration
EX.505	Graphic Look + Feel
EX.506	Look + Feel Synthesis
EX.507	Poster
EX.508	Billboard Advertisment
EX.509	Interior Lobby Banner

EX.510 Boston T Wayfinding

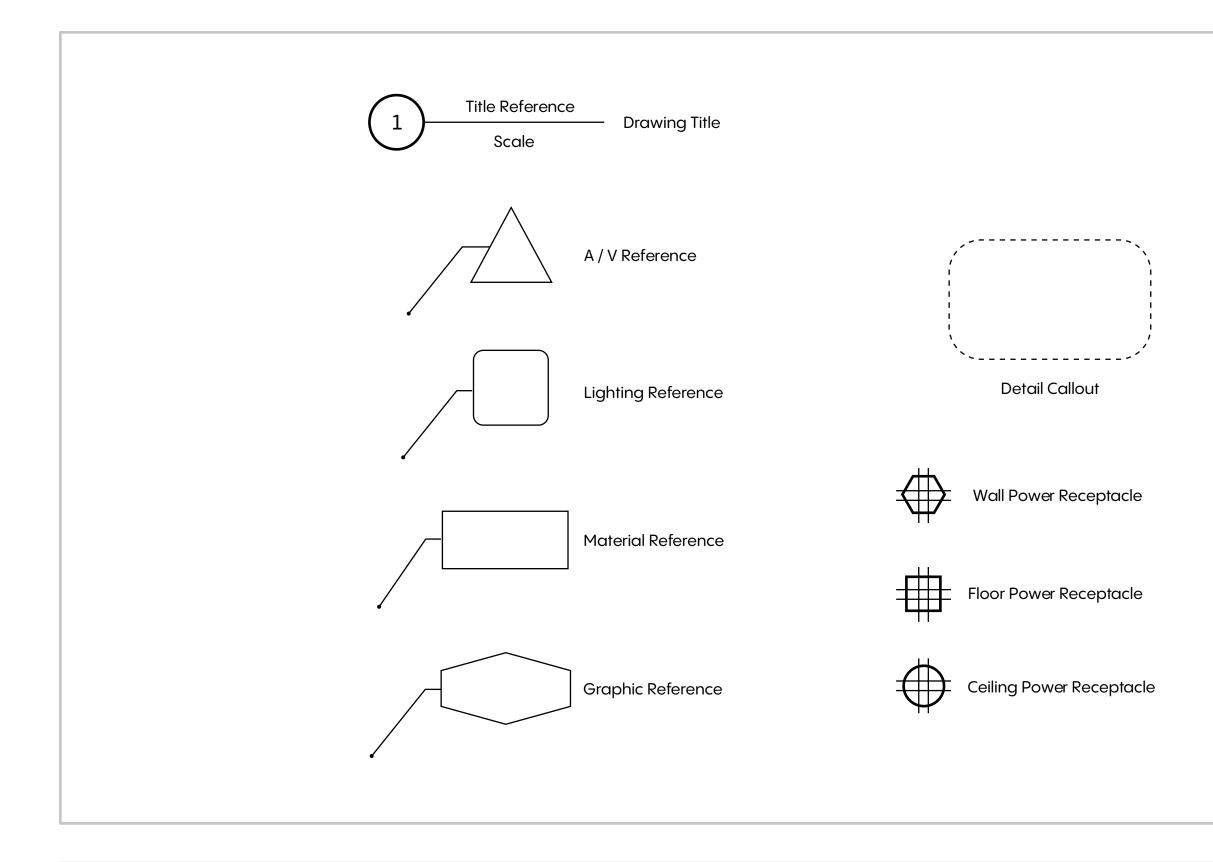
EX.511 Docent Apparel

Design Drawings

- EX.600 Introduction Wall
- EX.601 Entry Graphic 1
- EX.602 Entry Graphic 2
- EX.603 Area + Directive Signage
- EX.604 Sign Reference
- EX.605 Area Title Signage
- EX.606 Wayfinding Park Sign
- EX.607 Sound Will Bounce

Collateral + Prototypes

- EX.701 Sound Machine
- EX.702 Headphones
- EX.703 Jump Rope
- EX.704 Socks
- EX.705 Chladni Prototype
- EX.706 Composer Prototype



Thesis Statement

Sound has the power to impact human consciousness on neurological and psychological levels, thus altering our lives more profoundly than we may readily acknowledge.

Particular sound waves, or frequencies, at the core of soundscapes and musical compositions, influence thoughts, feelings, and expression in ways that directly inform how people will engage with the world around them.

By understanding the relationship between sound frequencies and human consciousness, experiential designers can harness the effect(s) soundscapes have in fabricated environments and how they can be composed in order to affect the quality of group dynamics, enhance learning outcomes, and aid in audience wayfinding.

Big Idea

This exhibition will demonstrate how sound frequencies can shape our conscious states on neurological and psychological levels, i.e, impacting mood, behaviors, and cognitive processes. Through this, people will gain a deeper understanding of themselves in relationship to how sound operates and how it presents itself in everyday life.



Museum of Science

"As science and technology increasingly shape our lives, the Museum of Science strives to equip and inspire everyone to use science for the global good.

The Museum's singular location connecting Boston and Cambridge puts us at the junction of some of the world's most influential academic institutions and industries, local and state government, schools, and the public. Trusted by each sector, we are ideally positioned to convene, inspire, and create meaningful experiences for all."

- MOS.org

Mission

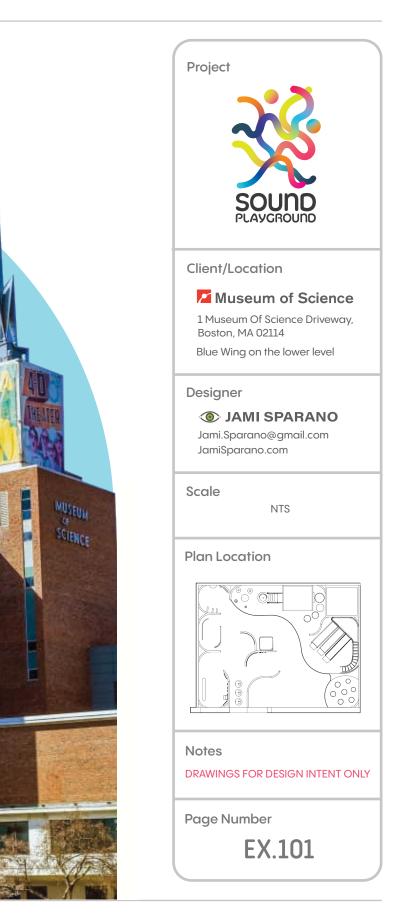
To inspire a lifelong love of science in everyone.

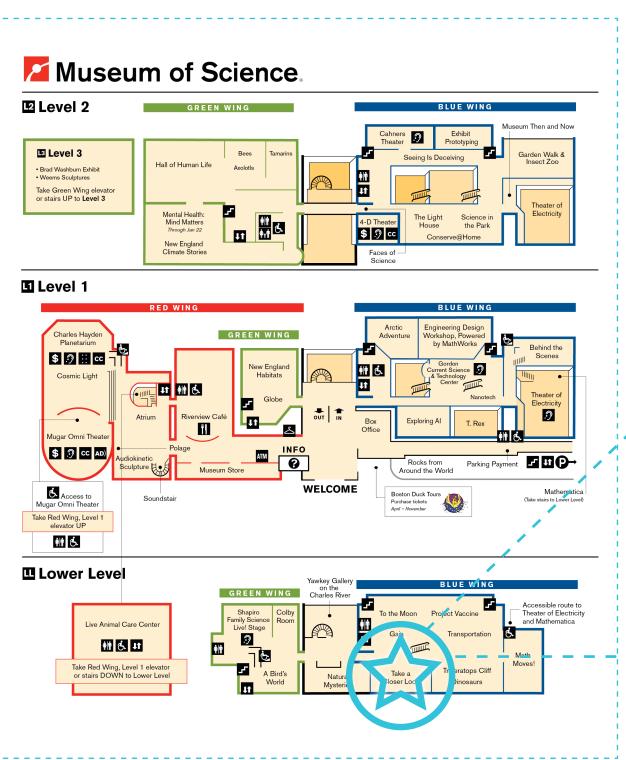
Why MOS?

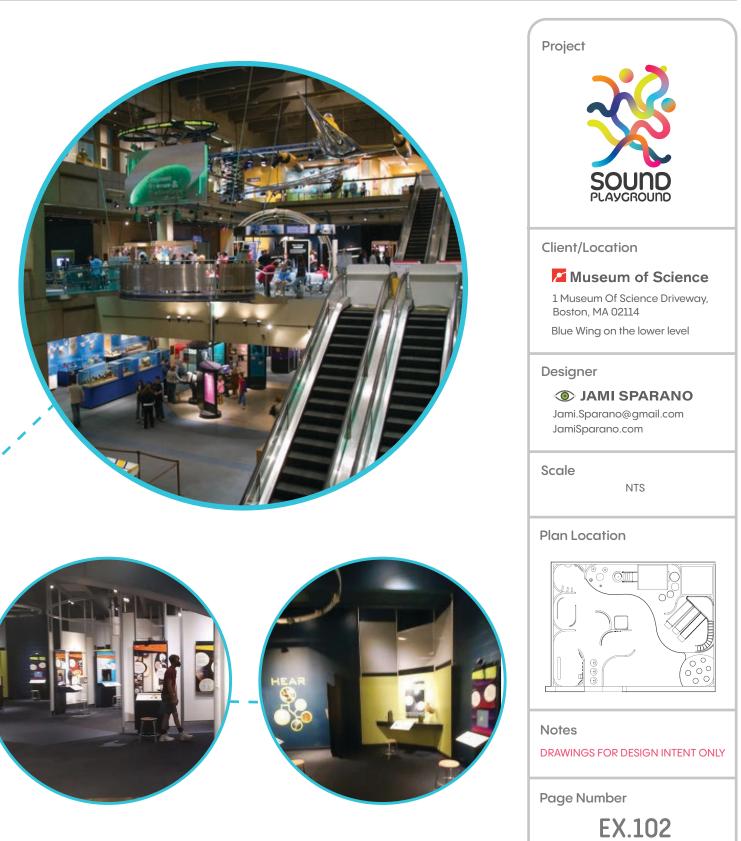
The Museum of Science is the perfect place to house Sound Playground due to its wide audience net as well as opportunities for adequate accoustic control.

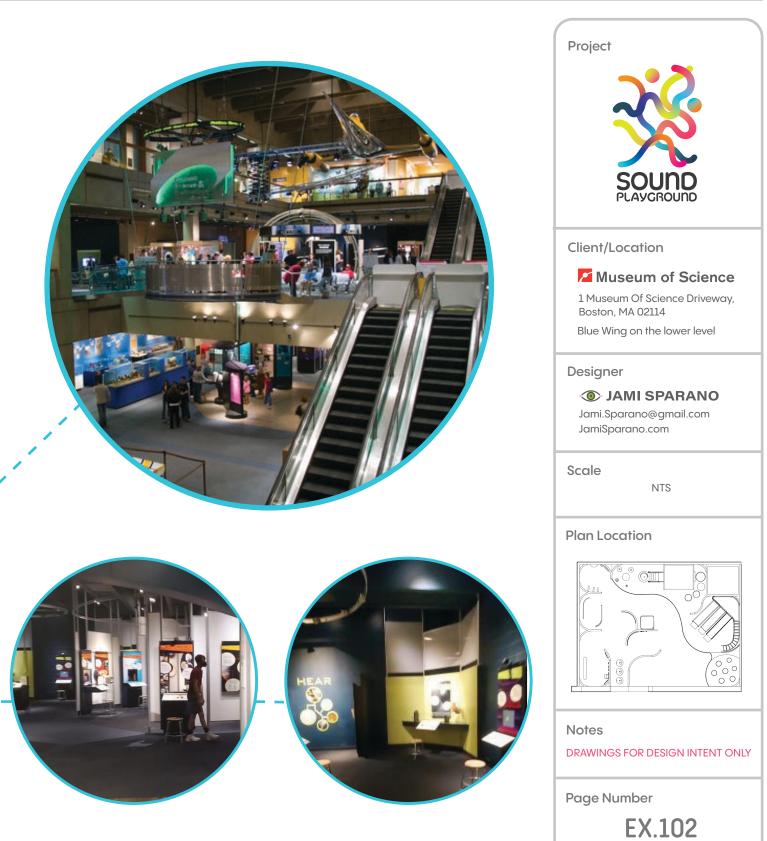
Jami Sparano_Sound Playground

SCIENC











In collaboration with The National Science Foundation

Mission

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense; and for other purposes.



Primary:

Massachusetts 4th-grade students following the state's Science and Art curriculums that introduce properties of sound and music

Secondary:

Families and caregivers with children

Tertiary:

Boston tourists looking for a way to stimulate their city experience with something fun, educational, and unique



Education Goals

Visitors will learn...

- What sound frequencies are and how they play a considerable role in shaping our consciousness, i.e, mood, behavior, identity, and decision-making
- About the relationship between themselves and the soundscapes that are around them
- How sound functions at its very core and how humans process it from neurological and psychological standpoints

Experience Goals

The audience will experience...

- A number of playful and informative activities that will break down sound frequencies by their functioning, processing, and visual properties
- Soundscapes that are intentionally designed or pulled from real-life scenarios
- A heightened awareness of the impact that sound can have on them
- Ways to interpret sound outside of hearing

Project Goals

This exhibition aims...

- To help audiences gain a deeper understanding of the sonic worlds they occupy by learning the functionality of audio frequencies in relationship to how humans process them
- To demonstrate a unique way to asses enviromental soundscapes
- To look at sound through a lense thats blends neuroscience and psychology
- To equip the audience with new ways to think about sound



Client/Location

Museum of Science

1 Museum Of Science Driveway, Boston, MA 02114 Blue Wing on the lower level

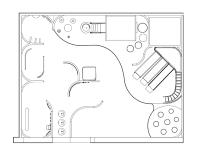
Designer

③ JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com

Scale

NTS

Plan Location



Notes

DRAWINGS FOR DESIGN INTENT ONLY

Page Number

EX.105

Interpretive Approach

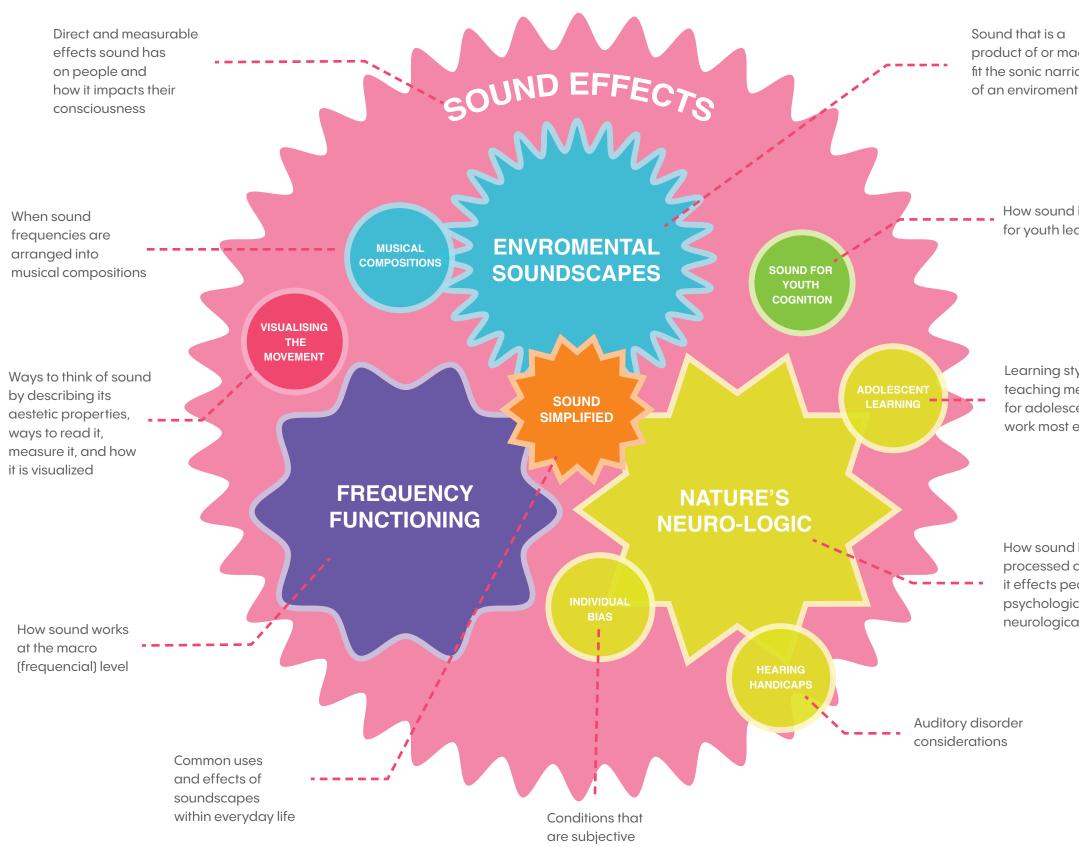


Sound Playground is a children's exhibition that aims to raise awareness of sound and soundscapes. In turn, this heightened awareness will help younger audiences gain a better sense of themselves and the world(s) they inhabit through a unique and often overlooked lense. Awareness and perception are the key to individual consciousness.To create viable connection between sound and an individual's psyche will help to facilitate greater bonds with one's inner self.

The visitor experience will begin with entry moments that encourage people to think about sound along with an overview of soundscapes and how they appear in everyday life. Then, the audience will weave through various high-energy and low-energy activity zones, creating a rhythmic passage that allows for moments of action and reflection. Each activity will highlight a different facet of sound and its affect, as well as multiple ways to interpret soundscapes.







product of or made to fit the sonic narriative

> How sound in used for youth learning

Learning styles and teaching methods for adolescents that work most efficiently

How sound is processed and how it effects people psychologically /

neurologically

Project



Client/Location

Museum of Science

1 Museum Of Science Driveway, Boston, MA 02114

Blue Wing on the lower level

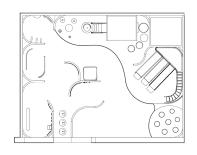
Designer

③ JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com

Scale

NTS

Plan Location

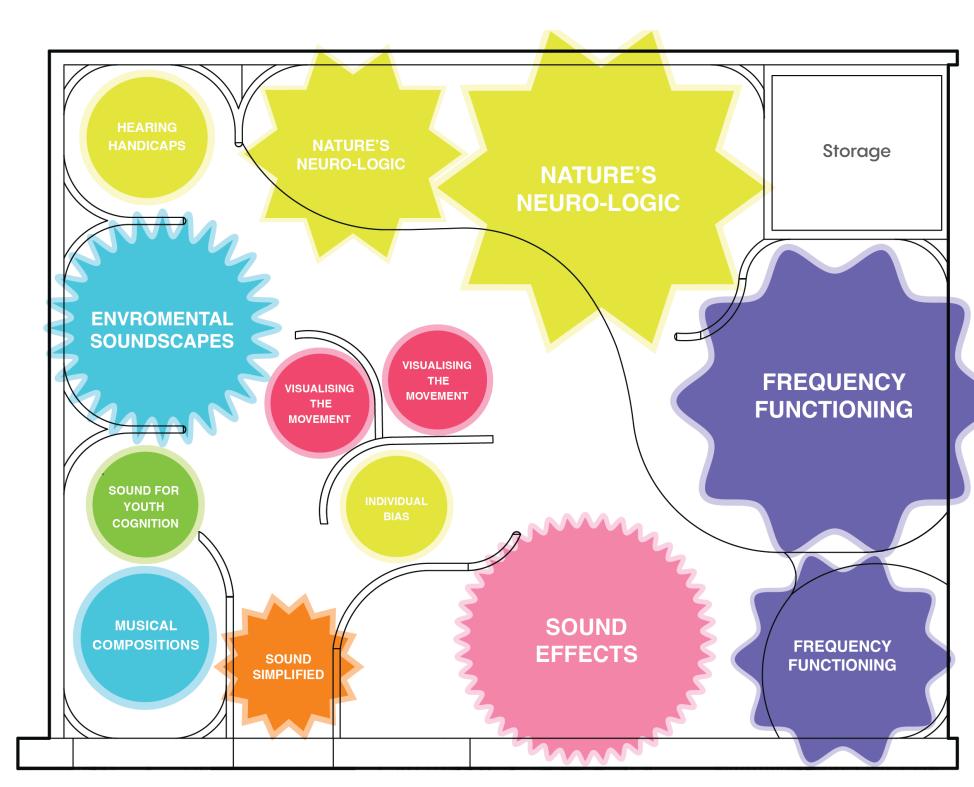


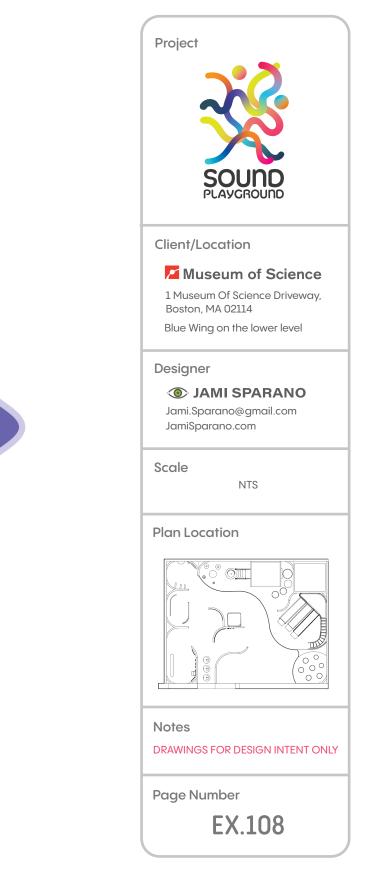
Notes

DRAWINGS FOR DESIGN INTENT ONLY

Page Number

EX.107





01. Sound Will Bounce

Teaches about sound's abillity to bounce and reflect.

02. Frequency Slide

Demonstrates different sound waves and their energetic associations.

03. Become the Sound

Embody frequencies by climbing through an abstracted ear canal.

04. Hair Cell Swings

Learn aout hair cells and neural-transmitters on replicated swings.

05. Sound Sensation

Hearing loss simulation that explores bass tones through tactile elements.

06. Chromesthesia Sketching

Pressure sensitive fabric wall that mimics synesthetic perception via artistic gestures.

07. SpectroGram

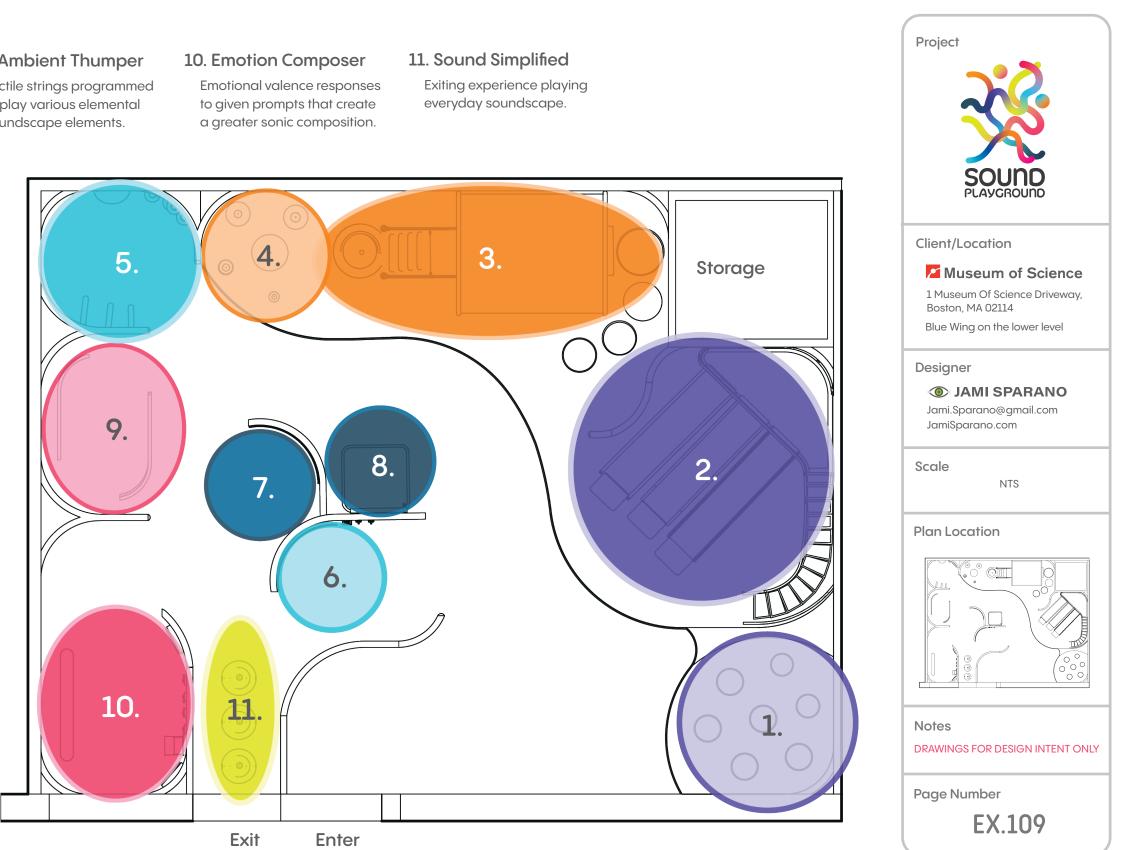
Screen that filters surroundings into spectrogram style image.

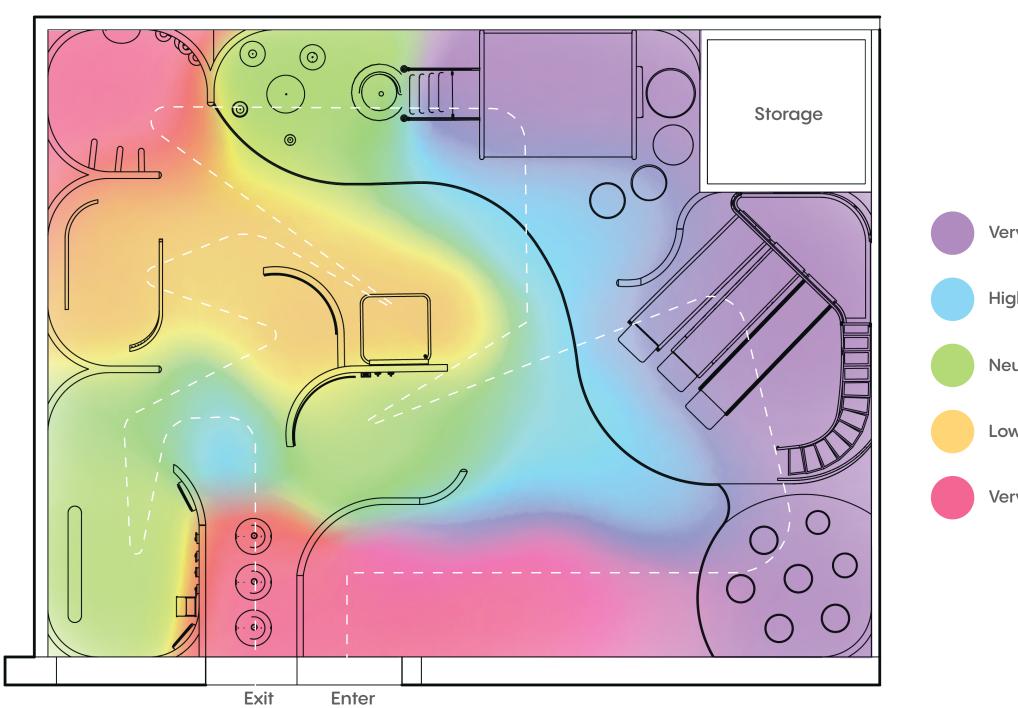
08 Chladni Sandbox

Sound visualizations via Chladni plate style sandbox and frequency tuner.

09. Ambient Thumper

Tactile strings programmed to play various elemental soundscape elements.



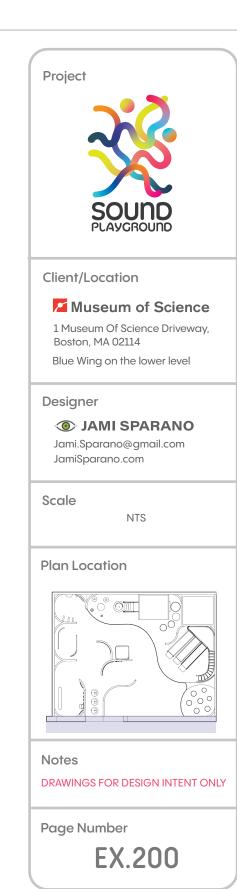


	Project
	Client/Location
ry High	Museum of Science Driveway, Boston, MA 02114 Blue Wing on the lower level
gh	Designer JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com
utral	Scale
N	Plan Location
ry Low	
	Notes DRAWINGS FOR DESIGN INTENT ONLY
	Page Number EX.110



Introduction wall via the blue wing lower level hallway. Glowing dimensional text welcomes the visitor.







See

Large scale graphic walls leading the audience into the space.

Do

Read about soundscapes as well as reflect on own knowledge of sound.

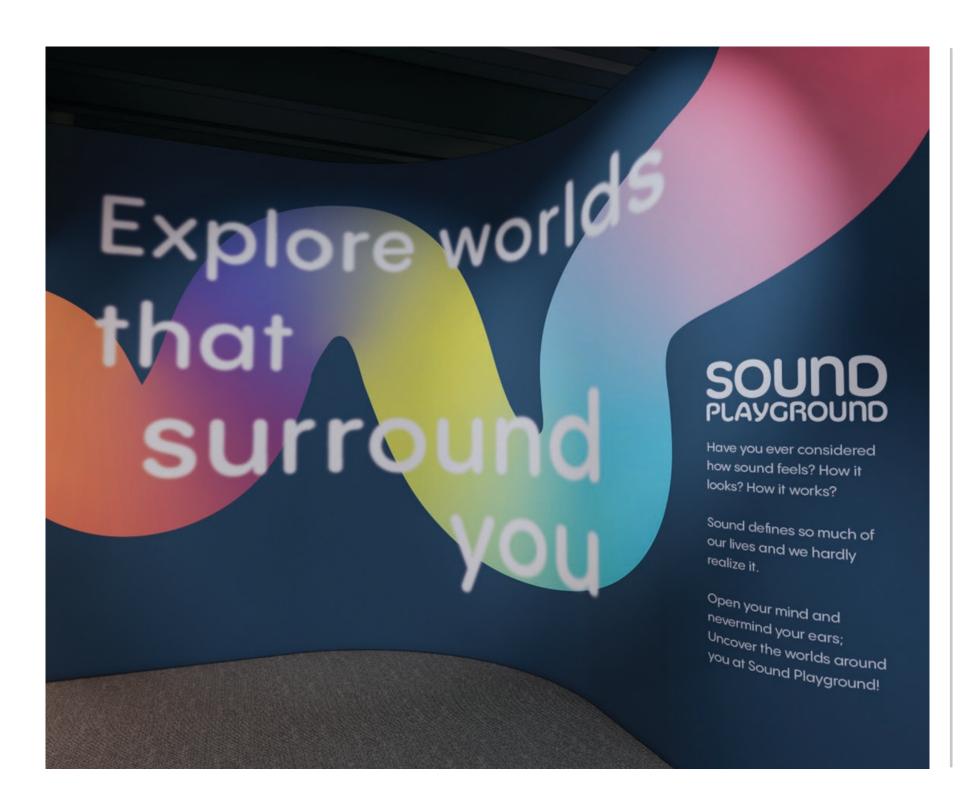
Learn

About what soundscapes are and how they present themselves.





Project
Client/Location
Museum of Science Driveway, 1 Museum Of Science Driveway, Boston, MA 02114 Blue Wing on the lower level
Designer
Scale NTS
Plan Location
Notes DRAWINGS FOR DESIGN INTENT ONLY
Page Number





Project	
Client/Location	
1 Museum Of Science Driveway,	
Boston, MA 02114 Blue Wing on the lower level	
Designer JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com	
Scale NTS	
Plan Location	
Notes DRAWINGS FOR DESIGN INTENT ONLY	
Page Number EX.202	



Overview shot of Frequency Functioning



Project
Client/Location Museum of Science 1 Museum Of Science Driveway, Boston, MA 02114 Rive Wigg on the lower level
Blue Wing on the lower level Designer JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com
Scale
Plan Location
Notes DRAWINGS FOR DESIGN INTENT ONLY

Page Number

EX.203



See

Guests will see various sized trampoline pads embedded into it the rubber flooring that are colored differently from one another.

Do

Jump on each trampoline to see how they differ in bounciness and how the lights react to their activity.

Learn

How sound waves differently bounciness and how the them to react differently immediate environment.

	Project
	Client/Location Museum of Science 1 Museum Of Science Driveway, Boston, MA 02114 Blue Wing on the lower level
CC nd bjects se ve kat	Designer
to I	Scale NTS
	Plan Location
er in	Notes DRAWINGS FOR DESIGN INTENT ONLY
nat causes y with their	Page Number EX.204



See

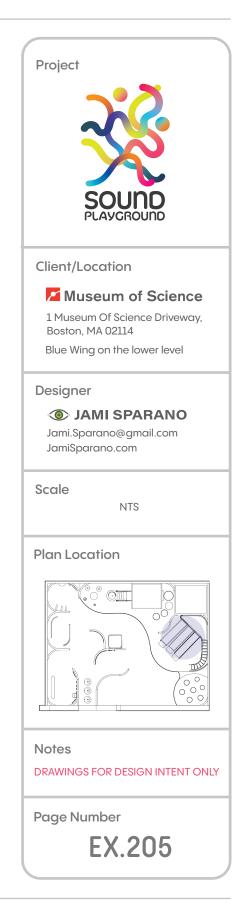
Guests will see 3 slides, each with various degrees of curvature which depict high, medium, and low-range frequencies.

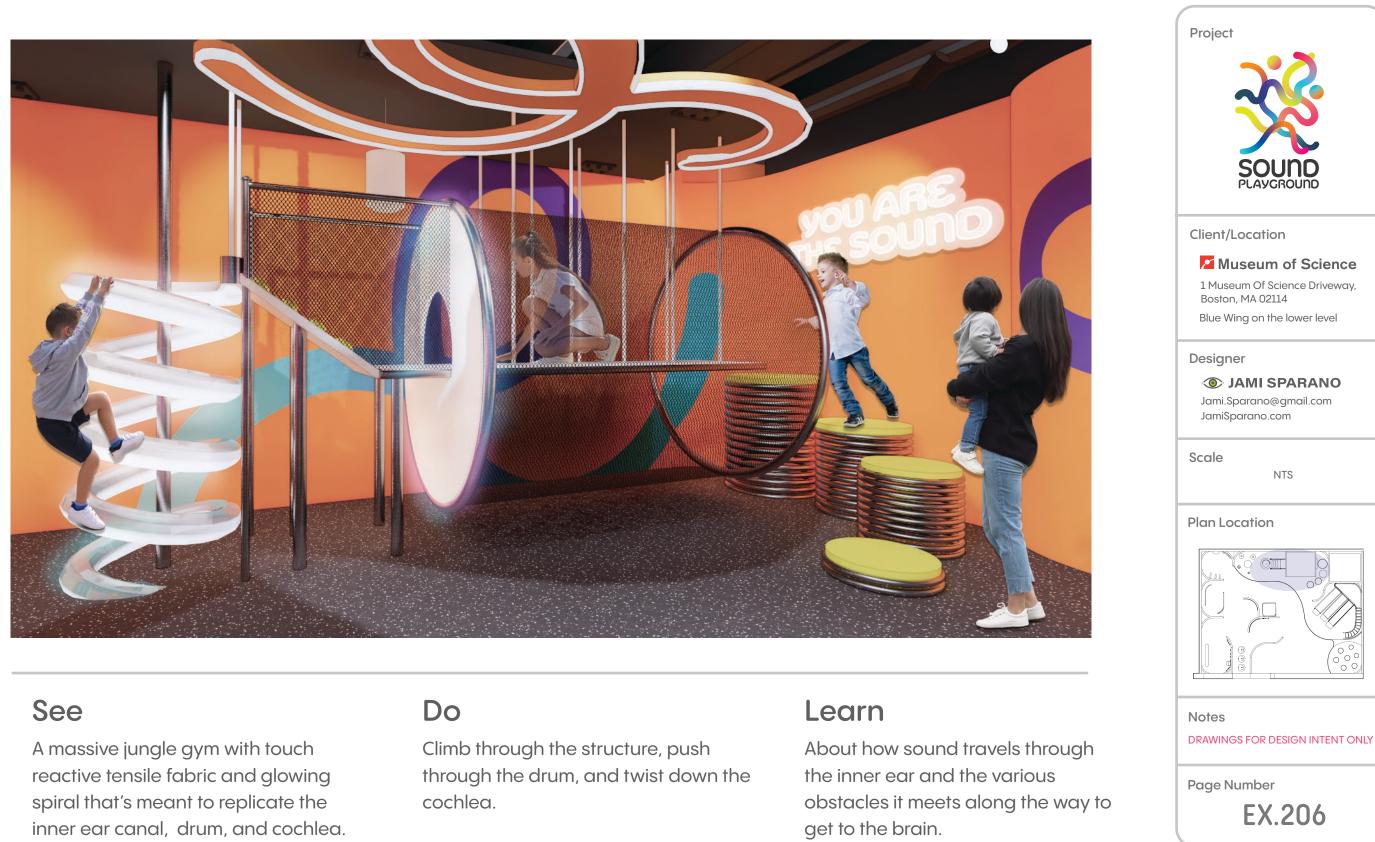
Do

Go down all of some of the slides.

Learn

About how sound waves move as waves and the corresponding energetic and sound properties for each given frequency range.







See

Various abstract swings that fall from the ceiling and extend from the larger playground jungle gym.

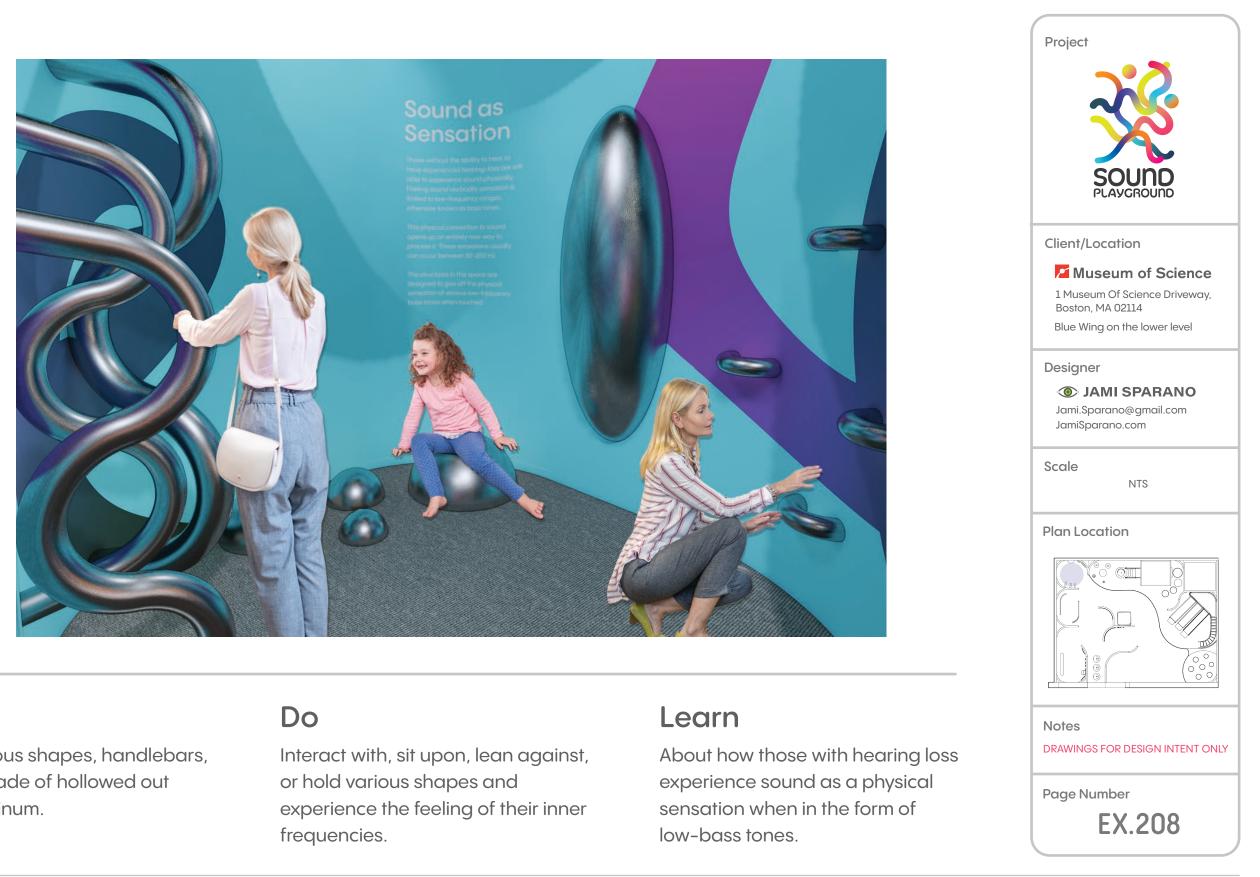
Do

Sit, twist, swing and sway in a number of fixed motions.

Learn

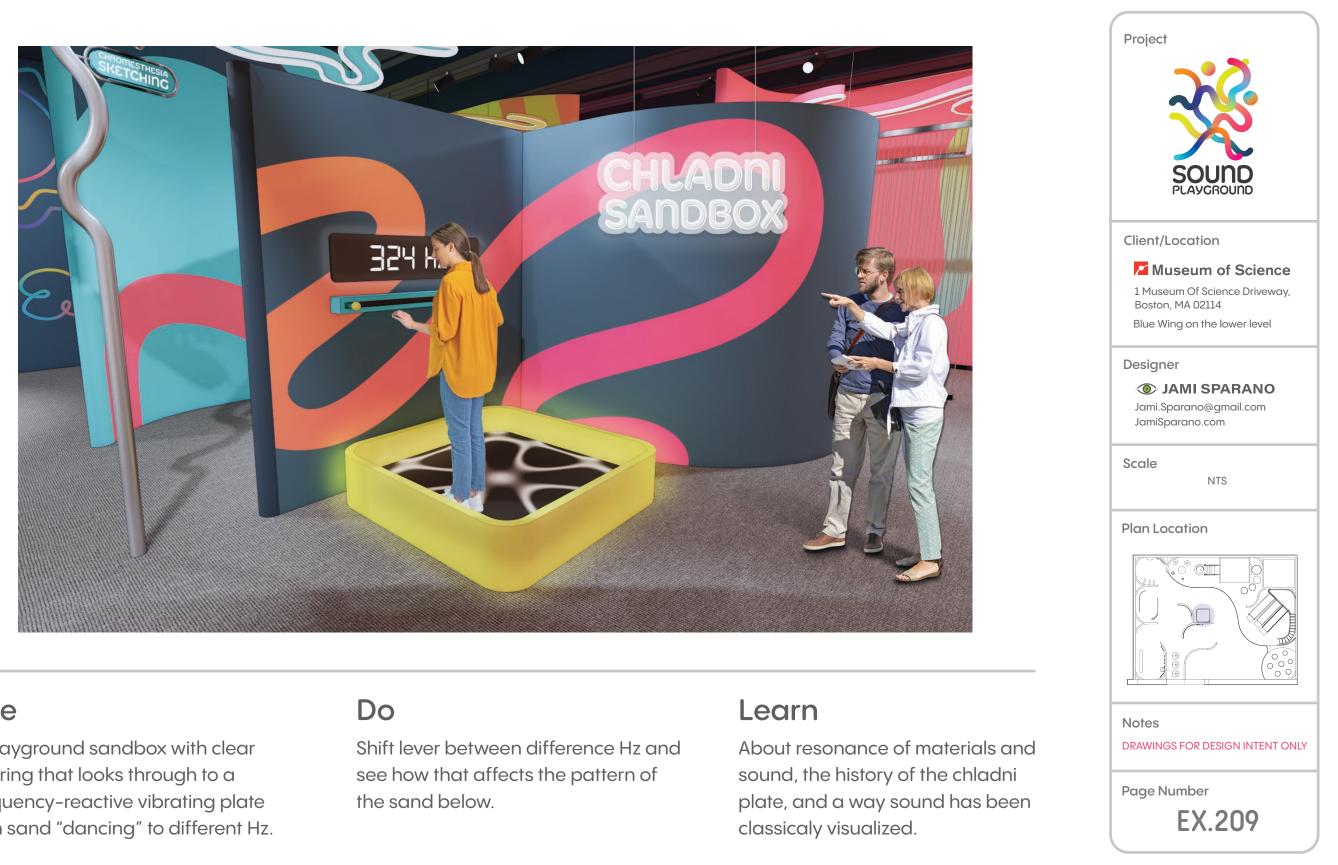
About the hair cells in the inner ear that send neuro-signals to the brain and differ depending on their movement.





See

A mix of various shapes, handlebars, and seats made of hollowed out coated aluminum.



See

A playground sandbox with clear flooring that looks through to a frequency-reactive vibrating plate with sand "dancing" to different Hz.



See

A curved screen that shows it's immediate surroundings. Changes in color and depth as the sound in the enviroment changes.

Do

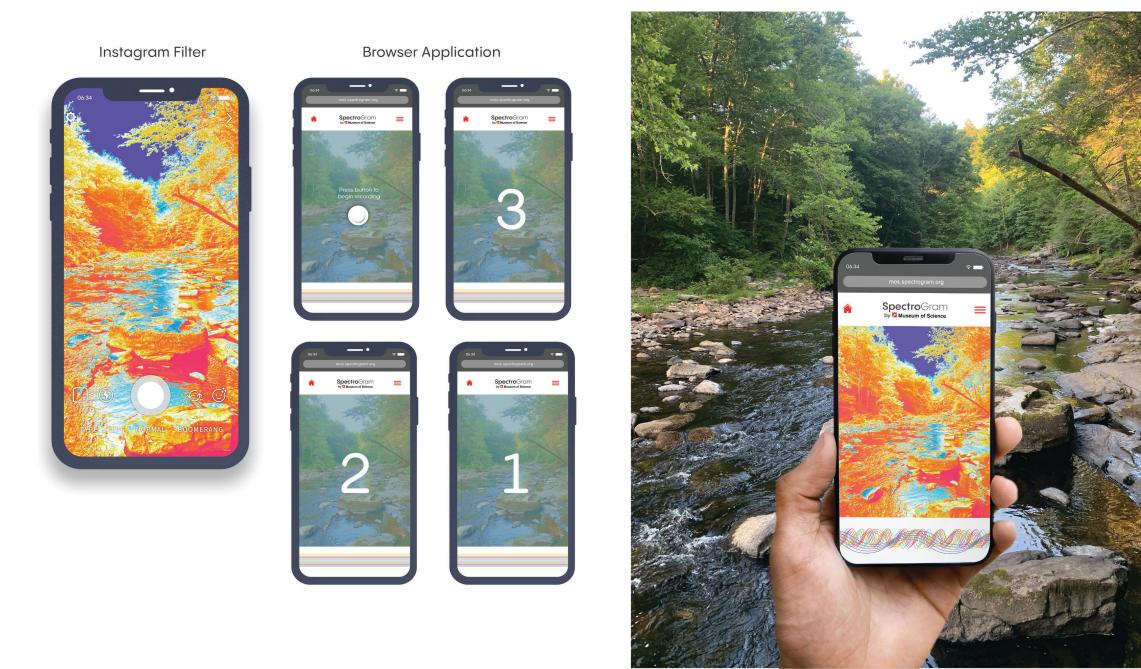
See how the visualization changes based upon the pitch, volume, and amount of sound happening at once.

Learn

How sound is visualized from a mathematical and data driven standpoint.



External Programming



Extended programming of the Spectro Gram screen available on Instagram and the MOS website. Works with a phone camera and microphone to apply the Spectro Gram filter onto the immediate enviroment based on sound input.



DRAWINGS FOR DESIGN INTENT ONLY

Page Number

EX.211



See

Large tensile fabric wall with projected imaging, hanging headphones, and a box full of digital drawings tools.

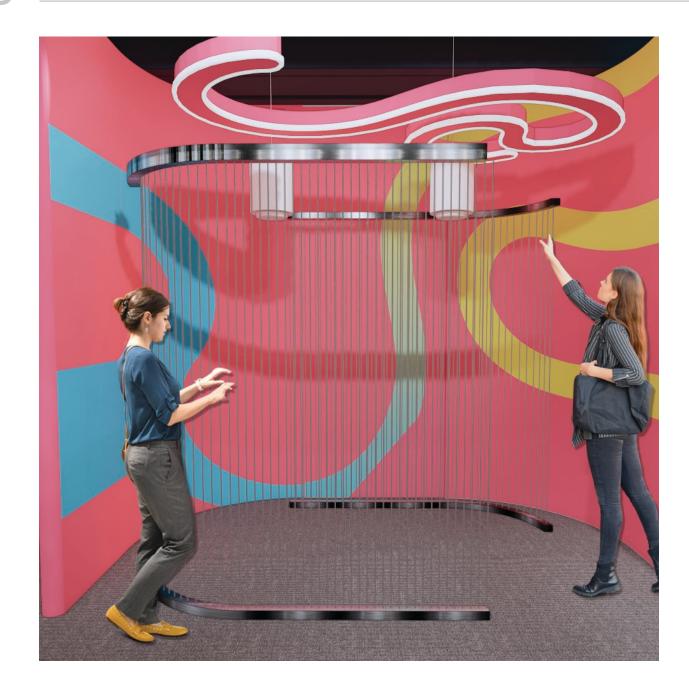
Do

Put on the headphones and draw your visual interpretation of the ambient music on the fabric using the digital drawing tool.

Learn

About how those with chromesthesia make sense of sound as well as intepret the sound in a visual way for yourself.





See

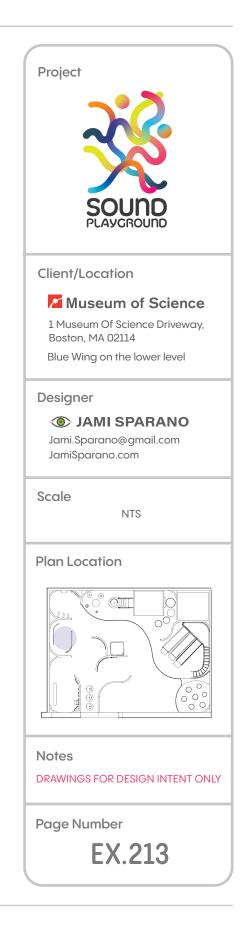
Sculptural string structure enclosement and overhead speakers.

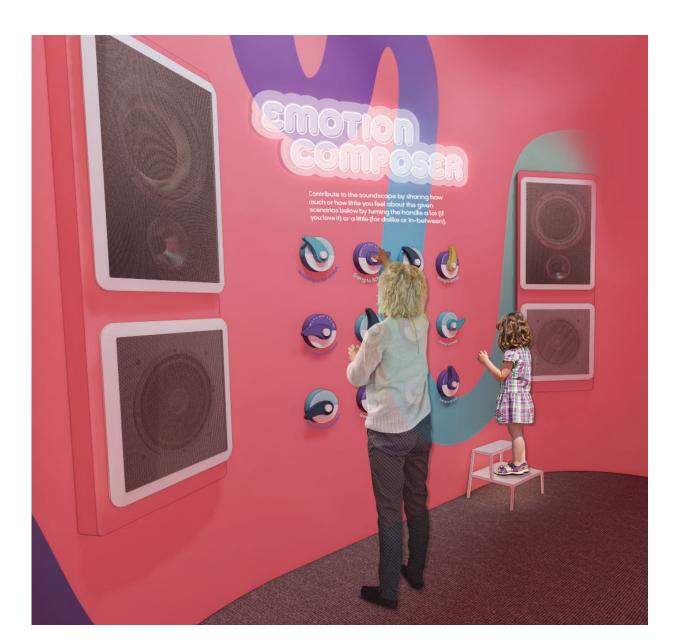
Do

Pluck strings or stum many. Listen to the natural sound bites that play from overhead and create a thundering or peaceful sonic landscape.

Learn

About how it is the accumulation of many diverse sounds and sound frequencies that make up an entire soundscape.





See

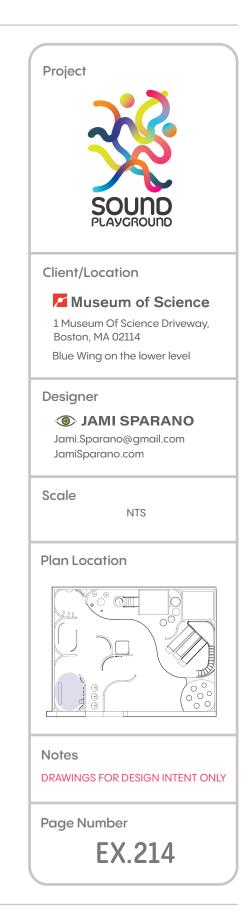
A large wall with multiple knobs that people can turn in response to a prompt asking them how strongly they feel about a given scenario.

Do

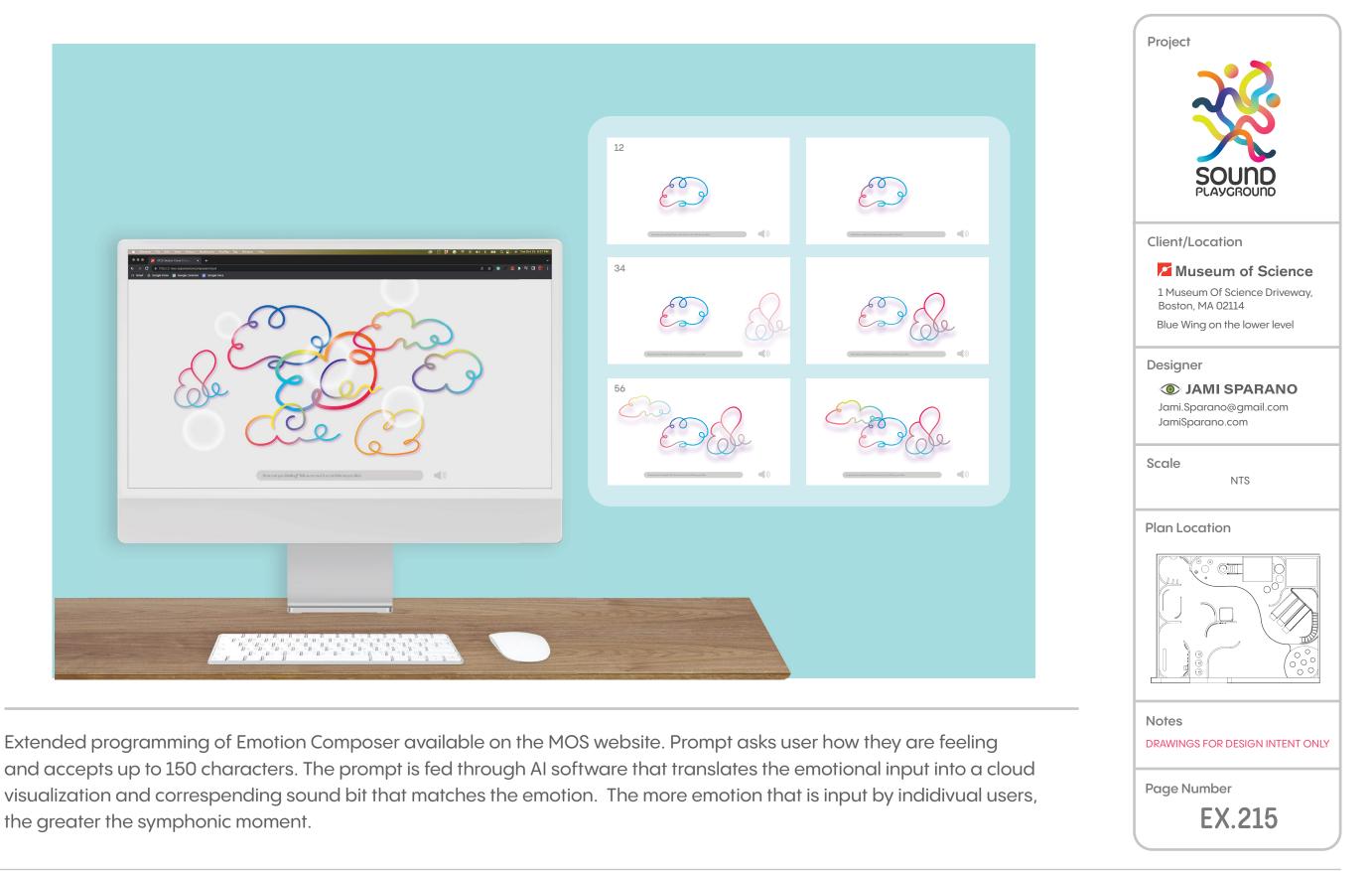
Turn the knobs in emotional reponse to the scenarios that are listed beneath them.

Learn

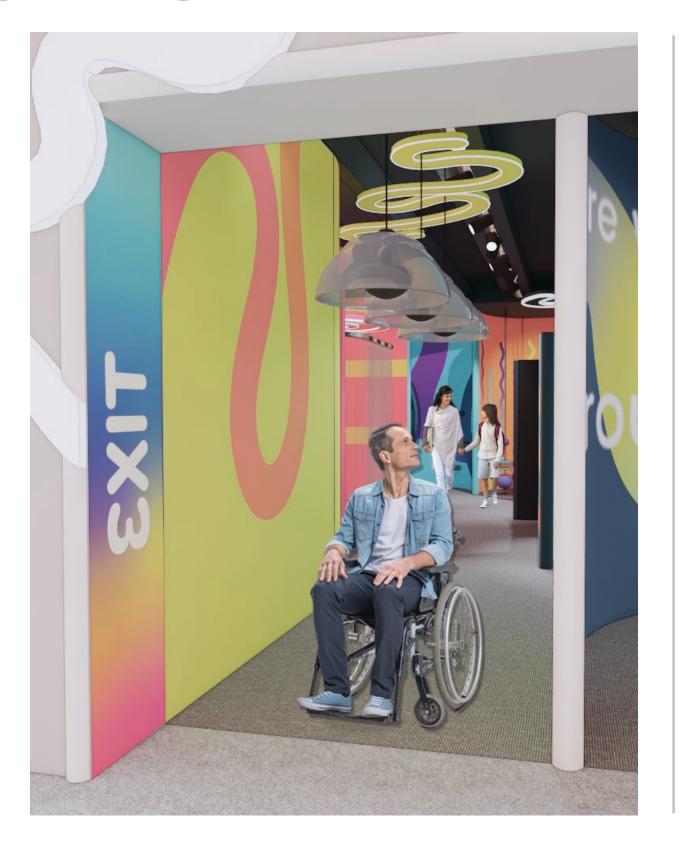
The correlation between emotions and different sounds and tonalities. Celebrate individuality by helping make a symphony with others by contributing to a grater whole.



External Programming

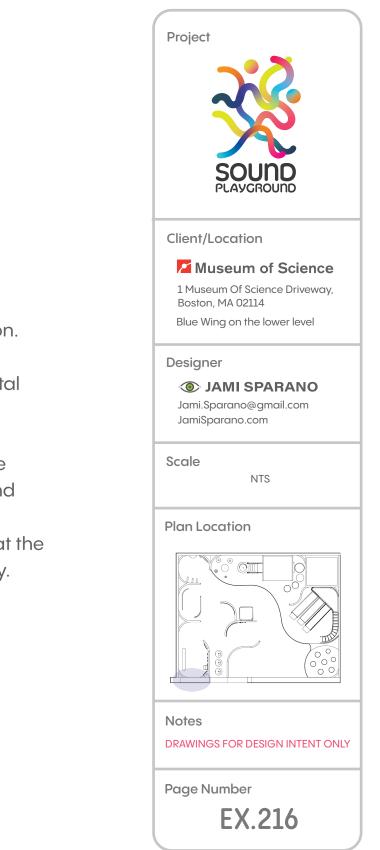


the greater the symphonic moment.



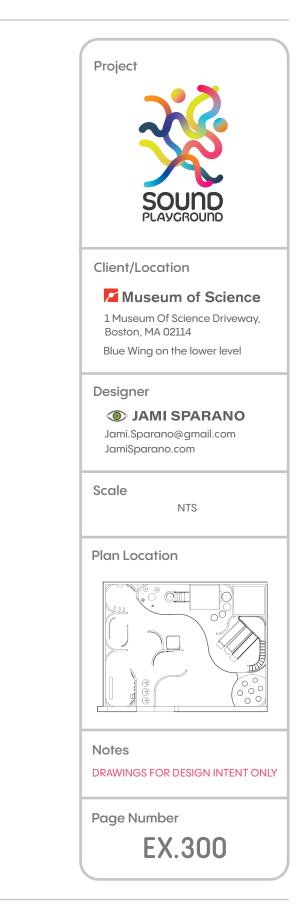
Exiting experience of the exhibition. Full circle moment with sound cones playing various enviromental soundscapes.

Gets people to reflect back on the soundscapes at home and around the world and what thoughts, emotions, memories, or smells that the soundscape may trigger and why.





- Self-Adhesive backed 3M ink jet print with matte finish (applied to wall with edge return capture) Α
- Β LED's encased in white frosted 1/3" acrylic (screw mounted to wall)
- С Dye-sublimated print on 1" thick aluminum panel screw mounted to curved 3" chrome wrapped aluminum pole
- D Dye-sublimated print on 1/2" thick aluminum panel screw mounted to chrome wrapped 3" aluminum pole
- Ε Flex L.E.D lights cased in 1/4" frosted acrylic on 1/3" acrylic base (stand-off mount)
- F Flex L.E.D lights cased in 1/4" frosted acrylic on 1/3" acrylic base (suspension wire)
- G Chrome wrapped 3" pole with welded 1/4" aluminum dye-sublimated signage extensions



Section 00A | Sign Type | Description

Shapes
ion Wall
oduction

Section 01A | Sign Type | Description

01A.GR01	А	Blue > Purple Gradient
01A.GR02	А	Purple Frequency Graphic
01A.GR03	С	Frequency Area Introdution
01A.GR04	D	Sound Bounce Directive
01A.GR05	F	Frequency Title
01A.GR06	D	Slide Directive

Section 02A | Sign Type | Description

02A.GR01	А	Back Curved Wall Graphic
02A.GR02	D	Slide Directive
02A.GR03	А	Back Curved Wall Graphic

Section 03A | Sign Type | Description

Д	Back Curved Wall Graphic
F	You Are Sound Title
Д	Back Orange Graphic
С	Neurologic Area Introduction
F	- - -

Section 04A | Sign Type | Description 04A.GR01 D Swing Directive 04A.GR02 Hair Cell Wall Graphic А Section 05A | Sign Type | Description 05A.GR01 Curved Blue Wall 1 Α 05A.GR02 А Sensation Directive Sensation Information 05A.GR03 А 05A.GR04 Е Handicap Title Section 06A | Sign Type | Description 06A.GR01 F Chromesthesia Title 06A.GR02 А Chromesthesia Directive 06A.GR03 А Blue Wall Graphic Wrap 06A.GR04 Chromesthesia Information Α Section 07A | Sign Type | Description 07A.GR01 Spectrogram Information А 07A.GR02 F SpectroGram Title

Section 08A | Sign Type | Description

Α

07A.GR03

08A.GR01	F	Chladni Title
08A.GR02	А	Chladni Information
08A.GR03	А	Graphic Wrap

Section 09A | Sign Type | Description

09A.GR01	С	Sounds
09A.GR02	А	Graphi
09A.GR03	А	Sounds
09A.GR04	F	Thump

Section 10A | Sign Type | Description

10A.GR01	А	Curved
10A.GR02	А	Content
10A.GR03	Е	Emotion
10A.GR04	А	Directive
10A.GR05	А	Emotion
10A.GR06	А	Directive

Section 11A | Sign Type | Description

11A.GR01	А	Soundsc
11A.GR02	А	Graphic
11A.GR03	В	Exit Sign

Graphic Wrap

- scape Introduction ic Wall Wrap
- scape Directive
- oer Title

- Graphic Wall
- · Wall
- n Title
- e Prompts
- n Scale Graphic
- /e

- cape Reflection
- Wrap

Project



Client/Location

Museum of Science

1 Museum Of Science Driveway, Boston, MA 02114 Blue Wing on the lower level

Designer

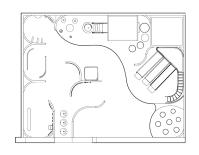
③ JAMI SPARANO Jami.Sparano@gmail.com

JamiSparano.com

Scale

NTS

Plan Location



Notes

DRAWINGS FOR DESIGN INTENT ONLY

Page Number

EX.301

Material Schedule

Symbol	Material	Thumbnail	Manufacturer	Location
Ml	Accoustic Carpeting		Soundfold.com	Spread across main walkways
M2	3/8" Playground Rubber Flooring		Rubberflooringinc.com	In high activity zones
МЗ	Temporary Wooden Wall		In House Fab	Along corners of existing walls and center of exhibit
M4	Powder Coated Aluminum		In House Fab	Stairway and main slide structure, playscape
M5	HDPE		Curbell Plastics	Slide and swings
M6	Steel Grating	00000	Onlinemetals.com	Stairs on slide and slide upper deck flooring



Symbol	Fixture Type	Thumbnail	Source	Location
	Color Changing Flex L.E.D. Strip		Novaflex.com	In overhead shape fixtures, shape fixtures, logo fixture, signage, tensile fabric, chochlea spiral, chladni
L2	Programmable Color-Changing L.E.D. Bulb		Fruugo.com	In casings on wall of bounce zone
L3	Temporary Wooden Wall		Lamps Plus	On tracks mounted to ceiling

	Project
	Client/Location
	Museum of Science 1 Museum Of Science Driveway, Boston, MA 02114 Blue Wing on the lower level
	Designer JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com
	Scale NTS
-	Plan Location
	Notes DRAWINGS FOR DESIGN INTENT ONLY
	Page Number EX.303

Media Schedule

Symbol	Device	Thumbnail	Source	Location
A1	Niles HDLCR In-Wall LCR High Definition Loudspeaker		i.electronics.com	Embedded in walls of Emotion Composer
A2	Bose FreeSpace FS2P Pendant-Mount Speaker		zzounds.com	Above entry soundscape wall, ambient thumper, playscape
A3	Pure Resonance Audio S3 3" Micro Surface Mount 70V Loudspeakers		proacousticsusa.com	Embedded in walls of slides
A4	SoundTube FP6020-II 20" Stereo Dual-Parabolic Sound Dome Speaker		adorama.com	Over Sound Simplified
V1	OPTOMA GT1080HDRX DLP PROJECTOR		focusedtechnology.com	Above chromesthesia wall
V2	Persee+		orbbec3d.com	above chromesthesia screen
V3	Fis Pro Indoor Curved Art Led Video Wall		alibaba.com	Spectro Gram screen
V4	Stretch Screen		mossinc.com	Chromesthesia projector fabric

Symbol



4 CORNERS BUNDLE – BUTTKICKER GAMER PRO

Thumbnail



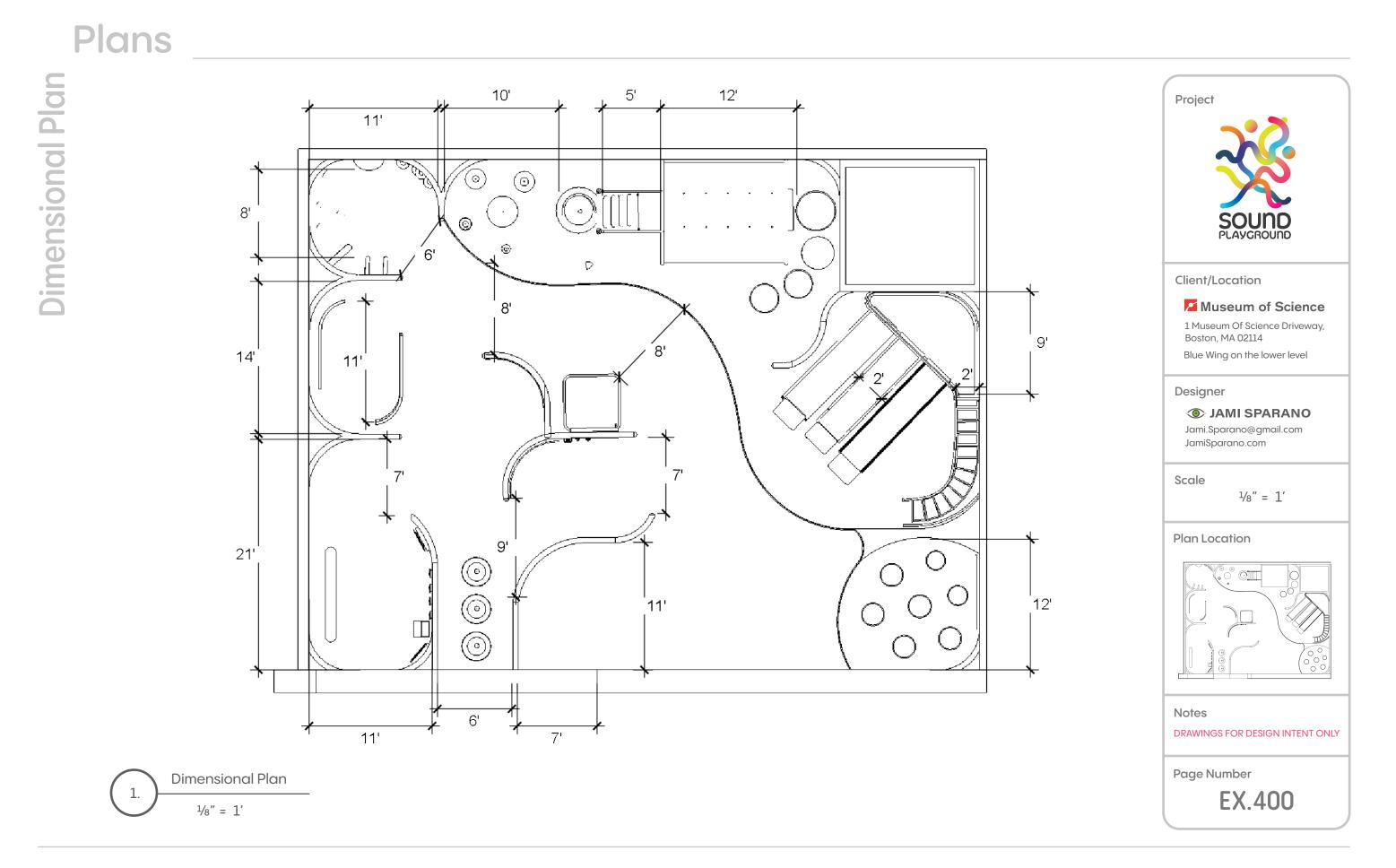
Source

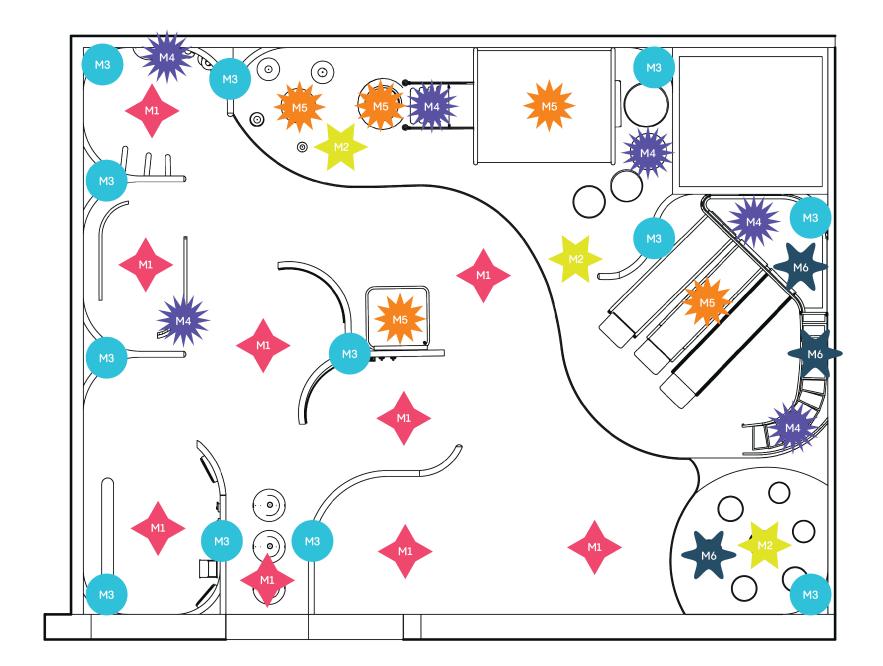
Buttkicker

Location

Within slides, sensory structures, in trampoline pads

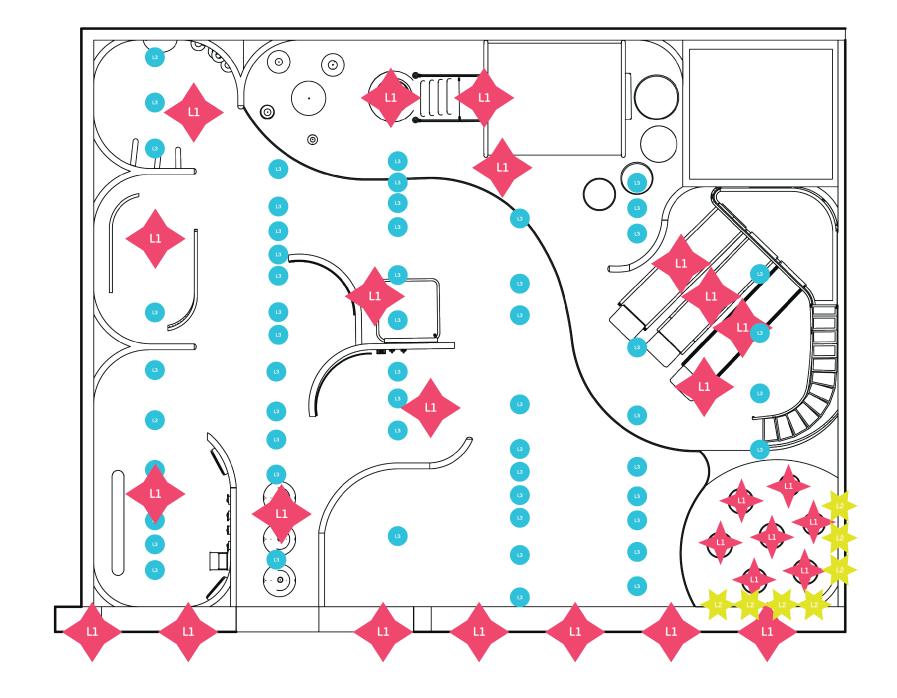
Project
Client/Location Museum of Science 1 Museum Of Science Driveway, Boston, MA 02114 Blue Wing on the lower level
Designer
Scale NTS
Plan Location
Notes DRAWINGS FOR DESIGN INTENT ONLY
Page Number EX.304





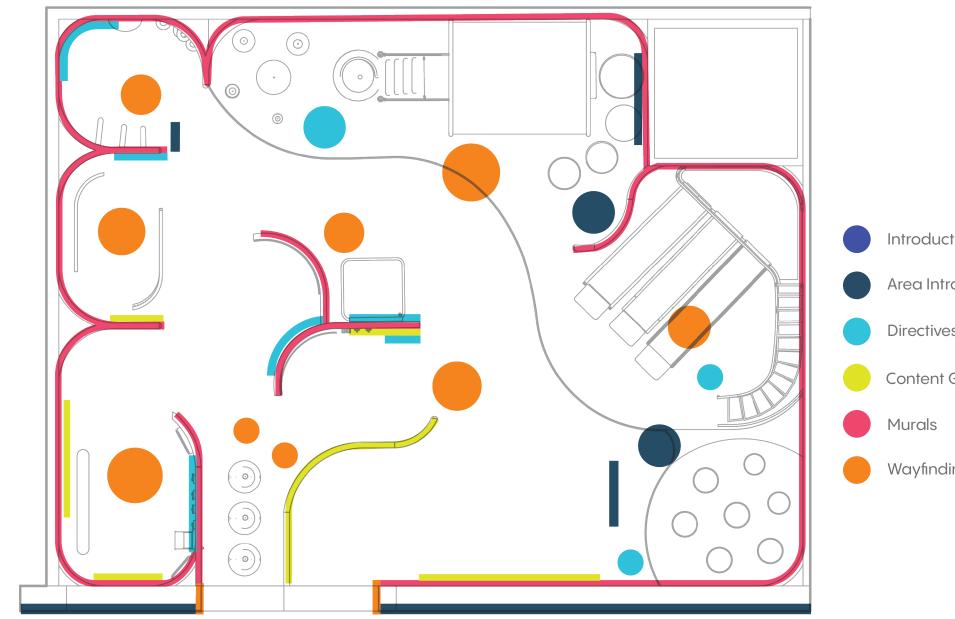
1. Material Plan





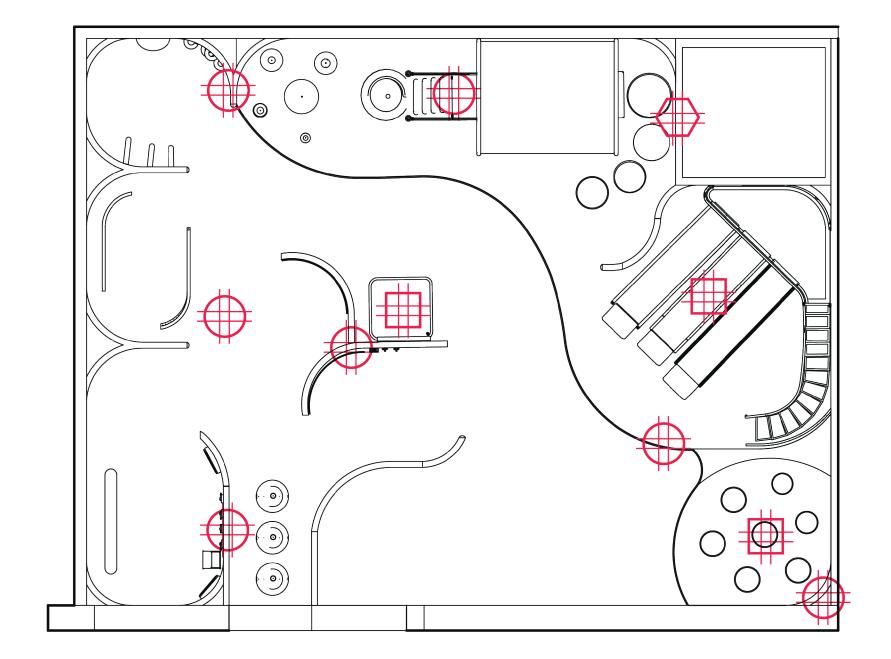




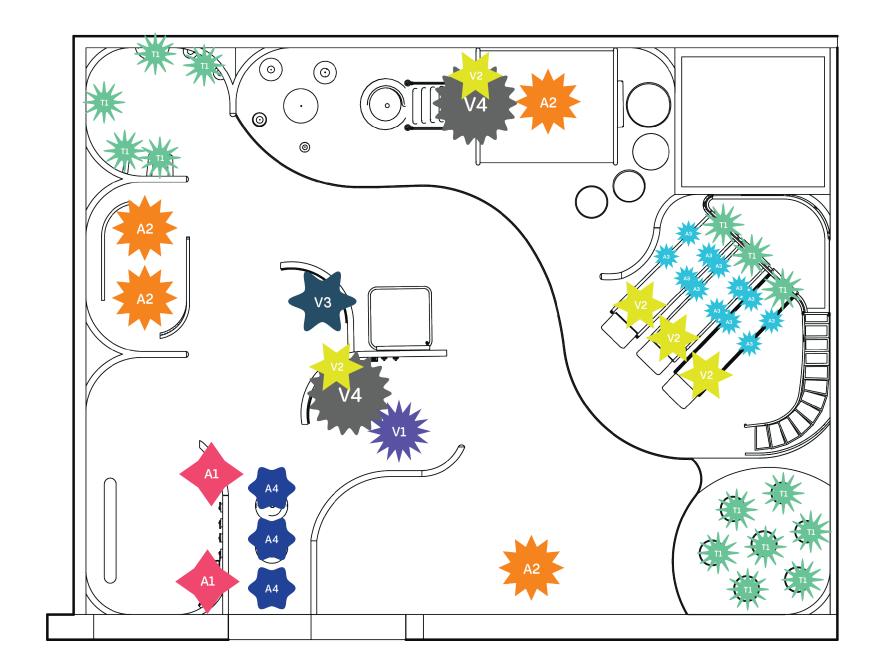


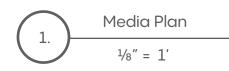
	Project
	Client/Location
	Museum of Science 1 Museum Of Science Driveway, Boston, MA 02114
tion	Blue Wing on the lower level
oduction	Designer
2S	Jami.Sparano@gmail.com JamiSparano.com
Graphics	Scale ½8" = 1'
	Plan Location
ing	
	Notes DRAWINGS FOR DESIGN INTENT ONLY
	Page Number EX.403







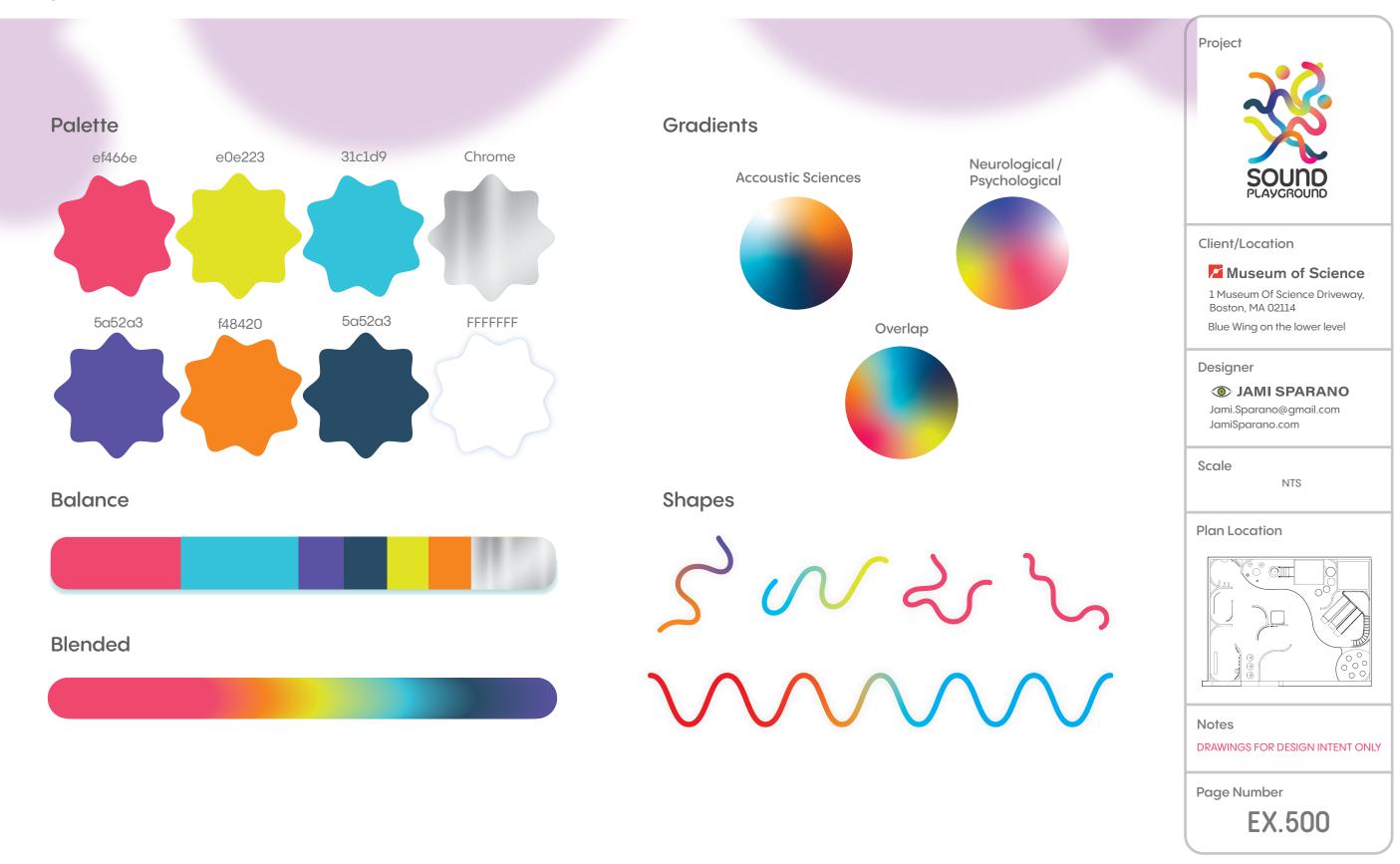






Graphics

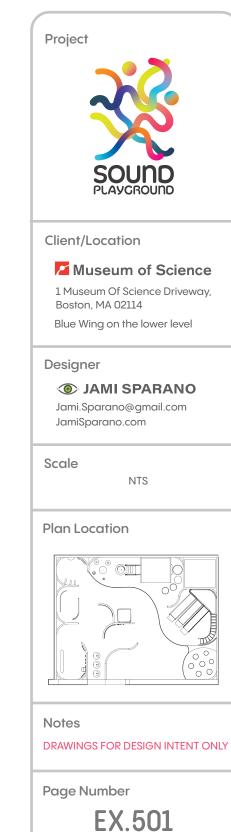




Graphics



Text Only SOUND PLAYGROUND



Header

Pangram Sans Rounded Semibold

Ac Bb Cb Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1 2 3 5 6 7 8 9 0 ! ?

Subheader

Pangram Sans Rounded Narrow Semibold

Ac Bb Cb Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1 2 3 5 6 7 8 9 0 ! ?

Body

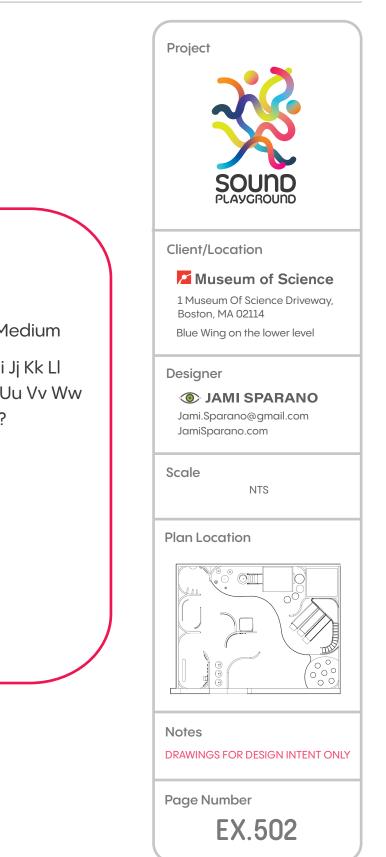
Pangram Sans Rounded Medium

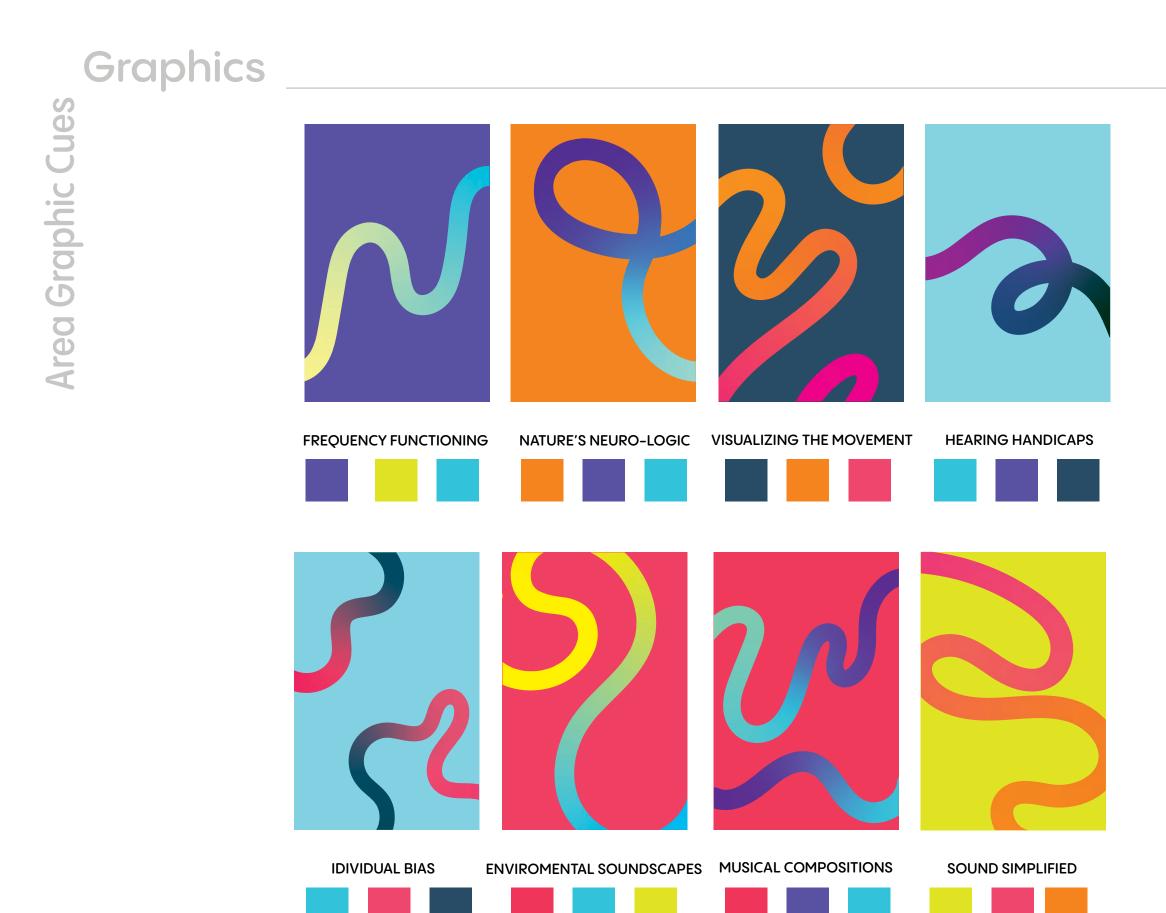
Ac Bb Cb Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1 2 3 5 6 7 8 9 0 ! ?

LOGO TYPE

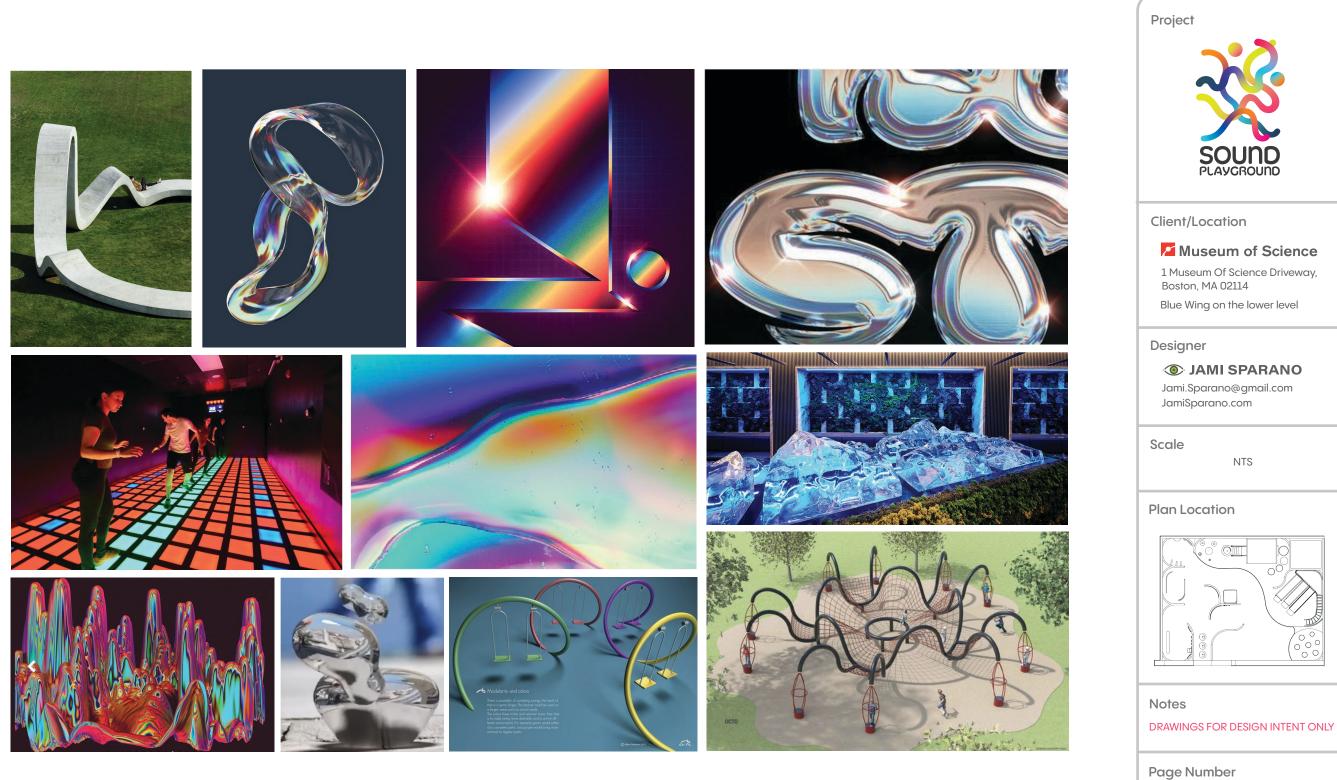
SILICONE RECULAR* Δ B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0 ! ?

*WITH CUSTOMIZED ADJUSTMENTS TO THE "A"









EX.504

Graphics



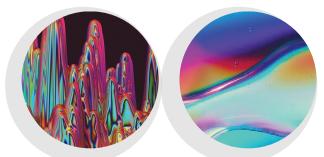


Sound Playground's look + feel derives from sound wave patterns that were pulled apart and abstracted. This abstraction visually conveys sound as a multi-dimentional experience that moves beyond listening. Additionally, the forms in the logo represent organic movement and playful nature.

Chrome is used throughout the exhibit because of the way it reflects light when applied to 3d surfaces and how that resembles colorways found in sound-data visualization tools. The subsequent gradients from the light / chrome relationship are pulled and used to characterize different facets of sound and its various impacts on human consciousness.



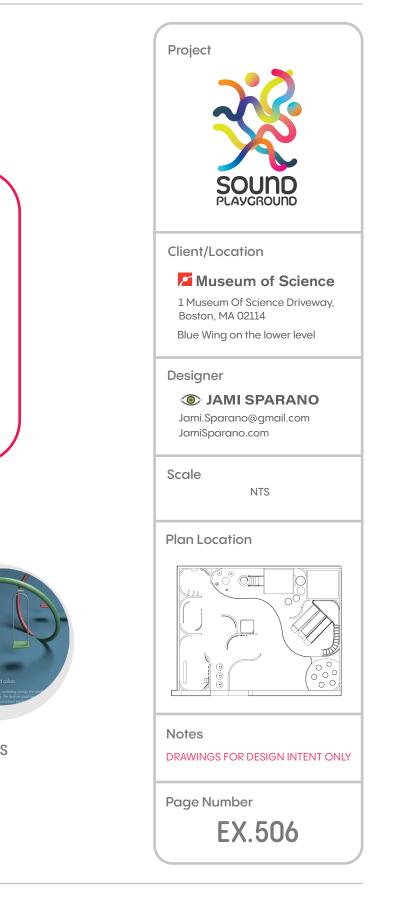
LIGHT ON CHROME SURFACE



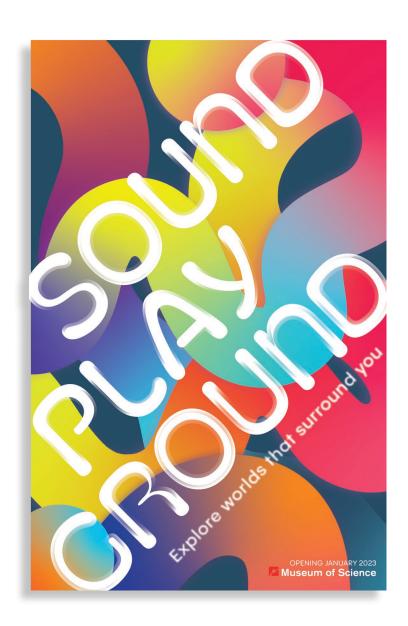


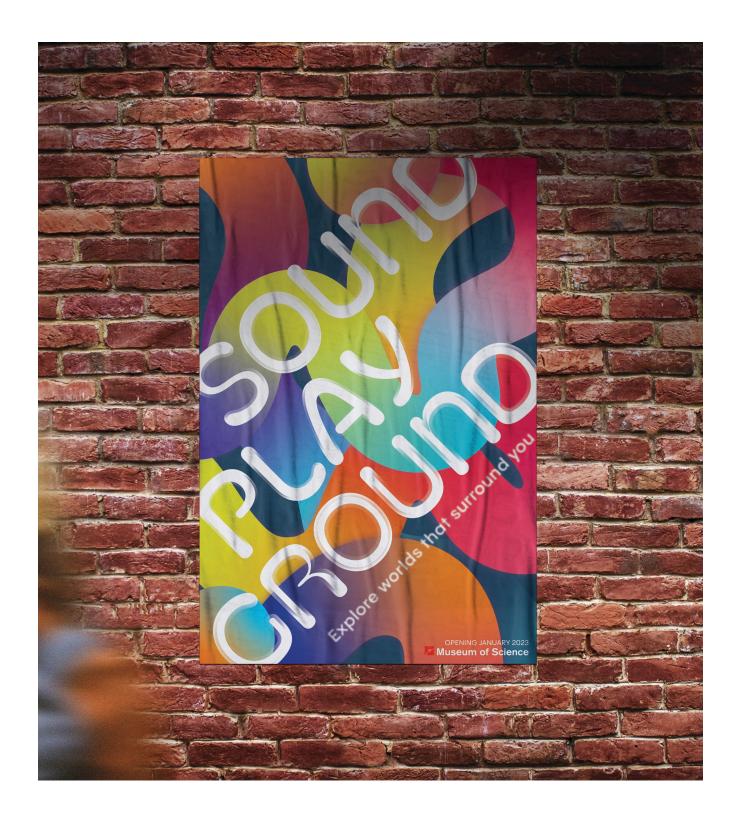


SOFT WAVY STRUCTURES



Graphics

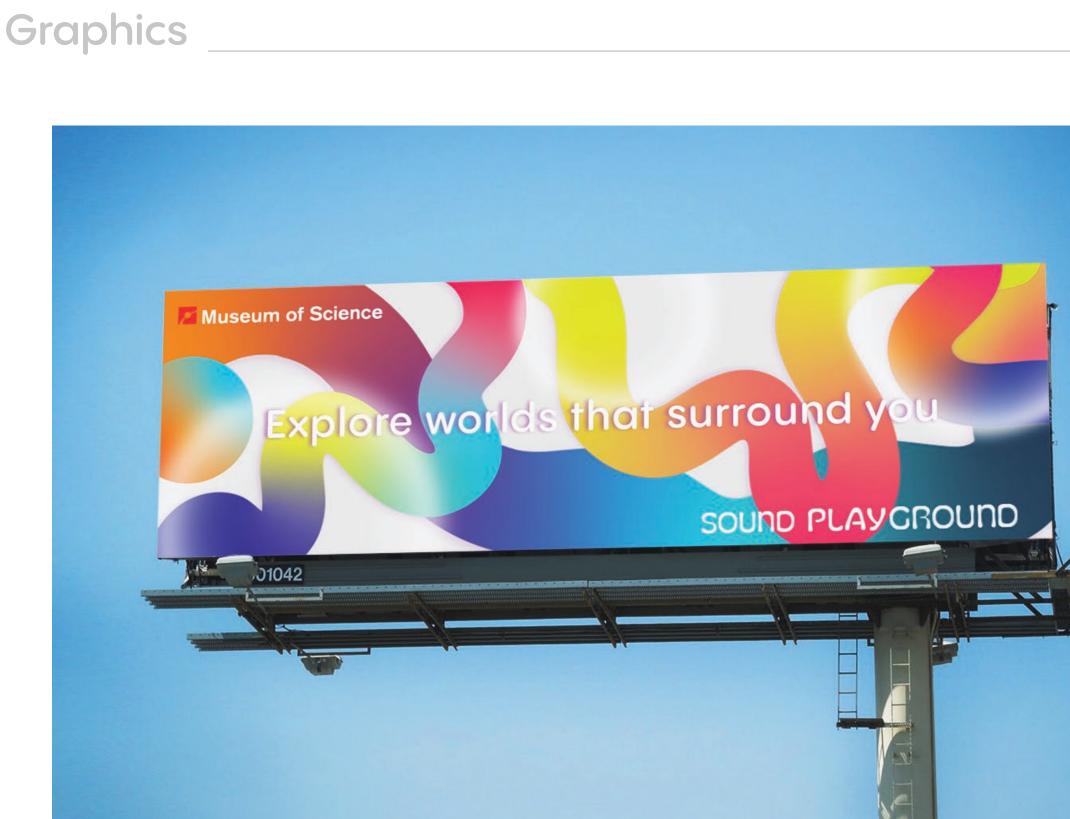




Design Development Package



Page Number



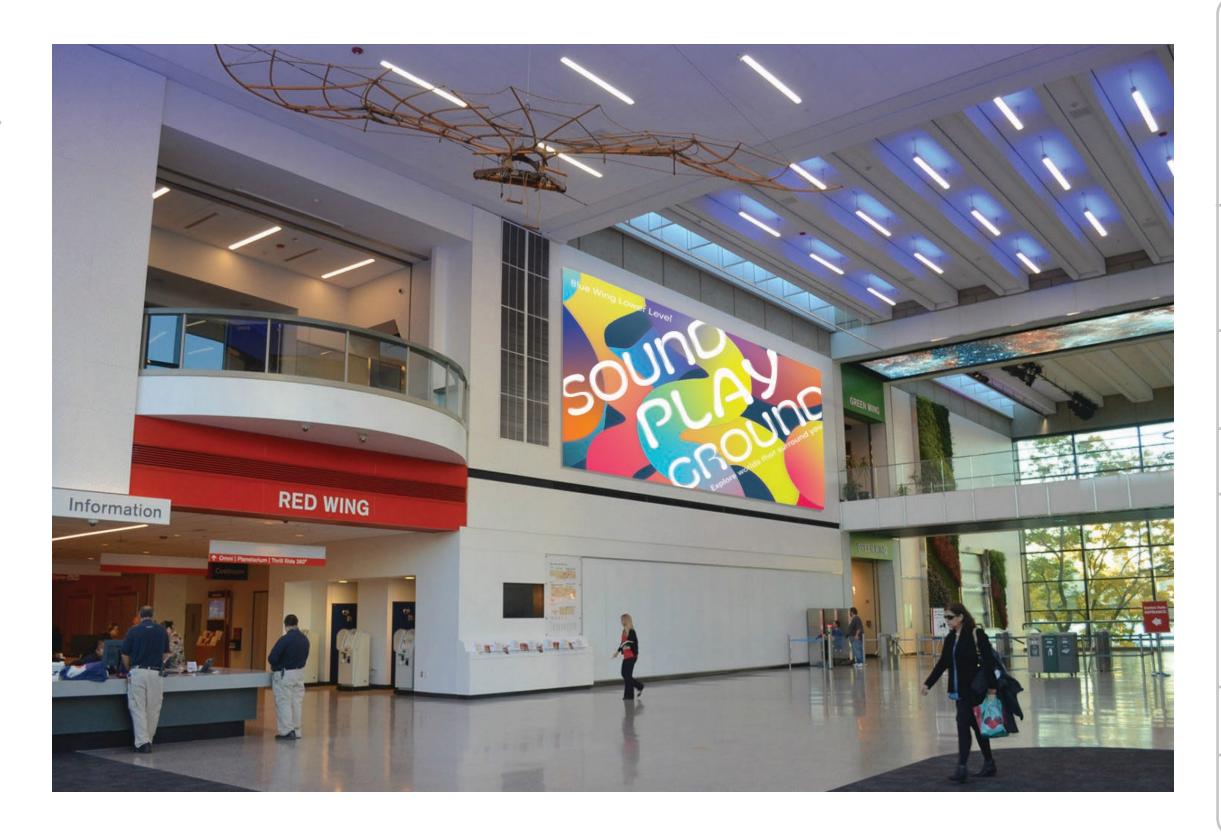


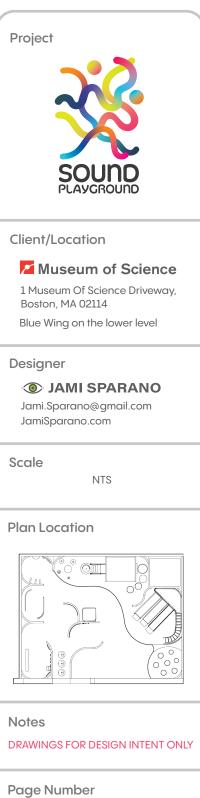


DRAWINGS FOR DESIGN INTENT ONLY

Page Number

Graphics





Graphics





Graphics **Docent Apparel**



Docent Dress Code

All docents will receive Dickies brand white coveralls and white low-top Converse sneakers. Each pair of coveralls will have a custom embroidered Sound Playground logo and name patch so guests will be able to easily identify staff.

Staff will be exclusively stationed at the Frequency Slide with the addition of 1-2 floater staff to assist guests as needed.

Project



Client/Location

Museum of Science

1 Museum Of Science Driveway, Boston, MA 02114

Blue Wing on the lower level

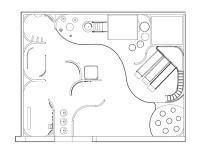
Designer

③ JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com

Scale

NTS

Plan Location



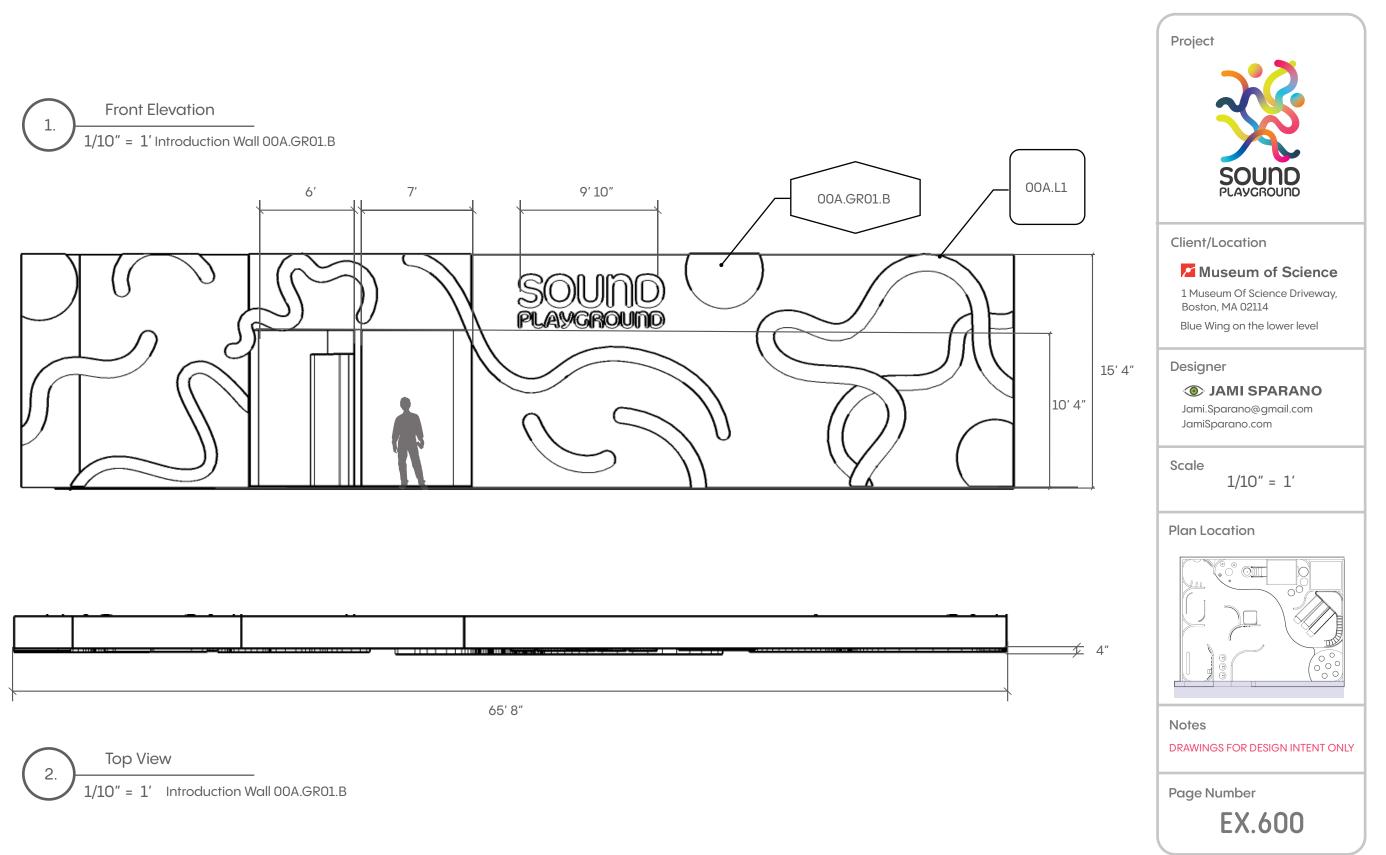
Notes

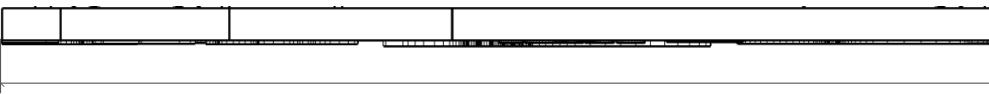
DRAWINGS FOR DESIGN INTENT ONLY

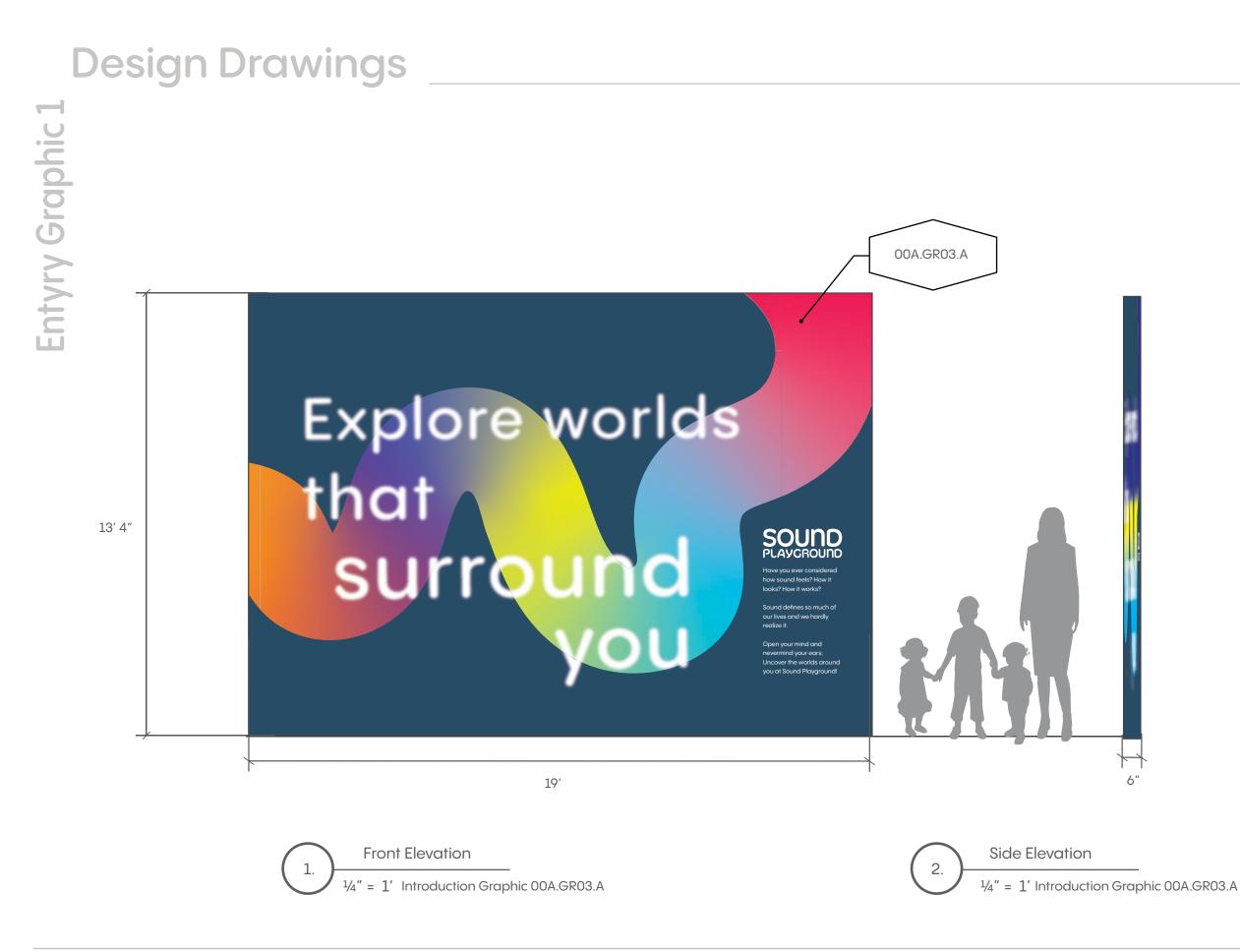
Page Number

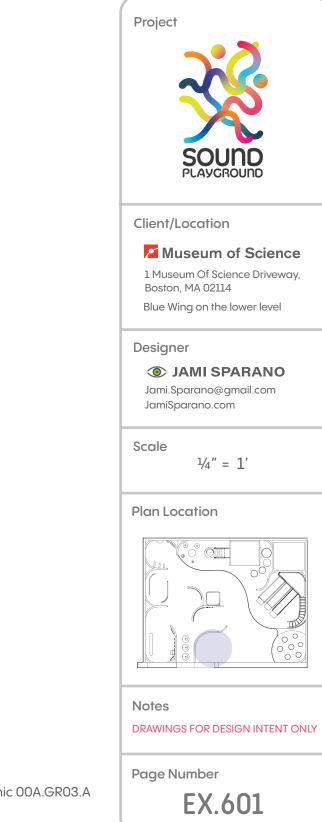
EX.510

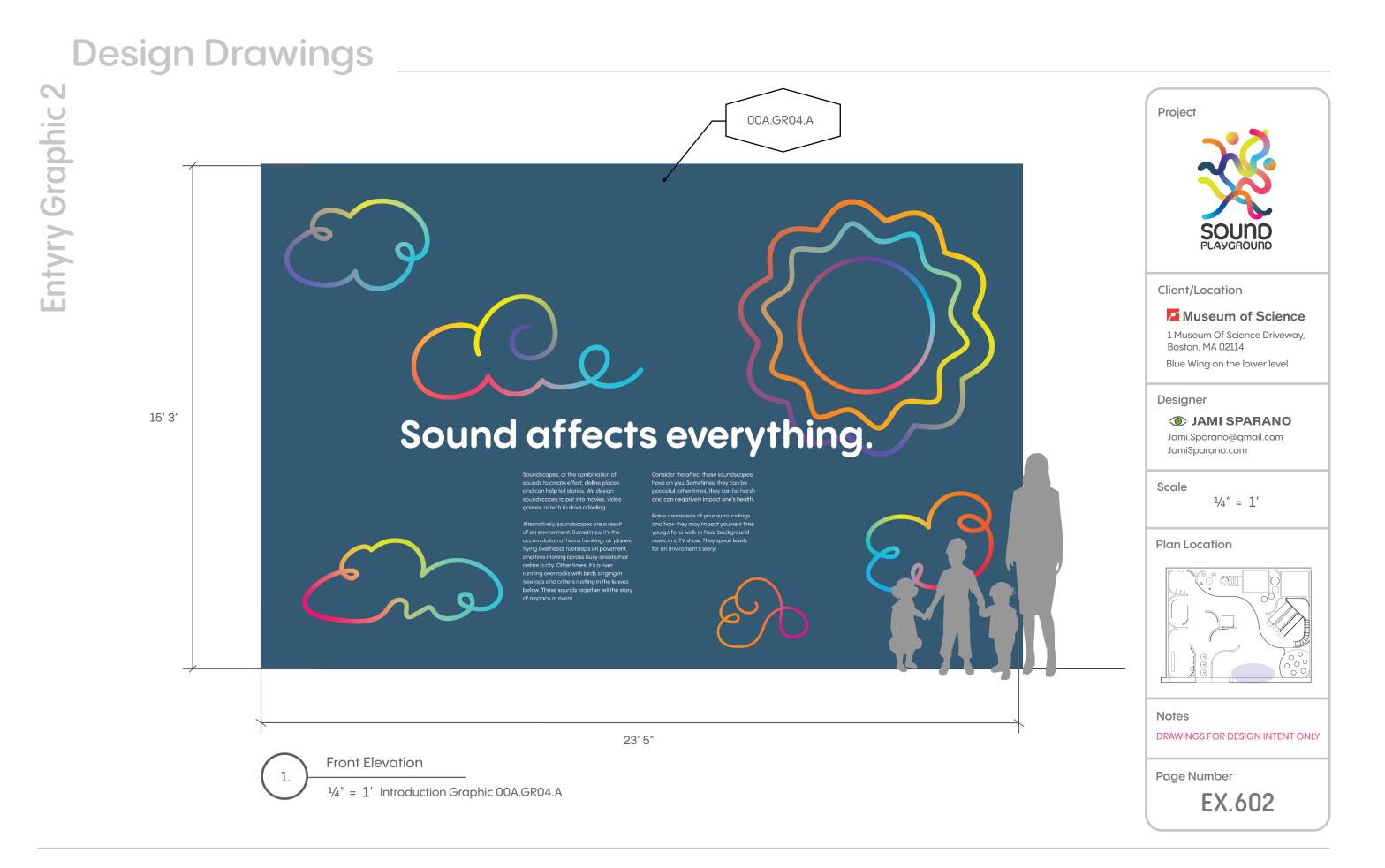
Design Drawings





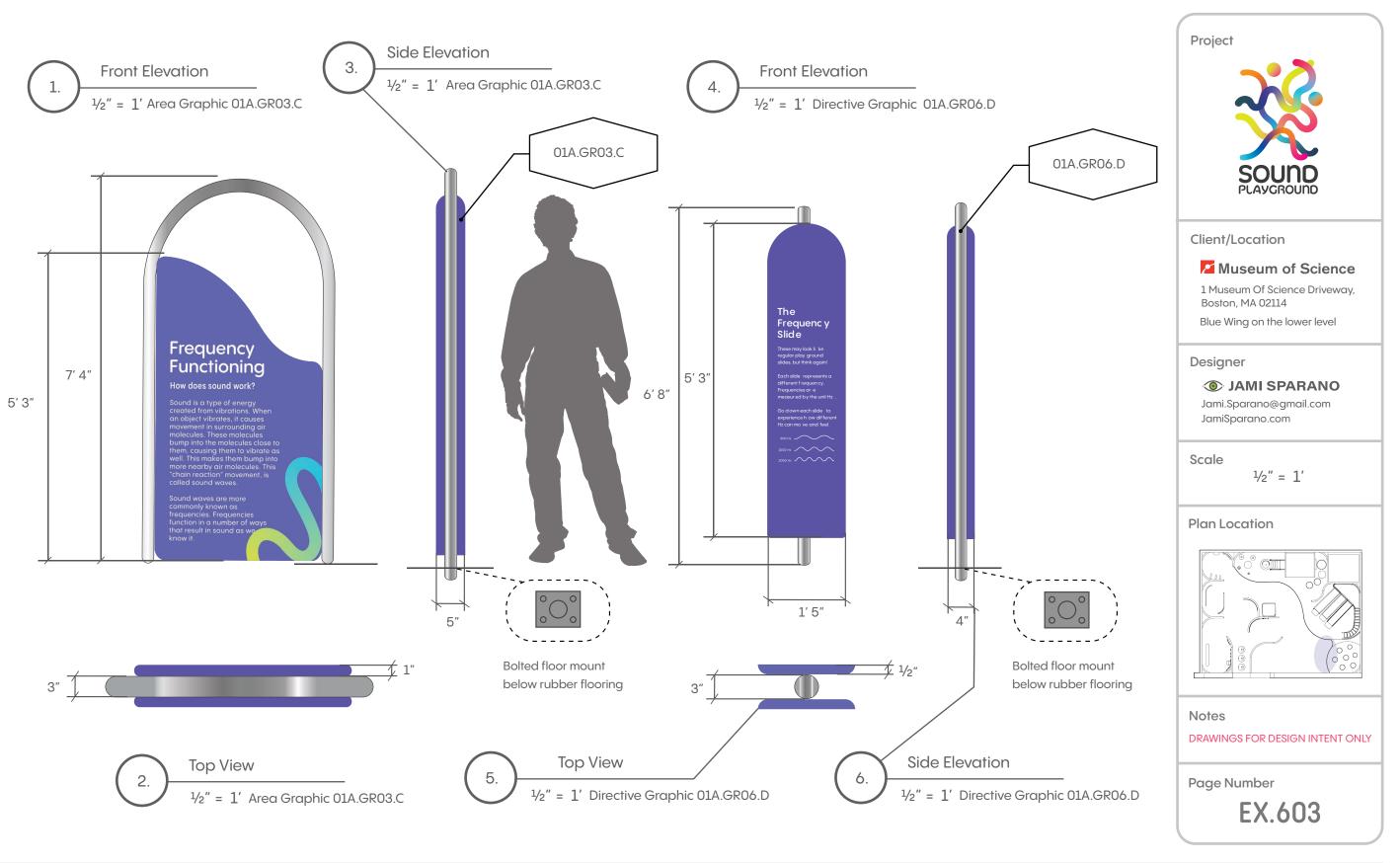






Design Drawings

Area + Directive Signage

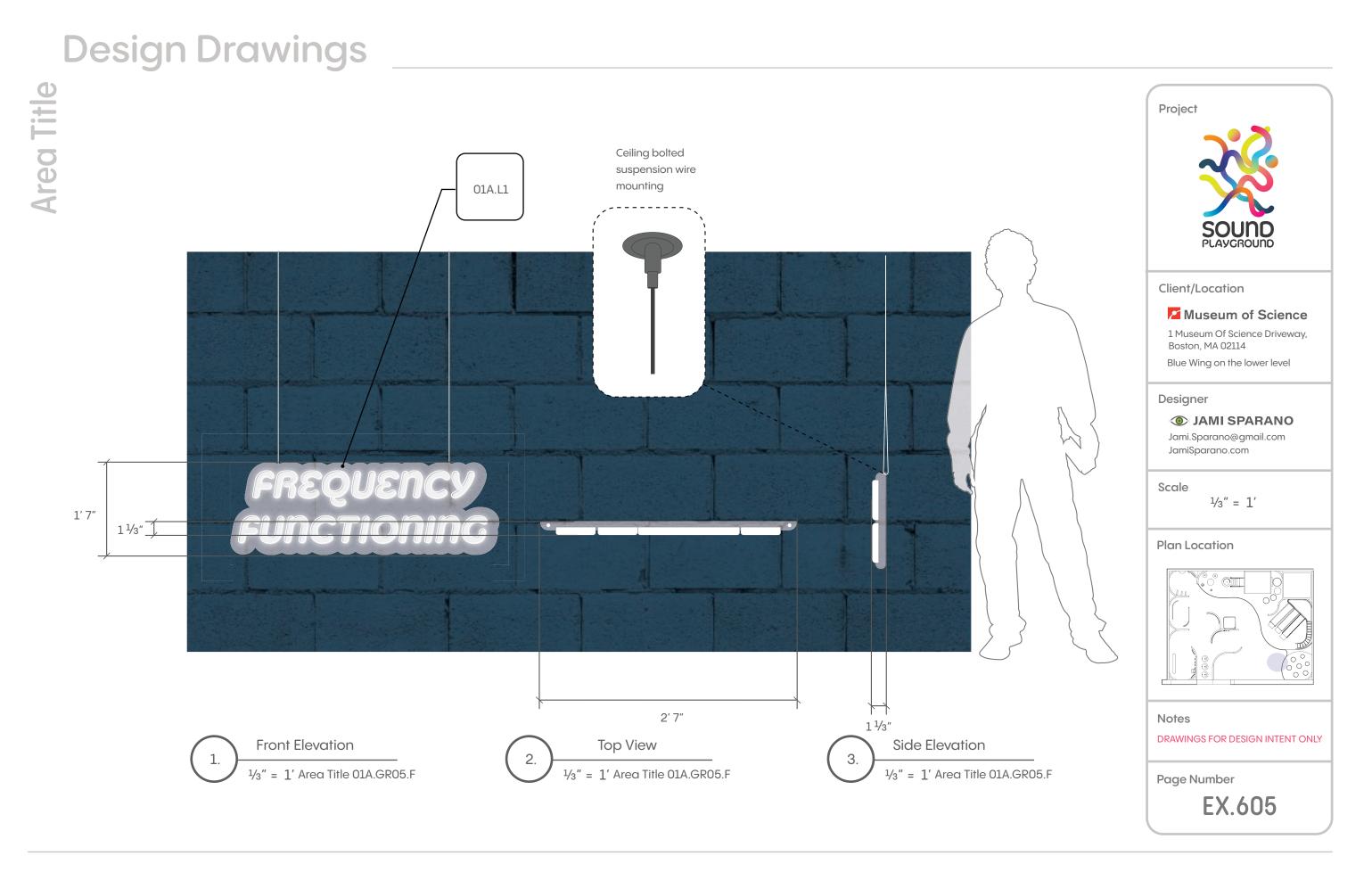


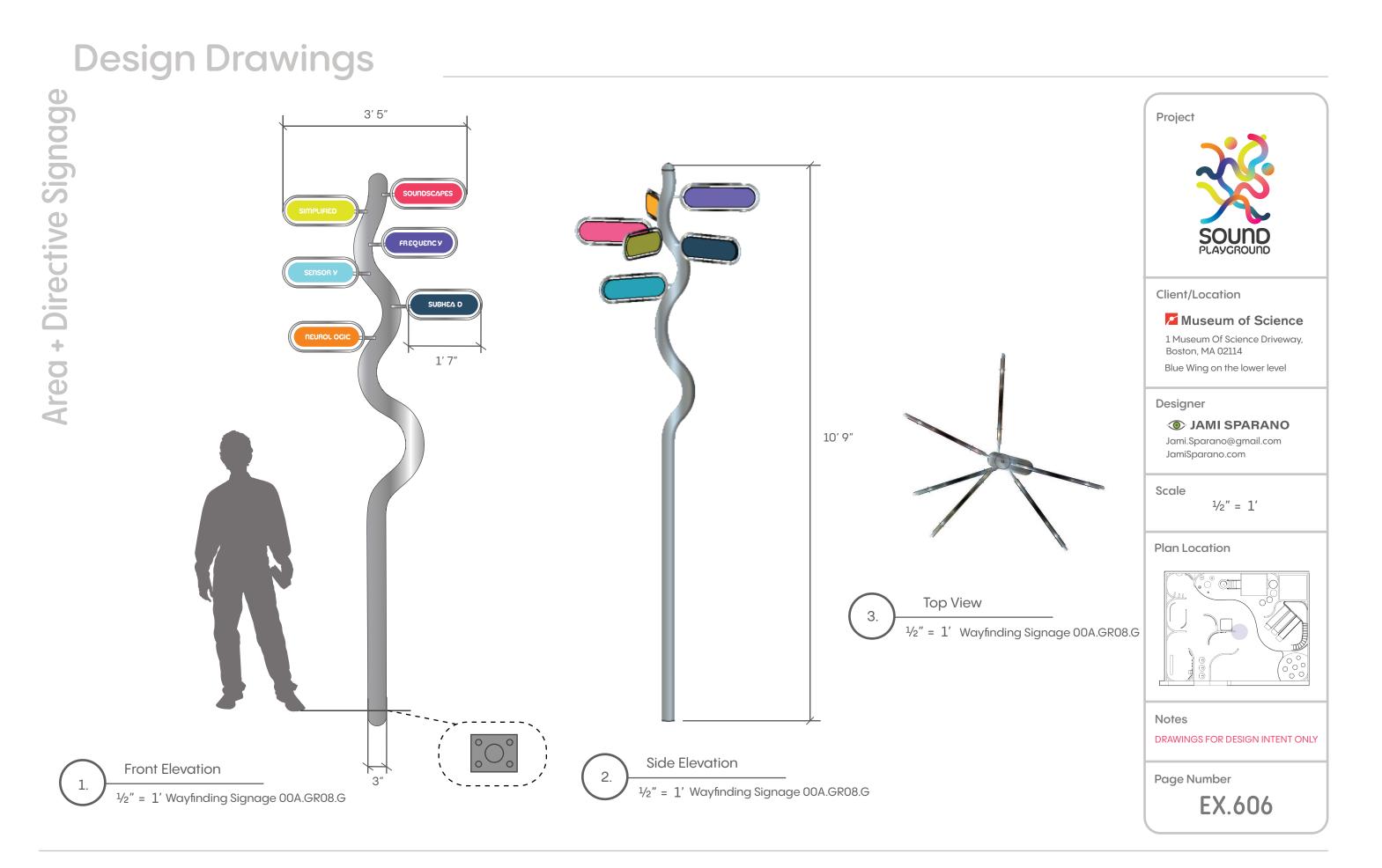
Design Drawings







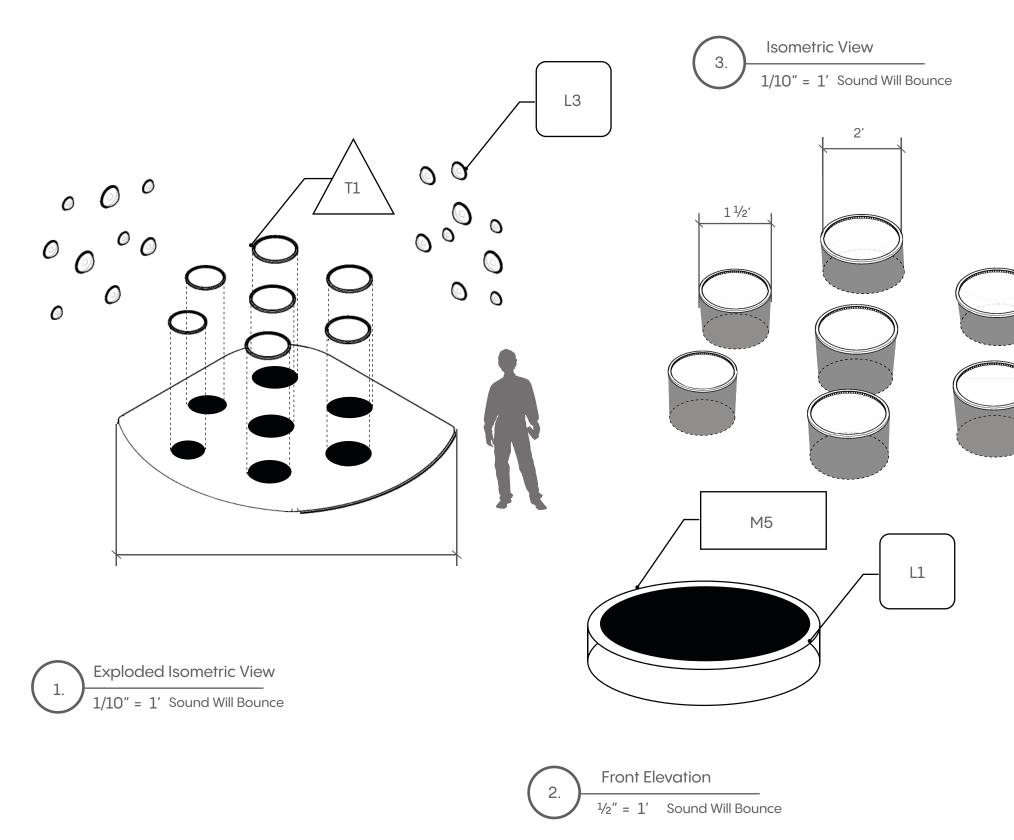


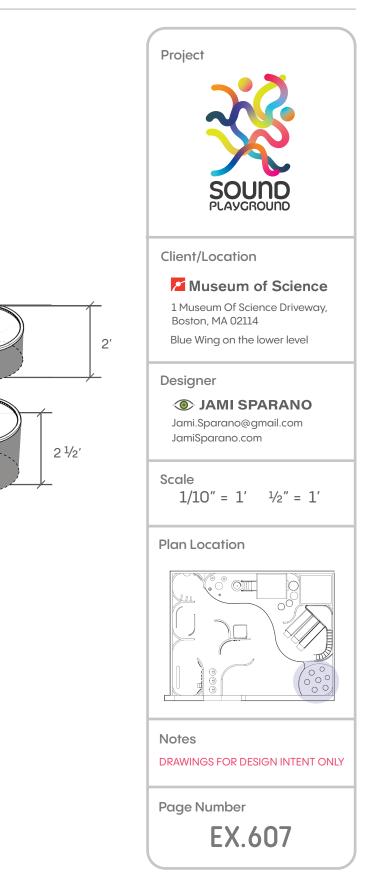


Jami Sparano_Sound Playground

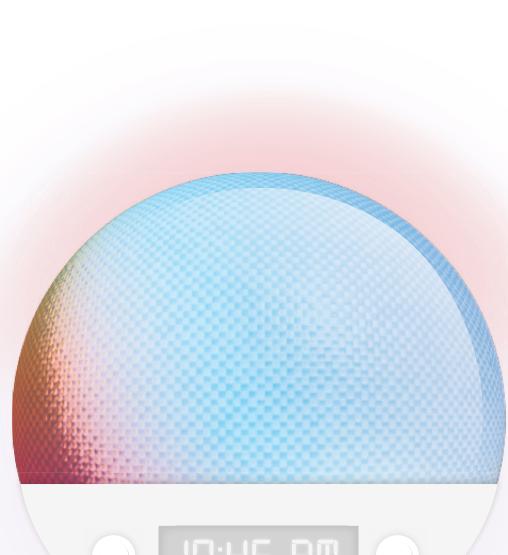
Design Development Package

Design Drawings Sound Will Bounce





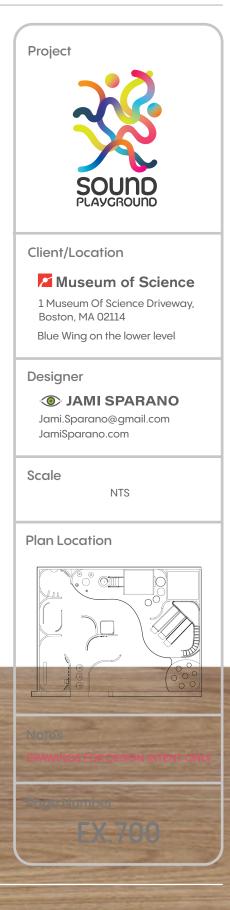
Collateral





Jami Sparano_Sound Playground

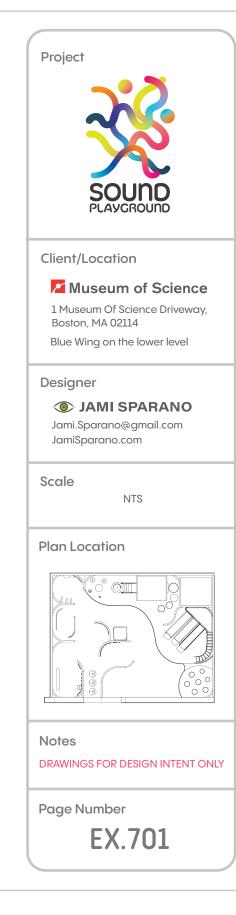
Design Development Package



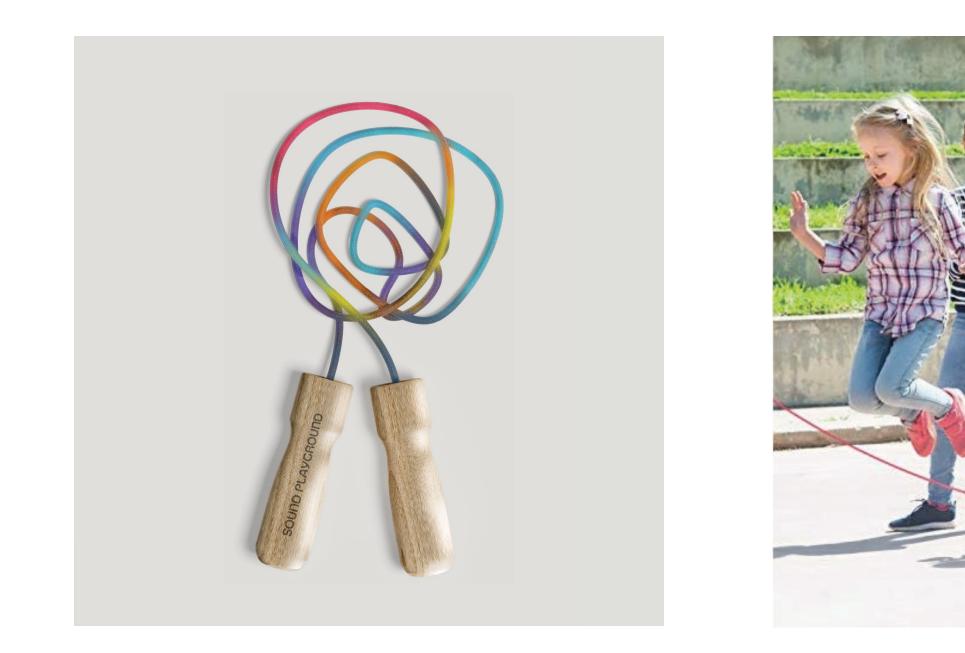
Collateral Feedby State of the second secon





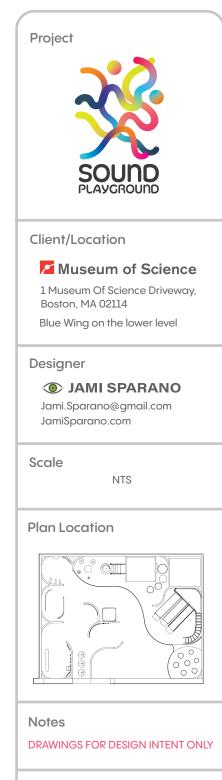


Collateral





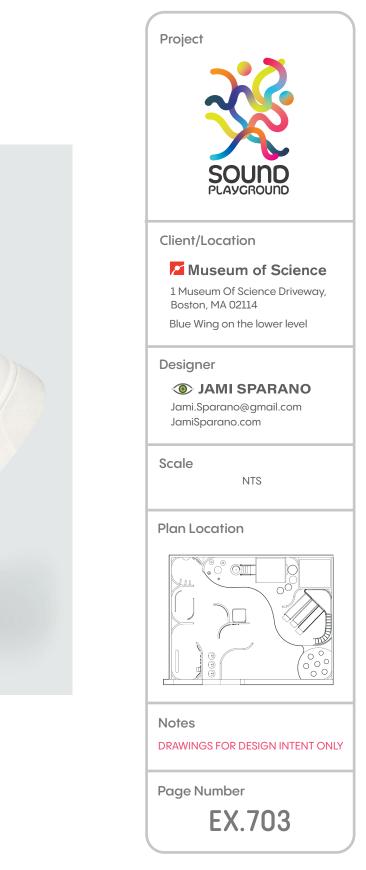
1 des



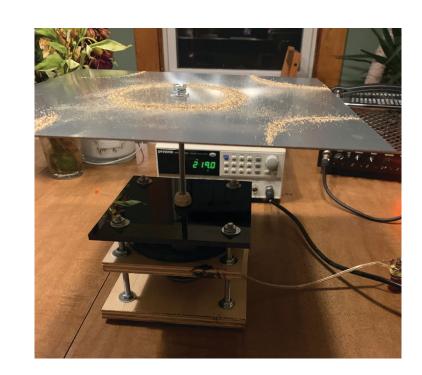
Page Number

Collateral ______





Prototypes

















Client/Location

Museum of Science

1 Museum Of Science Driveway, Boston, MA 02114

Blue Wing on the lower level

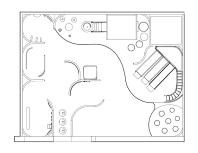
Designer

JAMI SPARANO Jami.Sparano@gmail.com JamiSparano.com

Scale

NTS

Plan Location



Notes

DRAWINGS FOR DESIGN INTENT ONLY

Page Number

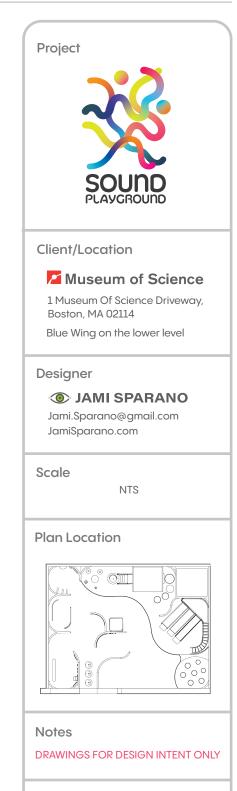
EX.705

Prototype



Playing sound bits off of midi keyboard when knobs are turned





Page Number

This Design Development Package was created by Jami Sparano

In partial fulfillment of the requirements for the degree of Master of Arts in Exhibition and Experience Design

December 2022

Peter Hyde, Professor Brenda Cowan, Professor Ted Nordlander, Professor

Christina Lyons, Chairperson

Dr. Brooke Carlson, Interim Dean, School of Graduate Studies

DESIGN DEVELOPMENT PACKAGE GRADUATE THESIS

MA EXHIBITION AND EXPERIENCE DESIGN FASHION INSTITUTE OF TECHNOLOGY

Jami Sparano Copyright © 2022 by Jami Sparano All Rights Reserved.

