

Program Booklet | Lowell Makes

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Summer 22 STUDIO 06 Arch3500

Executive Summary:

With the site located off the Concord River and in close proximity to the Concord River Greenway Park, our form begins to connect and interact with its context. One main volume on the ground floor acts as the main public space- connecting the Lowell community through the act of producing sustainable creations. The two main upper forms pivot on this main volume pointing towards the park and river as important cultural nodes. With the use of our vast spanning hybrid structural system, collaboration spaces become uninterrupted. With our enclosure, views out into Lowell are framed by large panels (corten steel and oxidizing copper) and mullions that act as shading devices- overall creating a comfortable learning environment on every floor. Biophilia and this visual bond to the outdoors acts as an important reminder of sustainable craftsmanship & human's connection to nature. Within our program, we have chosen three types of studios to help educate the public of how creating does not necessarily mean tons of waste. From a culinary program, to a woodshop, and even a library, all waste is used between each sector, interweaving all different types of crafts to become sustainable.

Basics:

Structure: The structure is made up of 3 main components: concrete, wood and steel. This hybrid of materials enables our structure to span far distances without breaking the space where people create and collaborate. The structure is exposed to those who walk by and those who occupy the spaces.

Enclosure: The enclosure was designed with the intent to create a well- lit environment with plenty of views out into the neighboring context, as well as framing/accentuating the structure to those who occupy. Angled mullions act as a shading device along with the tinted glass that captures bright glares creating a comfortable environment to design in. Copper panels allow for privacy, while also supporting views to the outside through specific punctured apertures.

Passive/Active Systems: Along with passive design elements to create comfort through shading devices, the maker space uses a VAV system, windows that open to passively ventilated spaces, and a radiant floor so that the main heating system is used primarily for cooling, cutting costs. The Roof is angled so there is an easy flow for the rainwater to fall off the roof. The dual VAV HVAC system has two main ducts that go throughout the building bringing cool and hot air in and out with a thermostat to increase comfort.

Program Concept & Goals:

PROGRAMMATIC GOALS

TO CHANGE WITH THE TIMES | WORKING TOWARDS A SUSTAINBLE FUTURE



**In Relation to the Macro Context
The Location/Site:**

To relate back to Lowell's industrial roots with an advancement/ improvement in sustainable technologies and practices due to current sustainable conditions and concerns.



**In Relation to the Meso Context
The Building:**

To support sustainable, low waste creative practices such as **woodworking; ceramics; 3D printing; gardening, rainwater management, compositing; paper making; photography, portfolio creating; and culinary/scrappy cooking courses**. Each set of programming becomes interconnected and supported through the act of reusing, reducing/minimizing, and recycling.

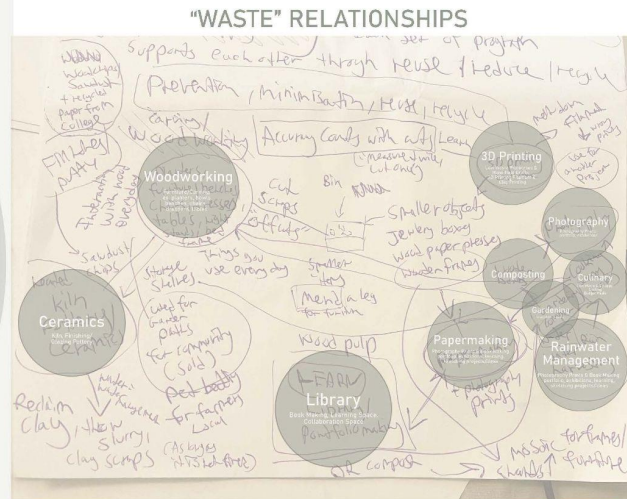
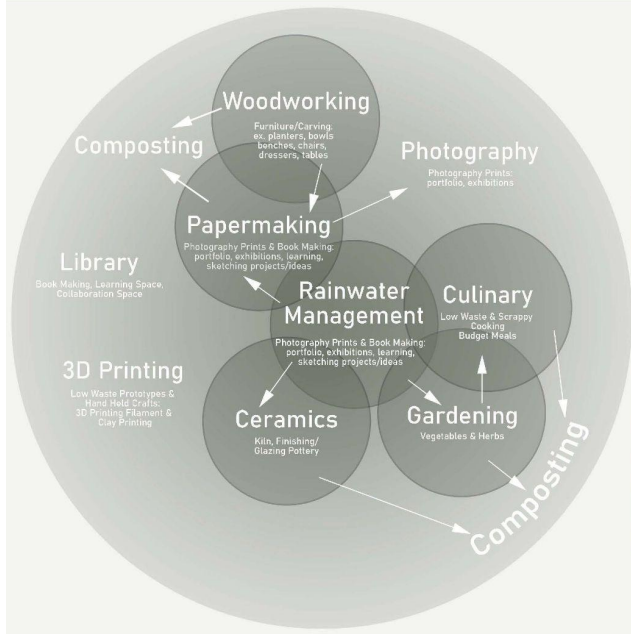


**In Relation to the Micro Context
The Users:**

To educate the people of Lowell, and the surrounding communities, of sustainable, low waste living practices within their day-to-day lives and through the action of producing, exhibiting, and learning from others.

PROGRAMMATIC RELATIONSHIPS

INTERCONNECTIONS BETWEEN PROGRAM: Reusing, Reducing/Minimizing, and Recycling



Program List/ What is Offered:

Green= more public spaces

Blue= a part of the makerspaces (students, professionals)

Yellow= flex space, both uses

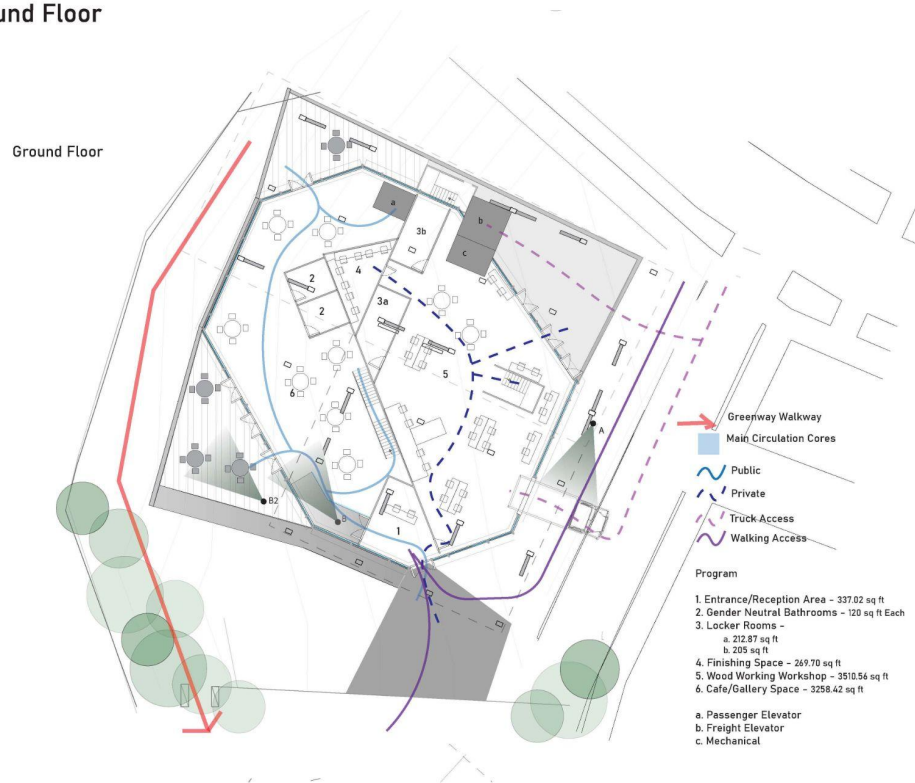
	Name of Program/Function*	Size: Area (Square Ft)
Ground Floor	Entrance/Reception Space	337 sq ft
	Mixed Use Lobby, Flex Space: Cafe, Woodshop Exhibition Space, Digital Program Literacy Classes	3258 sq ft
	Gender Neutral Bathrooms	2 (120 sq ft each; 240 in total)
	Outdoor Space: Made for the Mixed Use Lobby- Holds Exterior Exhibition Space, Outdoor Eating Area, and Outdoor Classrooms for Literacy Classes	~1500 sq ft
	Woodworking Workshop: Made for Macro Items- Living With & the Use of Wood in Daily Life- Furnitures such as Bookshelves, Chairs, Benches, Tables, Bowls from Carving, Dressers	3510 sq ft

Ground Floor	Locker Rooms	~205 sq ft each (410 total)
	Interior Finishing Space: Used for Sanding, Staining, and Painting	269 sq ft
	Exterior Working Space/ Finishing Space: Made for the Woodworking Workshop- Doubles as a Outdoor Finishing Space and an Exterior Making Space	~1500 sq ft
Second Floor	Multipurpose Room: Gallery/ Exhibition & Gardening/Rainwater Collection Classes: Made for Students in the Cooking and Ceramics to Show Off their Products (Even to Eat & Talk Over Food that the Cooking Students Created) As Well as a Class Space for Gardening Students	1853 sq ft
	Exterior Green Roof & Exterior Working Space: Made for Students in the Cooking, Ceramics, and Gardening Programs (Students Can Glaze in Ceramics, Gather & Grow Vegetables from the Gardens for the Cooking Classes, and Compost as Needed)	2659 sq ft
	Cooking Classes: Learning Stations Fit with Mini Fridges, Ranges, Sinks Along with Larger Industrial Fridges/Freezers, and Storage for Dry Foods & Utensils How to cook and prepare healthy meals on a budget with little to no waste How to compost waste and <i>Scrappy Cooking</i>	1898 sq ft
	Photography Studio: To take pictures of finished projects- a controlled environment solely based on studio lighting	488 sq ft
	Photography Class Space: Pin-up Space for All Programs, Lounge when not in use	687 sq ft
	3D Printing & Ceramic 3D Printing: reduces waste and CO2 emissions as it is less raw material. Reusing filament by melting, or reusing parts will be utilized.	480 sq ft (3D Print) 616 sq ft(Ceramic Print)

Third Floor	Admin Space & Conference Room	617 sq ft (Offices) 480 sq ft (Conference)
	Computer/Programming Lab: For those who do not have access to computers at home.	511 sq ft
	Ceramics w/ Kiln: Clay pots, bowls, objects that are able to be used in daily life.	~1500 sq ft
	Library & Papermaking Space: Used to make portfolios & prints of work as well as gathering research.	~1500 sq ft

Plans:

PLANS | Ground Floor



PLANS | Second Floor

2nd Floor



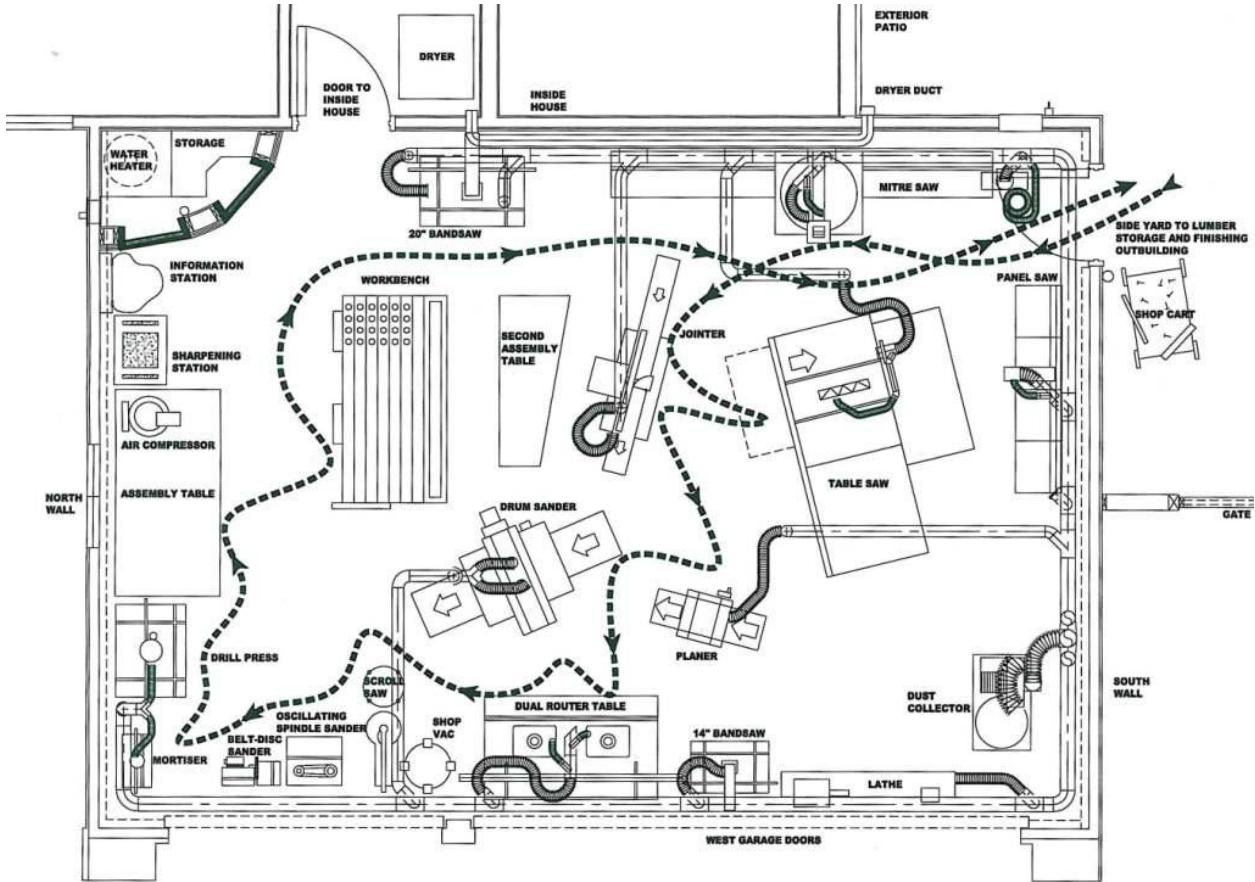
PLANS | Third Floor

3rd Floor



SPATIAL LAYOUT EXAMPLES

1. WORKSHOP- Woodworking



Basic Diagram of a Woodworking shop



Examples of wood shops



Examples of Tools and things that can be made in a wood shop

2. FABRICATIONS- 3D printing



3D printer room layout







Examples of open studio space
4. Computer Lab & Collaborative Spaces- Graphic Design, Industrial Design, Furniture, 3D Model Making & CAD



