

# PZ-SPUSE-23-000015

Menu Reports Help

File Date: [05/04/2023](#)

Application Status: [Pending](#)

Assigned To: [Owen Deutsch](#)

Description of Work: [Hartford Land Bank \(HLB\) & Keney Park Sustainability Project \(KPSP\) are partnering with three respected and established Urban Farm organizations in Hartford, with the goal of revitalizing three separate vacant lots into active urban farms and community gardens. This project will benefit Hartford residents immensely by providing educational opportunities, access to gardening, affordable and healthy fruits and vegetables, and aesthetic improvements to blighted lots. 176 Clark Street is currently blighted and vacant, and this urban farm proposal will aid in creating overall neighborhood change for residents.](#)

Application Detail: [Detail](#)

Application Type: [Special Permit](#)

Documents:	File Name	Document Group	Category	Description	Type	Document Status	Document Status Date
	<a href="#">176 Clark Street - Har...</a>	PLNG_SITEMIN	Approved Issued...	Attached is Hartfor...	application/rtf	Uploaded	12/20/2022
	<a href="#">Lauren Letter to Neigh...</a>	PLNG_SITEMIN	Letter of Intent	This letter serves ...	application/pdf	Uploaded	03/30/2023
	<a href="#">LLE LLC Letter of Inte...</a>	PLNG_SITEMIN	Letter of Intent	This updated letter...	application/pdf	Uploaded	03/30/2023
	<a href="#">LLE LLC Presentation M...</a>	PLNG_SITEMIN	Site Plan	This PowerPoint pre...	application/vnd.ms-...	Uploaded	03/30/2023
	<a href="#">LLE LLC Property Layou...</a>	PLNG_SITEMIN	Landscape Plan	Attached is Lauren'...	application/pdf	Uploaded	03/30/2023
	<a href="#">KPSP LOS 176 Clark Str...</a>	PLNG_SITEMIN	Other Support D...	This is a letter of...	application/pdf	Uploaded	04/19/2023
	<a href="#">Letter of Support for ...</a>	PLNG_SITEMIN	Other Support D...	This is a letter of...	application/pdf	Uploaded	04/19/2023
	<a href="#">Report, Co-Designing T...</a>	PLNG_SITEMIN	Other Support D...	A supporting docume...	application/pdf	Uploaded	04/19/2023
	<a href="#">HSP-02_pXRF_report_sig...</a>	PLNG_SITEMIN	Existing Condit...	Soil Testing Docume...	application/pdf	Uploaded	04/24/2023
	<a href="#">HSP2_soil_physical_pro...</a>	PLNG_SITEMIN	Existing Condit...	Soil Testing Docume...	application/pdf	Uploaded	04/24/2023
	<a href="#">HSP-2_Trace_Metals Ana...</a>	PLNG_SITEMIN	Existing Condit...	Soil Testing Docume...	application/pdf	Uploaded	04/24/2023
	<a href="#">NERA Letter of Support...</a>	PLNG_SITEMIN	Other Support D...	Attached is an offi...	application/pdf	Uploaded	04/25/2023
	<a href="#">Notarized Letter for P...</a>	PLNG_SITEMIN	Sign Plan	Notarized Letter fo...	image/jpeg	Uploaded	04/25/2023
	<a href="#">Lauren Little Edutainm...</a>	PLNG_SITEMIN	Other Support D...	A letter of support...	application/pdf	Uploaded	04/25/2023
	<a href="#">5-3-23 Urban Farm Prop...</a>	PLNG_SPUSE			application/pdf	Uploaded	05/05/2023

[Show all](#)

Address: [176 CLARK ST, HARTFORD, CT 06120](#)

Owner Name: [HARTFORD LAND BANK INC](#)

Owner Address: [30 LAUREL ST SUITE 3D, HARTFORD, CT 06106](#)

Application Name:

Parcel No: [240119093](#)

Contact Info:	Name	Organization Name	Contact Type	Contact Primary Address	Status
	<a href="#">HARTFORD LAND BANK INC</a>	<a href="#">HARTFORD LAND B...</a>	Owner	<a href="#">Mailing_30 Laurel Str...</a>	Active
	<a href="#">HARTFORD LAND BANK INC</a>	<a href="#">HARTFORD LAND B...</a>	Applicant	<a href="#">Mailing_30 Laurel Str...</a>	Active

Licensed Professionals Info:	Primary	License Number	License Type	Name	Business Name	Business License #

Job Value: [\\$0.00](#)

Total Fee Assessed: [\\$600.00](#)

Total Fee Invoiced: [\\$600.00](#)

Balance: [\\$600.00](#)

Custom Fields: [PLNG\\_SITEMJR\\_CF](#)

GIS Information

Zoning District: [NX-2](#)      Zoning Overlay: [-](#)      FEMA Flood Zone: [-](#)      Land Use Per Assessor: [CITY OF HARTFORD TAX COLLECTOR](#)

NRZ: [NORTHEAST NRZ](#)      Neighborhood: [NORTHEAST](#)      Local Historic District: [-](#)

Historic District	Historic Landmark/Site	State Historic District
-		-
Dispersion met?	Identify Dispersion	National Historic District
<a href="#">No</a>	-	<a href="#">Capen Clark</a>

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General Project Information

Is this application a result of a violation notice?	Zoning Enforcement Case ID #
<a href="#">No</a>	-
Does this project include a demolition?	Does this project include any tree removal?
<a href="#">No</a>	<a href="#">No</a>
Is there an increase of five or more parking spaces?	Does this project include new construction, including additions to a primary structure?
<a href="#">No</a>	
Does this project include new proposed accessory structures?	Are facade alterations proposed?
<a href="#">No</a>	<a href="#">No</a>
Does this project include any new signage or alteration to existing signage?	
<a href="#">No</a>	
Existing Impervious Surface (Sq. Ft)	Proposed Impervious Surface (Sq. Ft)
-	-
Total Project Area (Sq. Ft)	
-	

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Site Information

Existing Building Type	Proposed Building Type
<a href="#">N/A</a>	<a href="#">N/A</a>
Existing Use	Proposed Use
<a href="#">Household</a>	<a href="#">Urban Farm</a>
<a href="#">Living One-Unit</a>	
<a href="#">Dwelling</a>	
Fee Use	
<a href="#">Open Space Uses</a>	

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Recommendations

Consistency with POCD	Adverse Impacts on Neighboring Lands
-	-
Suitability as Presently Zoned	Recommendation
-	-

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Other Payment Required

Green Infrastructure Fund    Amount

-

City Tree Fund                    Amount

-

Complete Streets Fund        Amount

-

Describe Reason for Payments

-

Reason for Request

Reason for Request

-

PLNG\_SITEMJR\_DIGEPLAN

Enhanced Doc List

[Open](#)

Dates and Notices

Application Received

Open Hearing Deadline

Close Hearing Deadline

-

Extensions Requested?

If yes, describe how the dates above have changed

Decision Deadline

Notice sent to NRZ/CRCOG

Legal Ad #1

Legal Ad #2

-

Certificate of Mailings Returned

Notice of Decision Published

Sign Affidavit Received

Recordation Date

Approval Expiration Date

Sign Deposit Check #

-

Sign Deposit Check Amount

Public Hearing Date

Sign Deposit Date Received

Public Hearing Time

Meeting Link or Location

Document Link

-

-

Certificate of Compliance

As-Built Drawing Date

Type of Bond

Escrow Account #

-

Bonding Contact Name

Bonding Primary Phone #

Bonding Company Name

Bonding Email

Drawings Number of Sheets

Drawings Last Revised

-

-

-

Prior Approvals

Type of Permit/Authorization    Issued By    Issued Date    Expiration Date

-

Resolution Clauses

Type    Comment

-

Workflow Status: Task                    Assigned To                    Status                    Status Date                    Action By

[Application Intake](#)

Owen Deutsch

Task	Assigned To	Status	Status Date	Action By
Plans Distribution				
Building Review				
Engineering Review				
Police Review				
City Forester Review				
Planning and Zoning Re...				
Utilities Review				
NRZ				
CTDOT Review				
Adjacent Municipalitie...				
Fire Marshal Review				
Staff Report				
Public Notice				
Planning and Zoning Co...				
Notice of Decision				
Appeal Period				
Recordation				
Permit Issuance				
Permit Status				
Certificate of Plannin...				
Case Complete				

Condition Status:	Name	Short Comments	Status	Apply Date	Severity	Action By
Application Comments:	View ID	Comment		Date		
Initiated by Product:	AV360					
Scheduled/Pending Inspections:	Inspection Type	Scheduled Date	Inspector	Status	Comments	
Resulted Inspections:	Inspection Type	Inspection Date	Inspector	Status	Comments	



# Gaia's Garden

176 Clark Street, Hartford CT



# Introduction



## About Me

- 15 years of teaching experience
- 10 years of full-time farming experience
- Serves 1500 students per year



## Gaia's Guides

- Hartford Based, NGSS, curriculum
- Teaches students about agriculture and encourages them to have a personal relationship with our Earth



## Vision of Gaia's Garden

- Physical extension of Gaia's Guides
- Space to grow fresh vegetables and fruits for local distribution



# Gaia's Garden

01

## Sensory Pollinator Garden

Curated combination of herbs and flowers that students can plant, eat, harvest and interact with

03

## Food Pantry

Site where community members can stop by to pick up garden grown fresh food, canned food and packaged goods

02

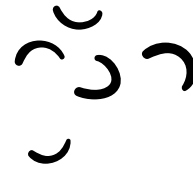
## Outdoor Classroom

Area for direct instruction for students and community members

04

## Compost Station

Site for garden produce scraps to create fresh soil, reduce food waste, and help the environment, and encourage students to recycle food.

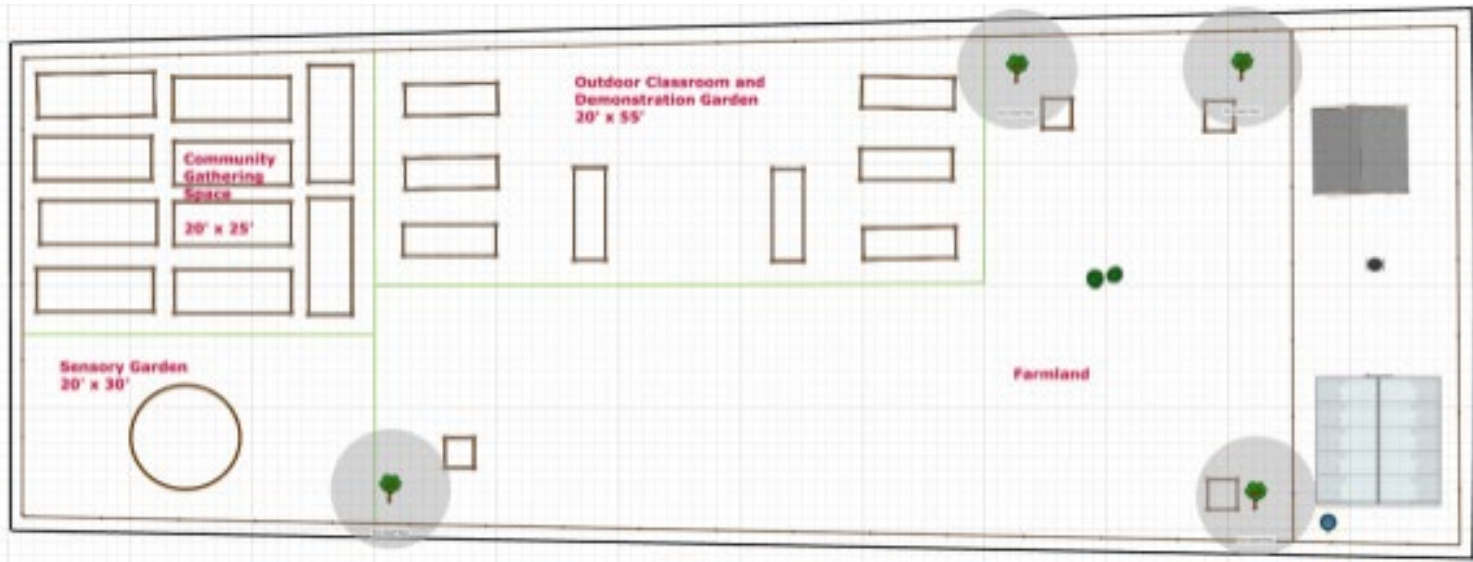


# Plot Layout



## Garden Management

- Equipment
- Signage
- Fencing





# Community Feedback

## Collection Methods

- Canvassing
- Phone Calls

## Primary Feedback

- Excitement for local food
- Interest in participating in garden
- Belief that it will be good for children in the neighborhood
- Concern about aesthetics of the lot and unsupervised usage of the lot

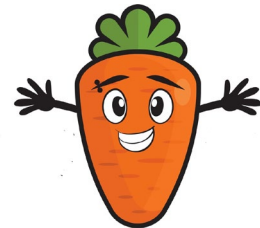




Thank you for your  
support!

To learn more about this work, you may visit  
[www.laurenlittleedutainment.com](http://www.laurenlittleedutainment.com)

Please stay in touch. I can be reached via email at  
[laurenlittleedutainment@gmail.com](mailto:laurenlittleedutainment@gmail.com)





Feb 20, 2023

Hi Neighbors,

My name is Lauren Little. I live, work, and teach in Hartford and I am excited for the opportunity to grow more food. I am a farmer, educator, and owner of Lauren Little Edutainment LLC. LLE is a company that specializes in farming, innovative urban agriculture curriculum & environmental education for all ages. My programming is designed to activate imaginations, curiosity, and knowledge about the Earth through storytelling, games and active learning strategies. I am currently working in partnership with The Hartford Land Bank, Keney Park Sustainability Project and The City of Hartford, for the vacant lot revitalization project on 176 Clark Street: Gaia's Garden.

Gaia's Garden will be an outdoor educational and agricultural space that will feed us, and provide a place where students and their families can learn and connect with nature. This garden is designed to accommodate programming, grow food, as well as host open hours for us to enjoy the space throughout the week and on special occasions. In addition, the garden will feature a community garden that provides space for us to grow food and a food hub station for us to share produce.

From my decade of experience as an Urban Farmer in Hartford, security is a component of garden operations. First, I will be installing a 6ft perimeter fencing around the entire property, with locked gate access. In addition, I will stay in contact with the local police officer assigned to our neighborhood to ensure that the space is only being used for its intended purpose. In the future, I will be installing security lights and cameras. In addition, I will be at the garden at least 3-4 times a week to ensure proper care and maintenance. This includes during the winter months, in which I will manage snow, grow winter crops, and host events.

This farm is a direct representation of my love for nature, expertise and reputation. I have taught my students the importance of food sovereignty and Gaia's Garden is how I demonstrate the reality of self-sustainability.

I am excited for us to become neighbors! I love questions, comments or feedback. Please reach out to me at [laurenlittleedutainment@gmail.com](mailto:laurenlittleedutainment@gmail.com) or message me at: 860- 740-2747.

Sincerely,

-Lauren Little



## **Letter of Intent for the City of Hartford - Lauren Little Edutainment LLC**

To whom it may concern,

I would like to introduce myself and Lauren Little Edutainment (LLE) LLC and give an overview of the vision and plans for the 176 Clark Street property in Hartford, CT, and demonstrate adherence to Town Code and applicable Zoning Laws.

### **Introduction**

Lauren Little Edutainment LLC, owned and operated by Lauren Little, is a company that specializes in farming, innovative urban agriculture curriculum, & environmental education for all ages. LLE works alongside school and community partners to create a culture of intergenerational learning to advance student awareness of and commitment to the environmental issues of their time. In 2013, LLE developed a program called Gaia's Guides which teaches students about agriculture and encourages them to have a personal relationship with our Earth. Lessons incorporate characters as a means to introduce youth to environmental concepts as anthropomorphized and relatable beings. The guides were developed based on direct feedback from the youth from the Clark School, prior to it closing in 2014. The program is embedded into the established Hartford Public School students' existing science curriculum and follows the Next Generation Science Standards. It can be adapted to a variety of grade levels and is modular, allowing for variations in program length catered to the schools' preferences.

### **Vision**

The vision for this space is an outdoor classroom and farm enterprise. Specifically, LLE envisions this lot as an extension of Gaia's Guides, one of LLE's signature curriculums. At the site, which will be called Gaia's Garden, students can engage in hands-on learning experiences, including their favorite characters coming to life in the garden. Different areas of the garden will have adjustable themes that will change each season. Gaia's Garden will also host open hours for the community to enjoy the space throughout the week and on special occasions. Additionally, LLE plans to grow fruits and vegetables for distribution to the local community.

### **Key Elements of Gaia's Garden**

Below are a few of the components of LLE LLC that will be put to use at 176 Clark Street.

1. Sensory Pollinator Garden: A curated combination of herbs and flowers that students can plant, eat, harvest and interact with. Bees help enhance garden health



and will support Hartford's pollinator path, which bees stop at to pollinate plants and gather nectar.

2. Food Pantry: A site where community members can stop by to pick up garden-grown fresh food, canned food and packaged goods.
3. Compost Station: A site for garden produce scraps to create fresh soil, reduce food waste, and help the environment, and encourage students to recycle food.
4. Outdoor Classroom: An area for direct instruction for students and community members.

### **Structures, Purpose, & Zoning Adherence**

Construction/Structures: LLE plans on constructing the following accessory structures on the lot. None of these structures will have a permanent foundation:

- Eighteen wooden raised garden beds for growing fruits and vegetables, measuring 10' x 6' x 3'
- 4 square raised garden beds measuring 4' x 4' x 3'
- Greenhouse that is not a permanent structure
- Compost bins, located in the rear of the yard, 20' from residential buildings
- Tool shed measuring 12' x 6' that is not a permanent structure
- Circular raised bed for sensory garden measuring with a radius of 5'
- 9'x3' wash station adjacent to the tool shed with water access/spigot

### Water

Water spigot anticipated location in the back third of the lot and will be subject to change based on MDC's survey report. LLE will also install a wash station on a gravel patch of the vacant lot.

### Compost

Compost bins are located in the rear of the yard, 20' away from residential buildings. All uncooked fruit and vegetable compost material will go into a tumbler, which will be secured and impenetrable. This method produces no runoff or odors and prevents infiltration by animals. LLE will also have a vermicompost (worm) bin, which will be a closed and self contained bin with aeration holes on the upper sides.

### Fencing

The property will be enclosed with a metal chain link fence that is 6' tall, with 50% visibility. There will be one gated entrance which will be kept locked when staff, students, or community members are not present.



### Soil Testing, Maintenance, & Suitability for Agriculture Production

Soil testing has been conducted and the results provided by NRCS with appropriate recommendations for use. We will lay wood chip mulch over the lot in which lead levels tested above 400 ppm and use traditional organic soil remediation. For growing, we will use both raised beds and Hugelkultur style growing practices. The raised beds will be in the sensory pollinator garden and outdoor classroom. Ten Hugelkultur beds will be used for growing in the farmland area of the lot. This is in accordance with best practices to prevent lead contamination from affecting humans and children using the lot. The site will be maintained using organic agricultural practices, including the use of organic amendments only.

At the end of the growing season (no later than December 1st), all beds will be managed by mowing, maintenance of a winter-growing crop, or via intentionally planted cover crops. All beds which are slated for winter production or cover crop production will be marked by December 1st, and all other plant materials will be cut to no greater than 6" high unless agriculturally needed.

### Signage & Hours of Operation

Signage with appropriate contact information and hours of operations (7 AM - 9 PM) for the entity responsible for 176 Clark Street (LLE LLC) will be visible from the street.

### Equipment & Use

This lot will be used for small-scale farming production, meaning that LLE will not be using any large-scale power equipment. The only power equipment on site will be limited to push mowers, trimmers, and weed whackers. LLE expects these to be used periodically throughout the growing season, with anticipated use of two days per month. All other tools will be hand tools, including spading forks, shovels, hoes, trowels, pitchforks, and so on.

### Odor Concerns:

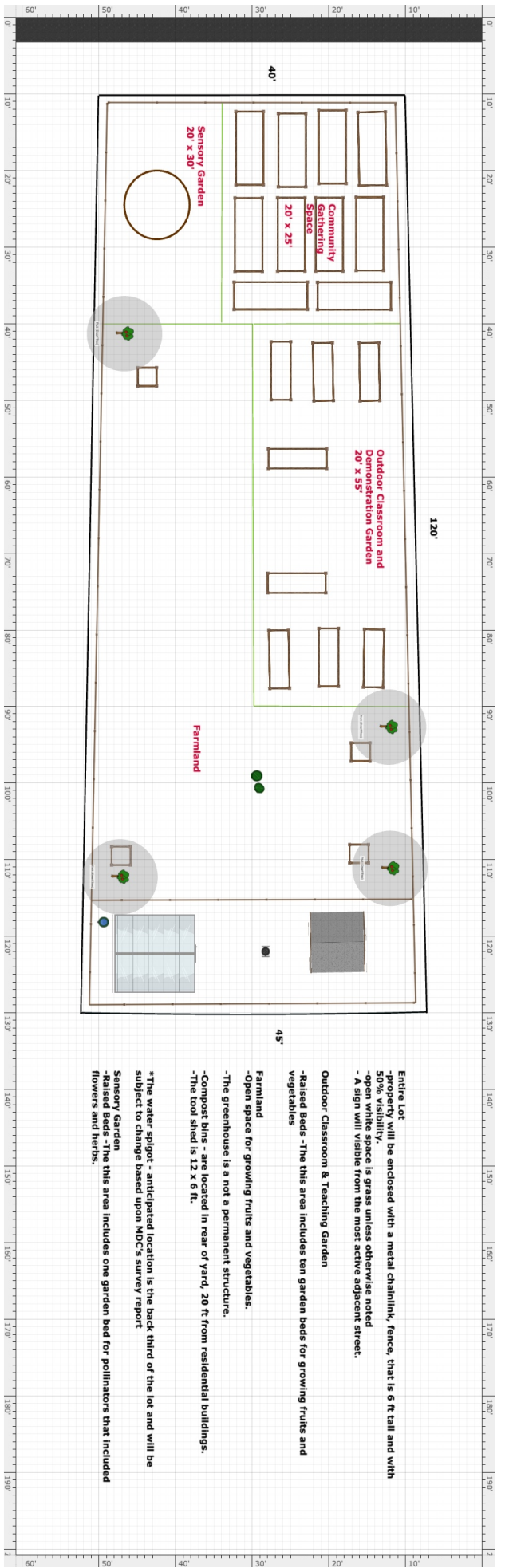
Displeasing odors will not be produced from compost, agricultural, or growing operations on or near 176 Clark Street. LLE does not foresee any area of the property that would be unmanaged to the point of producing displeasing odors. Constant attention will be placed to monitoring temperature, ratio of materials, and ensuring proper balance of garden materials on site throughout the year, in order to alleviate any odor concerns.



Closing Statement:

LLE looks forward to moving forward with the permit and construction process and are happy to field any supplemental questions that arise from the plans stated above. Lauren Little Edutainment seeks to inspire and train the next generation of farmers while staying true to the sacred practice of honoring and cultivating the Earth. To learn more about this work, please visit <https://www.laurenlittleedutainment.com/>.

Respectfully submitted,  
Lauren A. Little



Entire lot  
 -property will be enclosed with a metal chainlink, fence, that is 6 ft tall and with 50% visibility.  
 -open white space is grass unless otherwise noted  
 - A sign will be visible from the most active adjacent street.

**Outdoor Classroom & Teaching Garden**

-Raised Beds - The this area includes ten garden beds for growing fruits and vegetables

**Farmland**

- Open space for growing fruits and vegetables.
- The greenhouse is a not a permanent structure.
- Compost bins - are located in rear of yard, 20 ft from residential buildings.
- The tool shed is 12 x 6 ft.

\*The water spigot - anticipated location is the back third of the lot and will be subject to change based upon MDC's survey report

**Sensory Garden**  
 -Raised Beds - The this area includes one garden bed for pollinators that included flowers and herbs.





March 20, 2023

To whom it may concern:

On behalf of Keney Park Sustainability Project (KPSP), I am pleased to express my support for the rezoning of 176 Clark Street into an urban farm. KPSP's mission is to connect people to the healing power of nature. We engage thousands of residents, predominantly from the north Hartford region. Some of our core programs include gardening and demonstration projects including composting, hydroponic gardening, and mushroom cultivation. We host activities that include garden kit distribution, broad distribution of fresh and locally-grown food, a mobile teaching kitchen, workforce experience for Hartford youth via our trail maintenance and wood milling, leading a network of urban farmers, and numerous pop-up events.

Recently, we have been collaborating with the Hartford Land Bank on a Vacant Lot Activation Project. Through this project, KPSP is supporting the development of 10 vacant lots over the next 3 years into farmer-owned urban farms. Vacant lots around the City of Hartford will be transferred directly to the ownership of experienced urban farmers of color, all with strong ties to the Hartford community. After receiving positive feedback from neighbors, 176 Clark Street is one of the 3 lots this year that has been slated to be activated into an urban farm. Lauren Little, founder of Lauren Little Edutainment, will develop the vacant lot into an urban farm and education center. KPSP has undergone extensive conversations with Lauren Little about her intentions for the lot. We believe that her plan to develop the lot into an educational site where she can teach future students about nature and growing their own food will offer generational knowledge and improve the wellbeing of our youth. Furthermore, she plans to use the lot as farmland to grow fresh food for local distribution. This will increase community access to fruits and vegetables and combat the food insecurity experienced in the Northeast neighborhood.

KPSP is committed to supporting the success of the activation of 176 Clark Street. As a community partner, we will:

- Include Lauren Little Edutainment as a partner on relevant grants relating to activating vacant lots;
- Provide material support (mulch, soil, woodchips, etc.) that further the revitalization of 176 Clark Street;
- Offer individualized and group meetings to check-in on the progress of activating the lot throughout the entire process;
- Participate in project implementation and evaluation activities including data collection, as appropriate; and
- Spread awareness about projects and community events hosted by Lauren Little Edutainment.

KPSP wholeheartedly endorses rezoning 176 Clark Street into an urban farm, which will support community connectivity and wellbeing. Please feel free to contact me to further discuss my support for this project at [herb@keneyarksustainability.org](mailto:herb@keneyarksustainability.org) or (860) 333-8711.

Sincerely,

A handwritten signature in black ink, appearing to read "Herb Virgo".

Herb Virgo

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**Keney Park Sustainability Project** aims to provide hands-on training, on-site demonstrations, education outreach, and community collaborations that help families become more self-sustainable and environmentally conscious while preserving the historic Keney Park. **Phone:** 860-333-8711 **Fax:** 860-722-6555 **Address:** P.O. Box 1924 Hartford, CT 06114 **Email:** [keneyarksustainability@gmail.com](mailto:keneyarksustainability@gmail.com) **Website:** [www.keneyarksustainability.org](http://www.keneyarksustainability.org)



Founder/Executive Director



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**Keney Park Sustainability Project** aims to provide hands-on training, on-site demonstrations, education outreach, and community collaborations that help families become more self-sustainable and environmentally conscious while preserving the historic Keney Park. **Phone:** 860-333-8711 **Fax:** 860-722-6555 **Address:** P.O. Box 1924 Hartford, CT 06114 **Email:** [keneyarksustainability@gmail.com](mailto:keneyarksustainability@gmail.com) **Website:** [www.keneyarksustainability.org](http://www.keneyarksustainability.org)



Lauren Little Edutainment LLC  
Letter of Support For  
176 Clark Street, Hartford CT

To Whom it may concern:

Mutual Aid Hartford would like to formally support Lauren Little Edutainment's (LLE) proposed urban farm initiative, which will entail changing the current 176 Clark St zoning usage to an urban farm. LLE, owned and operated by Lauren Little, is a company that specializes in farming, innovative urban agriculture curriculum, & environmental education for all ages. The vision for 176 Clark St is an outdoor classroom and farm enterprise.

We would like to voice our support for the project, because we believe it will add immense value to our city and provide a needed outlet for freshly grown food that the community would benefit from.

We love that LLE plans to install a sensory herb garden, an outdoor classroom, edible perennial foods, and shared growing spaces. We believe that LLE will provide a safe and long term opportunity

In addition to the opportunity to receive fresh produce, the urban farm would host classes and events geared towards sharing knowledge and resources with neighborhood families so they can grow themselves. This would give everyone in the neighborhood a positive space and outlet in a peaceful environment, and the opportunity to share their skills in growing and tending for plants.

LLE partners closely with Mutual Aid Hartford and other neighborhood partners such as The Village for Families & Children, Hartford Public Schools, and local farmers to distribute free and fresh organic produce to our community.

We believe the proposed urban farm at 176 Clark St would be an asset to the community and we voice our support for this project.

Sincerely,

*Mutual Aid Hartford*

Mutual Aid Hartford

# Co-Designing Teen-Adult Environmental Action with Hartford Communities Project Report

*Laura Cisneros and Nicole Freidenfelds*  
University of Connecticut  
Natural Resources Conservation Academy

## Project Motivation and Goal

The University of Connecticut [Natural Resources Conservation Academy](#) (UConn NRCA) has successfully facilitated teen-adult community conservation efforts for over ten years. To date, our award-winning programs have engaged and supported over 700 teens and adults as these intergenerational (e.g., teen-adult) partnerships collectively conducted nearly 280 community environmental action projects throughout Connecticut and neighboring states (see list of projects). To support these local environmental actions, we work closely with participants as they design, develop, and implement projects tailored to their individual interests, identities, and community needs (see program design principles in [Cisneros et al. 2020](#)).

Despite these successes, the NRCA team recognizes the need to authentically engage with and support the goals and aspirations of historically marginalized communities, something we are firmly committed to strengthening. As such, we are taking a multi-layered approach to rethinking how we address racial/ethnic inclusion, belonging, and equity within community environmental action efforts. For example, integrating inclusion and equity in NRCA mission and vision, analyzing NRCA language and images to create a more inclusive and welcoming space, and developing instructor training to integrate culturally-responsive education techniques.

Adequately addressing equity and inclusion within community environmental action practices requires an innovative approach that allows for input from, and co-designing with, all key stakeholders. Yet, this time-intensive process is rarely put into action by environmental professionals. We applied for and received funding to implement a comprehensive *co-designing local environmental action with multiple community stakeholders* approach ([Cranston 2016](#)). This approach redirects the role of environmental professionals as the leaders of conservation work to a role as facilitators of participatory processes that support co-designing environmental action with (not for) the communities who are most impacted by it ([Mahanty & Russell 2002](#)). Thus, this allows community members to meaningfully contribute to the development of environmental action that is most in demand by the community ([Cranston 2016](#)).

## Project Actions

### Stakeholder Analysis

To begin, we participated in a personalized nine-week *Co-Designing Conservation with Communities* training from Dr. Kayla Cranston, Director of Co-Design Science & Innovation at Antioch University New England. Under her direction, we conducted an in-depth stakeholder analysis to identify Hartford community stakeholders at three levels: primary (those directly served by the program; teens), secondary (those who provide services to the primary; adult

volunteers and community organizations) and tertiary (others connected to the program). Hartford was selected based on prior NRCA partnerships and a desire to support the diverse assets that already exist within the community. Dr. Cranston also provided guidance and feedback as we conducted outreach meetings with a subset of stakeholders and planned the asset-based participatory events in the metro-Hartford area.

### Focus Groups

We hired and trained two UConn undergraduate students from the Hartford community to facilitate the focus groups and serve as a trusted source to our primary stakeholder youth participants (Figure 1). We hosted four focus group sessions between May 12 and June 8, 2022 for teens at different locations in the city: Hartford Public Library (8 students), Bulkeley High School (North campus - 7 students; South campus - 8 students), and Connecticut River Academy (6 students). We received signed assent forms from youth participants and signed consent forms from parents/guardians prior to conducting each focus group session.

Focus group sessions ranged between 30 and 55 minutes, during which time the facilitators encouraged conversation around a short series of specific questions (see below). Each session was audio-recorded in order to generate a text transcript of the discussion. Food and incentives (\$25 Amazon gift cards) were provided to thank the youth participants for their time.



*Figure 1. Undergraduate student community focus group facilitators, Honore and Chelcy.*

### *Engagement Questions*

- What is one goal that you have for yourself by the end of high school?
- Where do you see yourself in five years?

### *Exploration Questions*

- What programs or resources do you have in your school or community that helps you reach your goals or is something you enjoy being part of?
- Please close your eyes and imagine that you are outside somewhere in your community. What do you think are some big issues related to the environment in your community?
- In what ways would you like these issues to change in the next five years?
- How could we support you, your friends or younger siblings to make changes within your community?

### *Exit Question*

- If you had the power to change one thing about the environment in your community, what would it be?



## Listening Session

Following the youth focus groups, we hosted a *Community Conversation* listening session event at the Keney Park Pond House from 4:30-6:00 PM on September 28, 2022 (Ardoin et al. 2022). We invited Hartford community members identified through our stakeholder analysis who had a connection to youth and/or the environment. Twenty-six people attended the listening session, including youth and adults, from organizations such as Friends of Pope Park, CT Department of Energy and Environmental Protection, City of Hartford Office of Sustainability, CT Science Center, and various Hartford neighborhood groups and Hartford schools.

We began the listening session event with a brief welcome and introduction about why we were there. This was followed by three conversation “rounds” based on specific questions (see below in Project Findings). Groups of five to six participants sat together at tables with markers and a large sheet of paper, with one person designated as the “table host,” whose responsibility it was to keep the time and conversation on track. During each conversation round, participants were encouraged to write down on the paper their thoughts, ideas, responses and/or things they heard. Between rounds, table hosts would remain seated while a random number of people moved to different tables. Each next round began with a new blank sheet of paper.

After the three conversation rounds, we hung the paper sheets on the walls for a gallery walk. Each participant was given three stickers and asked to place one sticker on whichever item from each conversation round resonated with them the most (Figure 2). Then, we regathered for a whole group conversation about the main take-aways and wrapped the event with our plan for follow-up communication. We provided light refreshments and raffled off \$100 Amazon gift cards to ten randomly chosen attendees as a thank you for their time and active participation.



*Figure 2. Listening session participants during the gallery walk activity.*

## **Project Findings**

### Focus Groups

A common theme among the high school focus group participants was their desire to achieve personal goals and aspirations. Students mentioned wanting to attend college or pursue specific careers, improving their grades or engaging in extracurricular activities, and personal development such as building self-confidence or improving time management skills (Table 1). Many participants shared visions of where they see themselves in five years, which included going to college, starting a career, or traveling the world. Several students discussed programs and resources that are available in their school or community that help them achieve their goals or provide them with enjoyable experiences. Examples of these resources include sports teams,

music and art programs, and community centers. Some students also expressed a desire for more resources and support in pursuing their academic and career goals.

Students identified a range of environmental issues affecting their communities, including air and water pollution, littering, access to green spaces, and the impact of climate change. They expressed concerns about these issues in their community and the world as a whole, and shared their desires for changes in their community's environment. These included reducing pollution, increasing green spaces, and reducing waste.

*Table 1. Coded themes identified from transcripts of the four Hartford high school student focus groups. Themes that recurred 10 or more times are bolded and indicated with an asterisk (\*).*

Category	Code	Description	Count
Goals	<b>College</b>	Attending/graduating from college or other schooling after high school	<b>27 *</b>
	<b>Employed</b>	Employed in a job/career; working; making money	<b>19 *</b>
	<b>Personal Growth</b>	Get better at something (handwriting, good grade, perfect attendance)	<b>10 *</b>
	Travel	Traveling	2
	Scholarship	Scholarship for college, sports, etc..	1
Resources	<b>School-based</b>	School club, program, courses, etc.	<b>16 *</b>
	After School	Programs for help in school, language, etc.	6
	Organization	Local organizations (library, Boys & Girls Club, church, etc.)	4
Environment	<b>Litter</b>	Litter or other mention of land pollution, etc.	<b>14 *</b>
	Waste	Recycling, biodegradable products, etc.	7
	Social Concerns	Violence in the community, homelessness, etc.	4
	Water	Water pollution or other mention of water quality, etc.	3
	Clean-up	Cleaning up the local environment	3
	Enviro. Program	Environment program involved in the community, etc.	3
	Air	Air pollution or other mention of clean air	2
	Tree Planting	Planting trees or other resources	2
	Advertisement	Advertisement about the harm of not recycling, consequences, etc.	2
	Forest	Deforestation or other mention of forest loss	1
	Parks	Parks and/or greenspaces	1
	Technology	Technology (to clean up water pollution)	1
Support	<b>Community Event</b>	Create event where everyone is together	<b>14 *</b>
	<b>Resources</b>	Resources such as physical supplies, materials, etc.	<b>13 *</b>
	Awareness	Raising awareness, with focus on children (elementary, middle school)	7
	Connections	Connecting with experts or other members of community	3
	Financial	Financial support (money, job, etc.)	2
	Environment Class	Create class to help students learn more about environment issues	2
	Mobile Library	Mobile library where the library is in a van	1
	Transportation	Easier access to transportation (scooter, bus pass, etc.)	1

Focus group participants expressed a need for support from their schools, communities, and peers to create positive changes in their community, including increased education and awareness campaigns, more resources for recycling and waste management, and stronger enforcement of environmental regulations. They mentioned the importance of teamwork and collaboration to address environmental issues, and many students expressed a desire to have the power to make changes in their community. They talked about the need for leadership and

advocacy to make a positive impact on the environment. They also suggested ways in which community organizations, schools, and government agencies could better support environmental initiatives.

### Listening Session

➤ Question 1: *What are your community goals for 1) youth engagement and 2) environmental action?*

Overall, the responses suggest a strong desire to engage and support youth in the community, especially in STEM and career opportunities, violence prevention, and access to natural resources. The importance of collaboration and inclusivity is also highlighted, with a desire to involve community organizations, leverage social capital and power, and include diverse perspectives.

#### *Youth Engagement:*

- Creating STEM/career opportunities for diverse youth
- Stopping violence
- Connecting young people with their natural resources
- Supporting groups/projects that are already in place
- Providing ways for young people to make money
- Making Hartford a place where people are proud to live
- Allowing youth to advocate for themselves - everyone's voice matters
- Keeping youth busy
- Creating after-school gatherings
- Providing youth programs that teach life skills
- Encouraging older teens to mentor younger students through school-to-school partnerships and/or buddy programs
- Offering professional development for Hartford teachers
- Encouraging parents to be influential in children's lives
- Providing more opportunities for youth to learn about environmental education

#### *Environmental Action:*

- Planting more trees in Hartford
- Increasing awareness of environmental issues
- Increasing access to rivers and natural resources to diverse groups of youth
- Including community organizations in the idea of "community"
- Leveraging social capital and power with the community
- Attending more community events
- Connecting people and programs and youth to resources
- Addressing climate change
- Developing a local school food system
- Raising awareness of transportation options beyond cars
- Allowing youth to lead community clean-up efforts
- Encouraging pride in the community
- Creating more diverse marketing



➤ Question 2: *What already exists in the community to achieve those goals?*

Overall, the existing resources for youth engagement and environmental action are diverse and multifaceted, ranging from government and educational institutions to nonprofits and community organizations. However, there is a need for more coordination and collaboration among these resources to create a more comprehensive and effective approach to achieving community goals. Additionally, the impact of COVID-19 on existing resources is highlighted, and there is a call to revitalize existing programs and resources to ensure that they continue to serve the needs of the community.

*Youth Engagement:*

- After-school programs, youth leadership programs, and youth-focused initiatives like Our Piece of the Pie and Job Corps
- Non-profit organizations such as Urban League and YMCA that provide youth programs
- Science-based programs at the CT Science Center and STEM-focused programs at high schools like Bulkeley and AI Prince Tech
- City parks and recreation programs that provide youth sports and recreation opportunities
- Libraries that provide resources and support for learning and after-school activities
- Community engagement departments and Neighborhood Revitalization Zones, such as the Blue Hills Civic Association that provide resources and programs for community youth engagement

*Environmental Action:*

- The Hartford Sustainability Office, Hartford Commission on Food Policy, and CT DEEP that provide resources and support for environmental sustainability and conservation initiatives
- Non-profit organizations like KNOX Park Foundation, Friends of Keney Park, and Chrysalis Center that provide environmental and sustainability programs and resources
- City parks and recreation programs that focus on green initiatives and park maintenance
- Community organizations like the Blue Hills Civic Association and the Urban League that provide resources and support for environmental sustainability initiatives
- Educational institutions like Trinity College and UConn that provide resources and support for environmental research and innovation
- Local businesses like Levos that provide resources for hydroponic gardening and composting

➤ Question 3: *How could we work collectively to achieve those goals?*

*Collaboration and communication:* Many participants stressed the importance of collaboration and communication among community members, organizations, and stakeholders to avoid duplication of efforts and ensure that information and resources are shared effectively. Participants suggested the use of tools such as direct communication, mailers, flyers, and websites to promote events and programs and make information available to a wider audience.

*Youth engagement and empowerment:* Participants recognized the importance of engaging and empowering young people in environmental initiatives and suggested the use of youth tech

skills and interest, as well as direct communication with youth, to ensure that their voices are heard and their ideas are incorporated into environmental programs.

*Community events and programs:* Participants emphasized the need for community events and programs that are inclusive and appealing to different groups of people, such as block parties, community meets, and on earth fest. They also highlighted the importance of community conversation and information updates to keep people engaged and informed about environmental programs and initiatives.

*Political and policy support:* Some participants suggested involving legislators at the federal, state, and local levels in environmental initiatives and creating policies to support environmental goals. They also suggested joint grant applications and co-hosting events to increase support within and across communities.

*Data tracking and documentation:* Finally, many participants emphasized the importance of tracking tools and documenting the progress of environmental initiatives to measure success and identify what works and what does not work. Some participants suggested creating measurable goals and outcomes to ensure that progress is being made towards environmental goals.

## **Project Summary and Future Directions**

Overall, the focus group responses suggest that Hartford high school students are interested in achieving personal goals and aspirations, while also being aware of the environmental challenges facing their communities. They expressed a desire for support and collaboration to create positive changes in their community and the world. Based on the responses from the listening session, it is clear that there is a strong desire to address environmental and sustainability issues in Hartford, and many existing resources and programs that could be utilized to achieve these goals. There was a general consensus that collaboration and communication between different groups and organizations is essential to avoid duplication of effort and achieve measurable outcomes. The youth were seen as an important group to involve in these efforts, and there were many suggestions for ways to engage them, such as through technology and art programs. Overall, the participants emphasized the importance of building strong partnerships, promoting community engagement, and sharing resources and information to achieve their environmental and sustainability goals.

We hope to use the findings from our focus groups and listening session to develop a plan that identifies areas of organizational overlap in outreach and services, mutually beneficial opportunities, and determine potential areas for collaboration. This comprehensive approach can be an effective way for the UConn Natural Resources Conservation Academy to better serve Hartford youth through future environmental action.

## **Acknowledgements**

Thank you to the community members who shared with us their valuable opinions, insights, and ideas. Funding for this project was provided by a University of Connecticut College of Agriculture, Health and Natural Resources CES Grant for Innovative Programming in Extension.



**SUBJECT:** Portable X-ray Fluorescence Technical Assistance

November 23, 2022

**To:** Herb Virgo  
Founder/Executive Director  
Keney Park Sustainability Project  
183 Windsor Ave.  
Windsor CT 06095

**Purpose:**

Utilize portable X-ray fluorescence (pXRF) analyzer technology to determine concentrations of several trace metals in an area planned for urban agriculture at 176 Clark St, Hartford CT.

**Participants:**

Jacob Isleib, State Soil Scientist, USDA NRCS, Tolland, CT  
Tyler Durre, Resource Soil Scientist, USDA NRCS, Tolland, CT  
Milton Vega, Soil Scientist, USDA NRCS, Tolland CT  
Edwin Muniz, State Soil Scientist, USDA NRCS, Somerset, NJ  
Dan Ufnar, State Soil Scientist, USDA NRCS, Syracuse, NY  
Olga Vargas, Resource Soil Scientist, USDA NRCS, Greenwich, NY  
Keith Shadle, Resource Soil Scientist, USDA NRCS, Bloomsburg, PA  
Kefeni Kejela, Resource Soil Scientist, USDA NRCS, Bedford, PA  
Hanako Agresta, MD/MPH Candidate, University of Connecticut School of Medicine

**Activities:**

All field activities were completed on October 25, 2022.

**Summary:**

Technical soil services provided added insight into subsurface conditions for the siting of an agricultural production project. The soil observations and pXRF analysis provided data on soil properties and trace metals concentrations, which should be used for future garden/farm plans including planting locations, decisions to bring in new soil material for raised beds, and other mitigation practices.

**Disclaimer:**

Field based pXRF screening is not as accurate as laboratory analysis and are not designed to identify sources of lead. This information may be interpreted by organizations, agencies, units of government, or others based on needs; however, they are responsible for the appropriate application. Federal, State, or local regulatory bodies are not to reassign to the Natural Resources Conservation Service any authority for the decisions that they make. The Natural Resources Conservation Service will not perform any evaluations of these data for purposes related solely to State or local regulatory programs.



United States Department of Agriculture

Regards,

Jacob Isleib  
State Soil Scientist  
USDA NRCS Connecticut

Enclosures:

*Appendix A. X-Ray Fluorescence Trace Metal Analysis Report*

*Appendix B. Soil Physical Properties*

*Lead in Garden Soils*

*Healthy Soils, Healthy Communities, Metals in Urban Garden Soils*

*WHERE TO GET YOUR SOIL TESTED fact sheet*

Natural Resources Conservation Service  
344 Merrow Road, Suite A  
Tolland, CT 06084

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## Tract Elements and Their Analysis

Trace elements are simply elements present in minute amounts in the environment. Trace elements include metals (e.g., lead and iron), metalloids (e.g., arsenic), and radionuclides (radioactive elements; e.g., radium and radon). Trace elements have natural and manmade sources. Rock weathering, soil erosion, and dissolution of water-soluble salts are examples of natural sources of trace elements (USGS staff). Levels of trace elements in soils associated with natural sources are also referred to as *background levels*. Many human activities also contribute trace elements to the environment—mining, urban runoff, industrial emissions, and nuclear reactions are just some of the many manmade sources. The human additions of trace elements are often referred to as *anthropogenic additions*, and where the respective element is considered toxic to human, animal, and/or plant health, it may be referred to as *contamination* or *contaminants*.

The trace element data generated from the pXRF is reported in total concentration (which includes both fixed and available forms) and the units are measured in part per million (ppm) unless otherwise noted. Samples were excavated in the field and then analyzed using pXRF. This in-situ analysis method does not involve the drying, sieving, and homogenizing/grinding of samples as specified in method SW-846 Test Method 6200. The data is summarized in a table to compare the results with the soil remediation standards established by Connecticut Department of Energy and Environmental Protection, as well as those of neighboring states for comparison: New York State Department of Environmental Conservation, and New Jersey Department of Environmental Protection.

Also included are the average values of New Jersey soils at the surface and the mean values of the Eastern United States soils published by USGS, which provide some context about background levels of these elements in soils from the northeast region. Significant differences between background levels and pXRF analysis results may be interpreted as anthropogenic additions of trace metals. However, the general New Jersey and USGS average value data does not account for variation in background levels of different soil types due to soil mineralogy differences. Interpretation of anthropogenic additions of trace elements is difficult based on pXRF analysis results; while very large differences (i.e., an order of magnitude) may suggest anthropogenic additions, there is no certainty without more detailed field sampling and laboratory analysis.

## Soil pH, Soil Texture, and Trace Elements

Soil pH, a measurement of acidity in the soil, affects solubility, plant-availability, and mobility of trace metals such as lead. Depending on the trace metals analysis results, management recommendations relating to pH may be suggested.

Additionally, soil texture is a soil physical property interpretively-related to trace elements as it can be used as a general indicator of the soils inherent ability to bind certain elements and compounds. This specifically relates to other soil properties such as sand/silt/clay content, soil porosity, and cation exchange capacity. Field estimation of soil texture is a rapid method and, therefore, a useful indicator.



### Sampling Procedure:

A grid was established for sampling according to the schematic provided in Figure A. Grid spacing was set at 4 meters by 4 meters, yielding 24 total points covering the entirety of the lot. The grid site locations were located using manual measurements from nearby fixed locations.



Figure A. Grid layout at the investigation site. Grid spacing is 3 meters by 3 meters.

Soil samples were unearthed from two depth ranges: 0 to 6 inches (0 to 15 cm), and the underlying layer just below this, 6 to 12 inches (15 to 30 cm). A sample at each depth at each point were described in terms of soil texture, dominant soil color, artifact content and type, and then were analyzed with the Delta X-ray Fluorescence Environmental Analyzer by Olympus (pXRF). Three beams were used for each pXRF scan, with a scan time of 30 seconds per beam. A total of 48 samples were analyzed.

The data was prepared and analyzed in Microsoft Excel and RStudio. Results were evaluated in regard to soil remediation standards established by Connecticut DEEP, New Jersey DEP, and New York State DEC.

In the enclosed *Appendix A. X-Ray Fluorescence Trace Metal Analysis Report*, samples with concentrations over the Connecticut DEEP standards are highlighted in red except for lead, where the samples are given a color code according with the University of Connecticut Soil Nutrient Analysis Laboratory suggested action range for lead (fact sheet enclosed).



Interpretation map figures were generated in ArcGIS Pro with spatial analysis for the concentration of lead and arsenic. Raster surfaces of metals concentrations were created by interpolation using the kriging or IDW method. Figures include both the screened values from the pXRF (labeled at each point) along with the interpolated raster surface.

### General Observations:

- *Generalized soil horizon properties*
  - The soil physical property data documented at each site and depth is included in *Appendix B. Soil Physical Properties*.
  - The majority of sample sites across the lot exhibit evidence of human disturbance with many samples containing human artifacts (i.e., fragments of brick, coal combustion byproducts, concrete, metal, etc.)
  - Surface (0-6 inches in depth) and Subsurface (6-12 inches in depth) layers have a narrow soil texture range, with loamy sand, loamy fine sand, and fine sand textures observed. Surface layers were generally darker in color than the underlying material.
  - Estimated clay content of the soil material is 5 percent or less at all sample locations.
  - The range of Munsell color hues for the dominant color of the sampled layers ranges was mostly 10YR. This consistent soil color hue along with the consistent soil textures suggests that most of the soil material is from the sample parent material and mineralogy.
  - Rock fragments were absent from the majority of sampled locations.
  - The human artifacts documented on site include plastic, glass, brick, coal combustion byproducts (coal slag, coal, and fly ash), concrete, and metal. These artifacts appear to be associated with building demolition.
- A table of average values for each measured element is included below in Table 1.

### Observations for Specific Trace Metals:

- Arsenic (As)
  - Site 019 was measured with an arsenic concentration greater than maximum concentration, 10 ppm, established by the CTDEEP Soil Remediation Standards standard.
  - Soil surface
    - The arsenic concentrations of all surface samples were below the limit of detection (5 ppm).
  - Soil subsurface
    - The concentration of arsenic ranges from (below limit of detection) to 12 ppm. The median value was below the limit of detection.
  - Figures B and C show the spatial orientation of measured As values along with an interpolated surface of As modeled from these values.



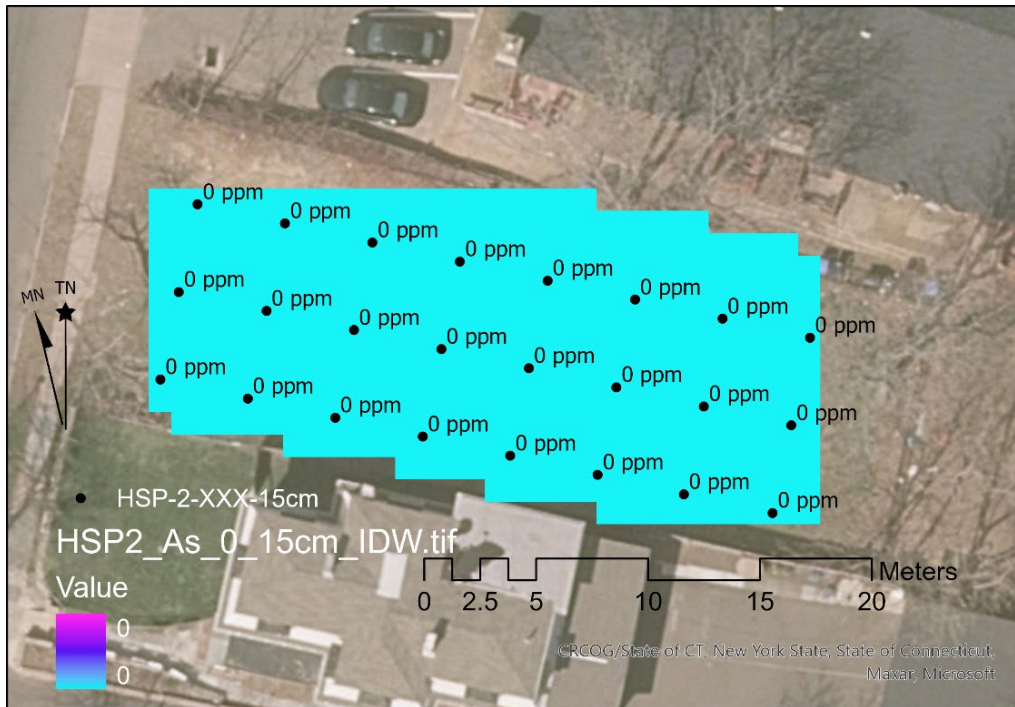


Figure B. Arsenic values (ppm) within 0 to 6 inches at sample locations with modeled/interpolated surface of Arsenic values. Note: Values indicated as zero (0) were below limits of detection of the pXRF unit and may not actually be zero.

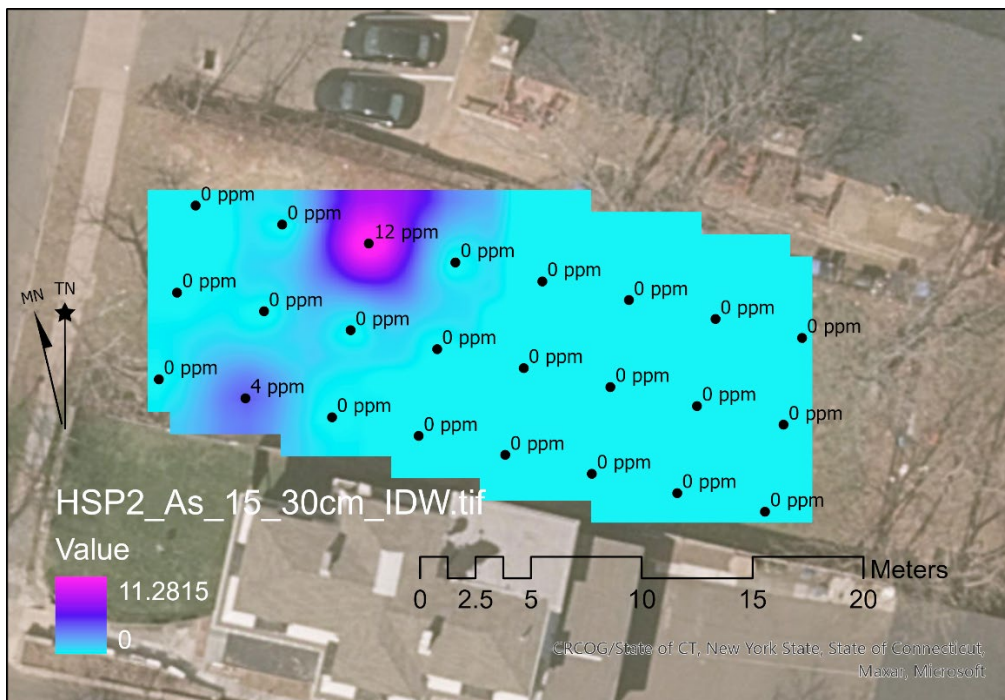


Figure C. Arsenic values (ppm) within 6 to 12 inches at sample locations with modeled/interpolated surface of Arsenic values. Note: Values indicated as zero (0) were below limits of detection of the pXRF unit and may not actually be zero.



- Lead (Pb)
  - Soil surface
    - Lead concentrations in the surface samples ranged from 84 to 1108 ppm.
    - The average concentration of lead in the 0-6 inch depth samples is 351 ppm.
    - Of all the 0-6-inch points, 12 percent showed concentrations lower than 100 ppm, 63 percent concentrations between 100 to 400 ppm, and 25 percent concentrations greater than 400 ppm. These 25 percent greater than 400 ppm exceed the maximum concentration established by the Connecticut DEEP Residential Soil Remediation Standard of 400 ppm.
  - Soil subsurface
    - The average concentration of lead in the 6-12 inch depth samples is 125 ppm.
    - Of all the 6-12-inch points, 50 percent showed concentrations lower than 100 ppm, 42 percent concentrations between 100 to 400 ppm, and 8 percent concentrations greater than 400 ppm. These 8 percent of the points that are greater than 400 ppm exceed the maximum concentration established by the Connecticut DEEP Residential Soil Remediation Standard of 400 ppm.
  - Note: The phosphorus best practice recommended by Pettinelli to reduce lead uptake can increase arsenic uptake by the plant.
  - Figures D and E show the spatial orientation of measured Pb values along with an interpolated surface of Pb modeled from these values.

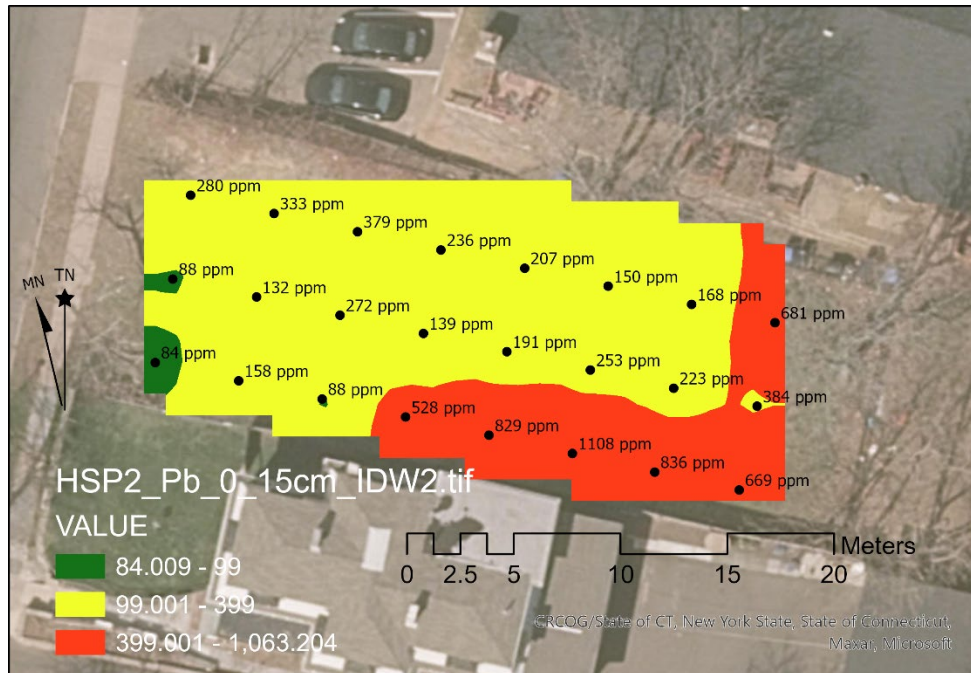


Figure D. Lead values (ppm) within 0 to 6 inches at sample locations with modeled/interpolated surface of Lead values.

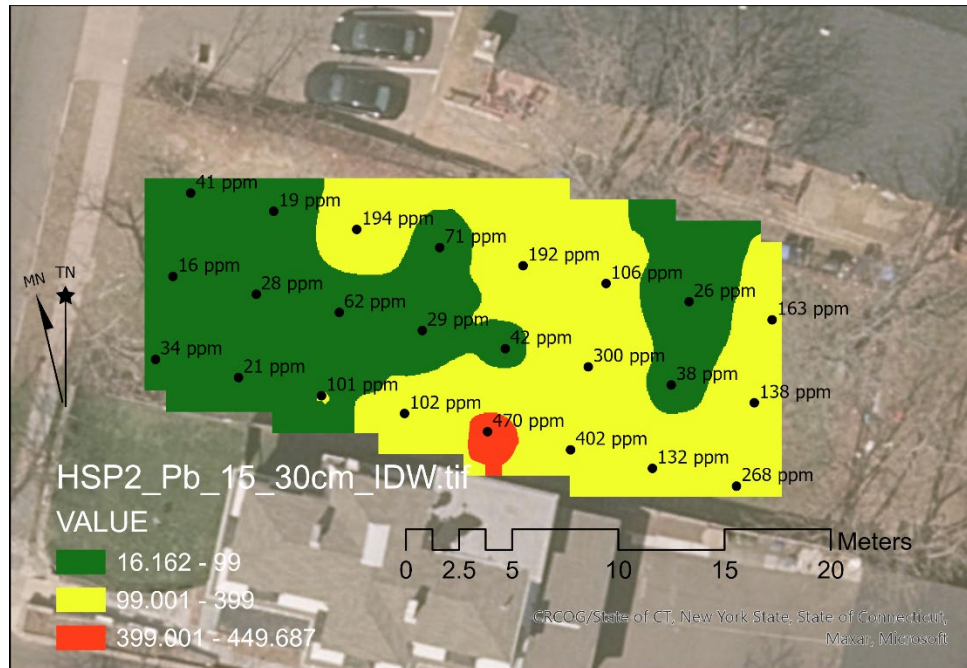


Figure E. Lead values (ppm) within 6 to 12 inches at sample locations with modeled/interpolated surface of Lead values.

Table 1. Summary of average (mean) elemental content (ppm) by element

		Average (all samples)	0-6" averages	6-12" averages
Elemental Concentration	Ni	19	25	14
	Cu	21	26	16
	Zn	135	184	85
	As	0	0	1
	Cr	27	25	28
	Cd	0	1	0
	Pb	238	351	125
Munsell Color	value	4	3	5
	chroma	4	3	5
	artifact content	8.3	8.5	8.1
	rock fragment content	1.1	1.7	0.5



A correlation analysis was made and is summarized below in Table 2 and Figure F. The purpose of this analysis is to explore whether any of the physical properties observed at the site have a significant correlation with trace metals concentrations. While interpretation of Pearson correlation coefficient values is not absolute, these correlate data are interpreted using the interpretation matrix provided in Table 3. An interpretation of these results is included in the next section.

Table 2. Correlation matrix of element concentrations against soil color and artifact content. Cell values are shaded according to correlation interpretation summarized in Table 3.

		Bottom depth	elemental concentration						
			Ni	Cu	Zn	As	Cr	Cd	Pb
Munsell color	value	0.85	-0.10	-0.40	-0.44	0.17	-0.01	0.00	-0.54
	chroma	0.60	0.05	-0.29	-0.28	0.08	0.01	0.19	-0.37
artifact content		-0.02	-0.05	0.48	0.53	0.06	0.24	-0.13	0.54
plastic		-0.22	-0.20	-0.33	-0.18	-0.08	-0.24	-0.07	-0.20
glass		-0.07	-0.07	0.33	0.38	-0.06	0.13	-0.05	0.41
brick		-0.09	-0.05	0.41	0.27	0.19	0.03	-0.09	0.32
coal combustion byproducts		-0.09	-0.06	0.32	0.27	0.03	0.34	-0.21	0.40
concrete		-0.15	-0.13	0.02	0.17	-0.03	-0.14	-0.02	0.18
metal		0.15	0.00	0.11	0.02	-0.03	0.11	-0.02	0.02
rock fragment content		-0.16	0.10	0.43	0.55	-0.04	0.08	-0.04	0.44

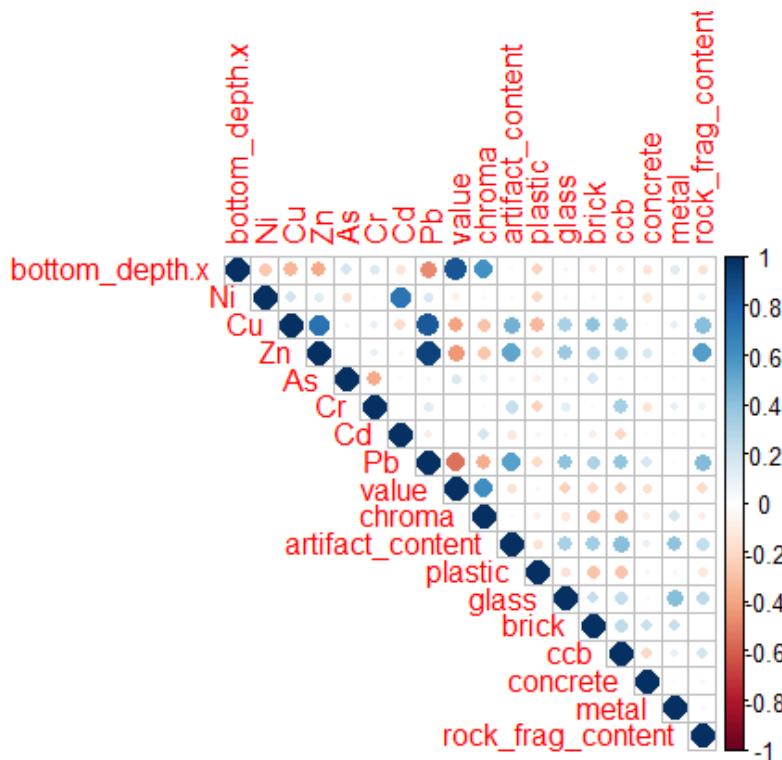


Figure F. Correlation plot of soil physical property data and trace metal concentrations. The numeric correlation coefficients correspond to those summarized above in Table 2.



Table 3. Rule of Thumb for Interpreting the Size of a Correlation Coefficient (Hickle et al)

Size of Correlation	Interpretation
.90 to 1.00 (-.90 to -1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Low positive (negative) correlation
.00 to .30 (.00 to -.30)	negligible correlation

**Interpretation and Recommendations:**

One sampled site<sup>1</sup> resulted in an arsenic concentration greater than 10 ppm, which is the threshold established by the CTDEEP Soil Remediation Standards standard. However, most of the readings for arsenic were below limits of detection for the pXRF unit. We have attached the Cornell University *Healthy Soils, Healthy Communities* publication *Metals in Garden Soils*. Based on communication with the Cornell group, the levels of arsenic at sites with elevated levels might be a concern for leafy or root crops.

In regard to soil lead (Pb) levels, the University of Connecticut recommends that areas with concentrations between 100 to 400 ppm could be used for growing vegetables if following best management practices, which are to avoid growing leafy vegetable, herbs, and root crops. Measured values above 100 ppm were found throughout the lot, Figures D and E show these areas shaded in yellow. As mentioned in the UConn fact sheet, maintaining the soil pH level around 6.5 or higher is recommended to reduce lead availability for plant uptake. The attached document “Where to get your soil tested” provides options for testing for soil nutrient analysis and most options include soil pH analysis and liming recommendations in their report.

Areas with lead concentrations greater than 400 ppm should not be used for vegetable or herb production. These sites are shaded red in Figures D and E and are primarily located toward the eastern- and southern edges of the lot. The enclosed UConn fact sheet provides *Suggestions for Managing Soils With Elevated Lead Levels* starting on page 2. Covering the existing soil in these areas with a liner and bringing in clean soil material for raised beds is a best practice worth considering for these areas. Where these areas are not covered with new soil or a structure, it is always highly recommended to keep the soil surface covered to reduce direct contact with the soil (including the prevention of soil dust), especially for children. Thick mulching is recommended as one option to cover walkways to reduce exposure risk.

Following best management practices in the Pettinelli (2008) fact sheets, such as keeping the soil covered at all times with mulch or grass is recommended. Cover crop practices provide protection from soil erosion, reduce the contact of leafy vegetable with soil, and help increase soil organic matter. Soil

<sup>1</sup> Site 019



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organic matter, in addition to functioning as a source of nutrients, provides material for bonding with trace metals, reducing their availability for uptake by plants. Organic matter additions can also serve to dilute the trace metal concentration of the soil. Care should be taken in choosing sources of organic matter additions such as compost. Municipal composting programs often source their organic materials from roadside yard waste and leaves. Organic materials staged on the roadside can result in contamination of the organic matter with pollutants (e.g., asphalt tars, oils from vehicles, etc.).

Regarding the soil colors, textures, and human artifact contents included in Appendix B and analyzed in Tables 1, 2 and Figure F., these soil properties were documented in part to see if they correlate with trace metals contamination. A correlation matrix was created to investigate whether soil color, artifact content, or other physical properties are highly correlated with concentrations of any of the measured elements. This analysis indicated a moderate correlation between lead and zinc concentrations and artifact content. This suggests that the artifacts observed (coal combustion by products, brick, glass) may either be a source of these trace metals or that the elevated trace metals are associated with human disturbance and additions of building demolition materials.

This data set is not designed for use as a primary regulatory tool in permitting or citing decisions but may be used as a reference source. Field based pXRF screening is not as accurate as laboratory analysis and are not designed to identify sources of contamination or characterize an entire tract or area of soil. This information may be interpreted by organizations, agencies, units of government, or others based on needs; however, they are responsible for the appropriate application. Federal, State, or local regulatory bodies are not to reassign to the Natural Resources Conservation Service any authority for the decisions that they make. The Natural Resources Conservation Service will not perform any evaluations of these data for purposes related solely to State or local regulatory programs.

Questions and concerns pertaining to soil pollution and soil health connected to gardening in soil that may be impacted with pollution should be directed to the Connecticut Department of Public Health epidemiology section at 860-509-7994. The Connecticut Department of Energy and Environmental Protection Remediation Division can be contacted at 860-424-3705.

If you have any questions about this report, please do not hesitate to contact me at:

Jacob Isleib  
860-871-4037  
Jacob.isleib@usda.gov

**Additional Recommendations:** Your samples were analyzed in a non-destructive manner using the pXRF instrument and laboratory pH testing. If you would like information on plant nutrient analysis, a document is enclosed to provide options for additional lab testing. NRCS pXRF unit cannot detect the presence of contaminants such as pesticides or petroleum products. A listing of state approved environmental laboratories which can perform these analyses is available at the Connecticut Department of Public Health's website, [www.state.ct.us/dph](http://www.state.ct.us/dph).

Natural Resources Conservation Service  
344 Merrow Road, Suite A  
Tolland, CT 06084

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sample_id	bottom depth cm	Munsell color		Redox features	texture	clay content	artifact content	Artifact type presence (1 indicates yes; 0 indicates no)							rock fragment	notes	
		Color 1	Color 2					plastic	glass	brick	ccb	wood	concrete	metal			asphalt
HSP-2-001-15	15	10YR 3/2	2.5Y 5/6		ls	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-001-30	30	2.5Y 5/6		7.5YR 5/8	ls	5	1	1	0	0	0	0	0	0	0	0	0
HSP-2-002-15	15	7.5YR 4/6	10YR 3/4		lfs	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-002-30	30	10YR 4/6			lfs	5	0	0	0	0	0	0	0	0	0	0	1
HSP-2-003-15	15	10YR 4/6	10YR 3/4		lfs	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-003-30	30	10YR 5/4			lfs	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-004-15	15	10YR 3/3	10YR 4/6		lfs	5	15	0	0	1	0	0	1	0	0	0	0
HSP-2-004-30	30	10YR 5/4			lfs	5	5	0	0	1	0	0	0	0	0	0	0
HSP-2-005-15	15	10YR 3/2	10YR 4/6		lfs	5	10	0	0	0	1	0	0	0	0	0	5
HSP-2-005-30	30	10YR 5/8	10YR 3/2		lfs	5	15	0	0	0	1	0	0	0	0	0	0
HSP-2-006-15	15	10YR 3/2	10YR 3/4		lfs	5	20	0	1	1	1	0	0	0	0	0	0
HSP-2-006-30	30	10YR 4/6			lfs	5	40	0	0	0	1	0	0	0	0	0	0
HSP-2-007-15	15	10YR 3/2	10YR 3/3		lfs	5	30	0	0	1	1	0	0	0	0	0	15
HSP-2-007-30	30	10YR 5/8			lfs	5	15	0	0	0	1	0	0	0	0	0	10
HSP-2-008-15	15	10YR 3/2			lfs	5	10	0	1	0	1	0	0	0	0	0	20
HSP-2-008-30	30	10YR 4/6			lfs	5	35	0	1	1	1	0	0	1	0	0	0
HSP-2-009-15	15	10YR 4/3	10YR 5/4		lfs	5	10	1	0	0	0	0	0	0	0	0	0
HSP-2-009-30	30	2.5Y 5/6		10YR 5/2	ls	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-010-15	15	10YR 4/4	10YR 5/4		lfs	5	5	1	0	0	0	0	0	0	0	0	0
HSP-2-010-30	30	10YR 5/6		7.5YR 5/8	lfs	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-011-15	15	10YR 3/3	10YR 4/6		lfs	5	1	0	0	0	1	0	0	0	0	0	0
HSP-2-011-30	30	10YR 4/6		7.5YR 5/8	ls	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-012-15	15	10YR 3/3	10YR 5/4	7.5YR 5/8	lfs	5	2	1	0	0	0	0	0	0	0	0	0
HSP-2-012-30	30	10YR 5/4		7.5YR 5/8	lfs	5	5	0	0	0	1	0	0	0	0	0	0
HSP-2-013-15	15	10YR 4/3	10YR 4/4		lfs	5	5	1	0	0	1	0	0	0	0	0	0
HSP-2-013-30	30	10YR 5/4		7.5YR 5/8	lfs	5	2	1	0	0	0	0	0	0	0	0	0
HSP-2-014-15	15	10YR 3/3	10YR 4/6		lfs	5	10	1	0	0	1	0	0	0	0	0	0
HSP-2-014-30	30	10YR 5/4		7.5YR 5/8	lfs	5	30	0	0	0	1	0	0	0	0	0	0
HSP-2-015-15	15	10YR 3/3	10YR 4/6		lfs	5	15	0	0	1	1	0	0	0	0	0	0
HSP-2-015-30	30	10YR 5/4			lfs	5	5	0	0	1	1	0	0	0	0	0	0
HSP-2-016-15	15	10YR 3/1			lfs	5	7	0	0	1	1	0	0	0	0	0	0
HSP-2-016-30	30	10YR 5/4	10YR 4/3		lfs	5	7	0	0	0	1	0	0	0	0	0	0
HSP-2-017-15	15	10YR 3/2	2.5YR 3/4		lfs	5	2	0	0	0	1	0	0	0	0	0	0
HSP-2-017-30	30	10YR 5/4	10YR 5/8		lfs	5	1	0	0	0	1	0	0	0	0	0	0
HSP-2-018-15	15	10YR 4/4	10YR 5/4		fs	5	5	0	0	0	1	0	0	0	0	0	0
HSP-2-018-30	30	10YR 5/4		10YR 5/2	fs	5	0	0	0	0	0	0	0	0	0	0	0
HSP-2-019-15	15	10YR 3/3	10YR 4/3		lfs	5	20	0	1	1	1	0	0	0	0	0	0
HSP-2-019-30	30	10YR 5/4	10YR 4/3	7.5YR 5/8	lfs	5	15	0	0	1	1	0	0	0	0	0	0
HSP-2-020-15	15	10YR 3/2	10YR 5/4	7.5YR 5/8	lfs	5	15	0	0	0	1	0	0	0	0	0	0
HSP-2-020-30	30	10YR 5/4	10YR 4/3	7.5YR 5/8	lfs	5	7	0	0	1	1	0	0	0	0	0	0
HSP-2-021-15	15	10YR 3/2	10YR 4/3		lfs	5	5	0	0	0	1	0	0	0	0	0	0
HSP-2-021-30	30	10YR 4/3		7.5YR 5/8	lfs	5	2	0	1	0	1	0	0	0	0	0	0
HSP-2-022-15	15	10YR 3/2	10YR 4/3	7.5YR 5/8	lfs	5	2	0	0	1	1	0	0	0	0	0	0
HSP-2-022-30	30	10YR 5/2		7.5YR 5/8	lfs	5	2	0	0	0	1	0	0	0	0	0	0
HSP-2-023-15	15	10YR 3/2	10YR 4/6		lfs	5	5	1	0	0	1	0	0	0	0	0	0

sample_id	depth	Color 1	Color 2	features	texture	content	content	plastic	glass	brick	ccb	wood	concrete	metal	asphalt	fragment	notes	
HSP-2-023-30	30	10YR 4/3	10YR 4/6		lfs	5	2	0	0	1	1	0	0	0	0	0		
HSP-2-024-15	15	10YR 3/2	10YR 4/6		lfs	5	10	0	0	1	1	0	0	0	0	0		
HSP-2-024-30	30	10YR 4/6	10YR 4/3	7.5YR 5/8	lfs	5	5	0	0	0	1	0	0	0	0	0		
		<b>texture symbol</b>	<b>texture name</b>															
		ls	loamy sand															
		lfs	loamy fine sand															
		fs	fine sand															
		<i>[textures estimated using texture-by-feel method]</i>																



Model	Instrument SN	Tube Anode	Unit
Delta Professional	543605	Ta	PPM

**X-Ray Fluorescence Trace Metal Analysis Report**  
 Project: 176 Clark St, Hartford, CT

Date	Time	Reading	ID	Nickel Ni	Copper Cu	Zinc Zn	Arsenic As	Chromium Cr	Cadmium Cd	Lead Pb
10/25/2022	9:46:57	#6	HSP-2-001-15	<LOD	12	100	<LOD	<LOD	<LOD	84
10/25/2022	9:51:20	#7	HSP-2-001-30	<LOD	<LOD	43	<LOD	21	<LOD	34
10/25/2022	9:53:20	#8	HSP-2-002-15	30	30	101	<LOD	<LOD	<LOD	158
10/25/2022	9:54:59	#9	HSP-2-002-30	<LOD	10	44	4	18	<LOD	21
10/25/2022	9:57:24	#10	HSP-2-003-15	130	<LOD	83	<LOD	26	23	88
10/25/2022	9:59:17	#11	HSP-2-003-30	39	19	89	<LOD	33	<LOD	101
10/25/2022	10:01:13	#12	HSP-2-004-15	<LOD	23	287	<LOD	16	<LOD	528
10/25/2022	10:03:07	#13	HSP-2-004-30	<LOD	19	72	<LOD	34	<LOD	102
10/25/2022	10:05:33	#14	HSP-2-005-15	25	40	481	<LOD	34	<LOD	829
10/25/2022	10:07:07	#15	HSP-2-005-30	24	33	250	<LOD	36	<LOD	470
10/25/2022	10:08:58	#16	HSP-2-006-15	29	62	648	<LOD	29	<LOD	1108
10/25/2022	10:12:03	#17	HSP-2-006-30	<LOD	27	250	<LOD	51	<LOD	402
10/25/2022	10:20:52	#22	HSP-2-007-15	47	68	566	<LOD	24	<LOD	836
10/25/2022	10:15:23	#19	HSP-2-007-30	<LOD	19	140	<LOD	35	<LOD	132
10/25/2022	10:17:06	#20	HSP-2-008-15	27	43	393	<LOD	31	<LOD	669
10/25/2022	10:18:39	#21	HSP-2-008-30	19	33	150	<LOD	35	<LOD	268
10/25/2022	10:26:16	#23	HSP-2-009-15	20	21	73	<LOD	17	<LOD	88
10/25/2022	10:27:55	#24	HSP-2-009-30	28	13	33	<LOD	31	<LOD	16
10/25/2022	10:29:52	#25	HSP-2-010-15	31	11	104	<LOD	17	<LOD	132
10/25/2022	10:31:31	#26	HSP-2-010-30	27	15	53	<LOD	18	<LOD	28
10/25/2022	10:33:46	#27	HSP-2-011-15	30	24	103	<LOD	34	<LOD	272
10/25/2022	10:35:18	#28	HSP-2-011-30	31	18	72	<LOD	25	<LOD	62
10/25/2022	10:37:07	#29	HSP-2-012-15	<LOD	11	101	<LOD	31	<LOD	139
10/25/2022	10:38:57	#30	HSP-2-012-30	33	14	47	<LOD	21	<LOD	29
10/25/2022	10:41:04	#31	HSP-2-013-15	<LOD	14	97	<LOD	19	<LOD	191
10/25/2022	10:42:37	#32	HSP-2-013-30	<LOD	10	45	<LOD	29	<LOD	42
10/25/2022	10:44:51	#33	HSP-2-014-15	23	<LOD	104	<LOD	16	<LOD	253
10/25/2022	10:46:49	#34	HSP-2-014-30	28	17	93	<LOD	37	<LOD	300
10/25/2022	10:51:01	#36	HSP-2-015-15	21	16	102	<LOD	24	<LOD	223
10/25/2022	10:52:35	#37	HSP-2-015-30	27	21	37	<LOD	32	<LOD	38
10/25/2022	10:54:26	#38	HSP-2-016-15	32	40	139	<LOD	33	<LOD	384
10/25/2022	10:57:05	#39	HSP-2-016-30	21	17	54	<LOD	29	<LOD	138
10/25/2022	11:00:34	#40	HSP-2-017-15	23	18	121	<LOD	27	<LOD	280
10/25/2022	11:02:24	#41	HSP-2-017-30	24	11	55	<LOD	33	<LOD	41
10/25/2022	11:05:11	#42	HSP-2-018-15	30	25	90	<LOD	29	<LOD	333
10/25/2022	11:06:49	#43	HSP-2-018-30	<LOD	10	67	<LOD	27	<LOD	19
10/25/2022	11:13:35	#44	HSP-2-019-15	<LOD	29	128	<LOD	24	<LOD	379
10/25/2022	11:15:18	#45	HSP-2-019-30	<LOD	17	173	12	<LOD	<LOD	194
10/25/2022	11:18:58	#46	HSP-2-020-15	19	26	120	<LOD	33	<LOD	236
10/25/2022	11:20:41	#47	HSP-2-020-30	<LOD	<LOD	67	<LOD	22	<LOD	71
10/25/2022	11:24:08	#48	HSP-2-021-15	33	12	110	<LOD	38	<LOD	207
10/25/2022	11:25:51	#49	HSP-2-021-30	<LOD	12	83	<LOD	35	<LOD	192
10/25/2022	11:30:04	#50	HSP-2-022-15	<LOD	18	115	<LOD	61	<LOD	150
10/25/2022	11:31:34	#51	HSP-2-022-30	<LOD	16	69	<LOD	25	<LOD	106
10/25/2022	11:33:30	#52	HSP-2-023-15	<LOD	11	96	<LOD	17	<LOD	168
10/25/2022	11:36:38	#53	HSP-2-023-30	23	13	27	<LOD	25	<LOD	26
10/25/2022	11:39:21	#54	HSP-2-024-15	47	72	158	<LOD	21	<LOD	681
10/25/2022	11:40:48	#55	HSP-2-024-30	<LOD	16	38	<LOD	28	<LOD	163
<b>CTDEEP Soil Remediation Standards</b>				<b>1400</b>	<b>2500</b>	<b>20000</b>	<b>10</b>		<b>34</b>	<b>400</b>
Residential Direct Contact Health Based Criteria										
*The Soil Remediation Standard for Arsenic is based on natural background levels in soil.										
<b>NJDEP Soil Remediation Standards</b>				<b>1600</b>	<b>3100</b>	<b>23000</b>	<b>19*</b>		<b>78</b>	<b>400</b>
Residential Direct Contact Health Based Criteria										
*The Soil Remediation Standard for Arsenic is based on natural background levels in soil.										
<b>NYS DEC, Soil Cleanup Objectives, Residential Use</b>				<b>140</b>	<b>270</b>	<b>2200</b>	<b>16**</b>	<b>36</b>	<b>2.5**</b>	<b>400</b>
**SCOs for As, Ba, Cd, Mn are based on background levels in rural soils.										
<b>Avg Values, Surface Soils in NJ</b> (Motto, Rutgers U)				20.9	15.6	71.3		19.9	0.24	28.6
<b>Mean Values, Eastern US Soils</b> (USGS, Shacklette and Boerngen, 1984)				18	22	52	7.4	52		17
<b>&lt;LOD = Less than limit of detection</b>				<b>LOD</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>5</b>

This data set is not designed for use as a primary regulatory tool in permitting or citing decisions, but may be used as a reference source.

Model	Instrument SN	Tube Anode	Unit
Delta Professional	543605	Ta	PPM

**X-Ray Fluorescence Trace Metal Analysis Report**  
 Project: 176 Clark St, Hartford, CT

Date	Time	Reading	ID	Nickel Ni	Copper Cu	Zinc Zn	Arsenic As	Chromium Cr	Cadmium Cd	Lead Pb
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Field based pXRF screening is not as accurate as laboratory analysis and are not designed to identify sources of lead or characterize an entire yard or area of soil. This information and may be interpreted by organizations, agencies, units of government, or others based on needs; however, they are responsible for the appropriate application. Federal, State, or local regulatory bodies are not to reassign to the Natural Resources Conservation Service any authority for the decisions that they make. The Natural Resources Conservation Service will not perform any evaluations of these data for purposes related solely to State or local regulatory programs.

# NORTHEAST NEIGHBORHOOD REVITALIZATION ASSOCIATION. (N.E.R.A.)

April 20, 2023

To Whom it Concerns:

The Northeast Revitalization Association (N.E.R.A.) are in full support of Lauren Little Edutainment's (LLE) proposed Urban Farm Initiative. This would entail changing the current Zoning usage at: 176 Clark St., to an Urban Farm. L.L.E., is owned and operated by Lauren Little and, is a Company that specializes in Farming, innovative Urban Agriculture Curriculum and, Environmental Education for all ages. The Vision for 176 Clark St., is to have an outdoor Classroom and Farm Enterprise.

N.E.R.A. is in favor of this Project with the belief of the immense value it would add to this Community by providing a much-needed outlet for freshly grown food that our community will benefit from. We are highly impressed by the LLE Plans to install a Sensory Herb Garden, Outdoor Classrooms, Edible Perennial Foods and Shared Growing Spaces. We believe that LLE will help provide a safe and long-term food source for this Community. All of the Farm features will be very attractive, Very well maintained, increasing the Air Quality and Aesthetic Value for the Neighborhood.

Moreover, in addition to the opportunity to receive Fresh Produce, the Urban Farm would host Classes and Events geared towards sharing knowledge and resources with Neighborhood Families teaching them the art of the Trades. They will provide a positive space and outlet in a peaceful environment by providing the opportunity to share their skills in tending for Plants.

Since LLE partners closely with Neighboring Partners, as well as, Hartford Public Schools, our Youths will be able to transfer the lessons learned on the farm to their Classrooms. Learning to care for a Garden and see it come into fruition for harvest season is something that builds confidence in our Young People. It will also help to demonstrate their abilities. Our youths have expressed the opportunity to participate in this learning process.

In Conclusion, it is our belief that the proposed Urban Farm cited for 176 Clark St, would be an asst to our community and, we (N.E.R.A.) voice our support for this Project. Thanks for your consideration. Please do not hesitate to contact me at: 860-539-4752 if you have any questions or concerns. Please do not hesitate to contact me if you have any questions or concerns. I can be reached by: ph.# 860-539-4752 and/or email: Darlenechilds2003@gmail.com

Respectfully,



Darlene R. Childs, M.S., V.P.P.  
Northeast NRZ Chairwoman





Where real change happens®

John Turgeon, CPA, HCS  
*Chair, Board of Directors*

Galo A. Rodriguez, MPH  
*President and CEO*

**The Village for  
Families & Children**

1680 Albany Avenue  
Hartford, CT 06105

331 Wethersfield Avenue  
Hartford, CT 06114

105 Spring Street  
Hartford, CT 06105

860-236-4511  
860-231-8449 *fax*

[thevillage.org](http://thevillage.org)

April 24, 2023

To Whom it May Concern:

Re: Letter of Support for Lauren Little Edutainment LLC

The Village for Families and Children (The Village) would like to support Lauren Little Edutainment's (LLE) proposed urban farm initiative. LLE's urban farm initiative involves changing the current 176 Clark Street, Hartford, CT (176 Clark) zoning usage to an urban farm. LLE is owned and operated by Lauren Little, and specializes in farming, innovative urban agriculture curriculum, and environmental education for all ages. The vision for 176 Clark Street is to become an outdoor classroom and farm enterprise.

The Village is a not-for-profit multiservice organization based in Hartford with deep expertise and a continuum of behavioral health services across the lifespan. The Village serves approximately 20,000 people annually and provides more than 40 programs to address various issues families and children face. The services provided, include but are not limited to financial, clinical, family, housing, and education services. We work to navigate resources to assist our families in the Greater Hartford area.

We would like to voice our support for the project. We believe it will add immense value to our city and provide a needed outlet for freshly grown food that would benefit the Hartford Community. LLE works closely with the Village at Dr. Martin Luther King Jr. School located at 25 Ridgefield Street, Hartford, Ct. Through our shared programming, our students can learn about farming and are provided the tools and knowledge needed to support and supply our onsite food pantry, called "Martin's Market."

In addition to the opportunity to receive fresh produce, the urban farm would host classes and events that share resources and knowledge with our constituents. Urban Farms such as "Gaia's Garden" is how we address food inequity and end the injustice affecting our community.

Sincerely,



Hector Glynn, MSW  
Chief Operating Officer

### ***How Does Farming Work in Urban Areas in CT?***

- Farmers in urban and rural areas both use the same farming practices; the difference between urban and rural is simply how they use their space.
  - Tactics such as growing vertically, closely managing soil health, maximizing the natural resources of the area, and growing throughout the entire year are key tenets of farming in urban locations.
  - In urban areas, extensive mapping and planning is required before growing produce, to ensure a substantial yield that meets client needs.
  - Most farmers have experience growing in urban, suburban, and rural locations. Urban farmers adjust their techniques to meet the space they have and to the standards they desire.
  - In urban areas, farmers collaborate, connect and build a network of support with other farmers in their area to ensure everyone's success; this includes the sharing of clients and resources.
  - Hartford is a farming community and is representative of multiple cultures and people. Hartford's farmers provide residents access to culturally relevant foods not typically available in stores. In addition, since Hartford does not have a traditional grocery store, local farmers are the best option for organic and nutrient dense produce.
  - As a result, farmers in Hartford areas have a deep cultural connection with clients they sell to.
  - In Hartford, roughly 10 square feet can provide 10 to 50 pounds of food, depending on the produce. Our farmers, based upon their experience and expertise can expect to be within the following range of production:
    - A minimum of 5,500 pounds of food per growing season.
    - A maximum of 28,000 pounds of food is feasible depending on client need, weather, soil management, and other extenuating factors.
    - Both the minimum and maximum estimations are dependent on the choice of the species of the produce grown (ie: bell peppers vs hot peppers, cherry tomato vs roma tomato, and so on).
    - The use of perennial foods allows for Urban Farmers to maintain consistent plant health. Foods and herbs that come back every year are important for continued success and higher yield over time. This is especially important because it takes time for urban farmers to remediate soil.
      - The health of produce grown also trends upward each year in the same plot of land.
      - Thus, Urban Farmers having their own plots of land will be best to increase soil amendments over time and to grow more produce in years to come. Put simply, the soil will only get better each growing season, leading to a higher yield each year.
  - The Right to Farm Law: "Agricultural or farming operation not deemed a nuisance (Department of Agriculture, 2023)."
-

### ***What Defines an Urban Farm?***

“Urban Farms. A ground or roof-level agricultural operation of any size, excluding agricultural growing (such as aquaculture) occurring in a permanent indoor facility other than a farm structure, which is used for urban agriculture for commercial purposes, whether for profit or non-profit, with a single entity serving as the primary operator (City of Hartford, 2022).”

“Urban Farms play a vital role in our cities, providing access to healthy, local food, green space that benefits both body and mind, and more (CLF, 2021).”

“While the practice of farming in areas outside of what we’d typically consider farmland may seem new, urban farming has a long history (Unity, 2023).”

Urban farming can provide avenues to positive change, such as locally raised products, redevelopment, community/civic pride, and fresh, healthy food for residents (Unity, 2023).

“The city has remained committed to urban farming. A Chicago lawmaker introduced a bill in 2017 to establish urban agriculture zones across the city and the state in an effort to break up food deserts and help underserved communities. It was vetoed by the governor, but in November 2018, the Illinois Senate approved an override by a vote of 49-1. Overall, urban farms in Chicago have ballooned. At the time of publishing, the Chicago Urban Agriculture Mapping Project has identified 871 urban farms around the city (Aurora University, 2019).”

USDA defines a farm as any place that produced and sold—or normally would have produced and sold—at least \$1,000 of agricultural products during a given year (USDA, 2022).

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### ***Background***

Hartford Land Bank (HLB) & Keney Park Sustainability Project (KPSP) are partnering with two respected and established Urban Farm organizations in Hartford, with the goal of revitalizing two separate vacant lots into active urban farms. Each community was canvassed three times and positive feedback was received from neighbors. Letters of support are linked in this document.

Please note: For every property, HLB has a deed restriction set in place. This is arranged in case the buyer of the property does not comply with usage of the property, runs into unforeseen financial issues, and so on. In any of these events, the property will revert back to HLB with a quick claim deed.

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**Aarvah Quiñonez & The Aasaaska Foundation LLC**

**Proposal for 53 Benton Street**

[aasaaskafoundation@gmail.com](mailto:aasaaskafoundation@gmail.com)

### *About Aarvah & Aasaaska Foundation LLC*

- Aarvah founded Aasaaska Foundation in 2020. Aasaaska Foundation is an Indigenous Black Latina woman owned, young BIPOC male led urban farming and beekeeping organization within the city of Hartford.

### *Aarvah & Aasaaska Foundation LLC Business Goals*

- Aasaaska Foundation directly serves their mirrored community. Aasaaska harnesses the energy, image and personalities of our young people to teach and promote the importance of growing, purchasing and eating locally grown food. The activation of 53 Benton Street will give Aasaaska Foundation a much-needed site to teach others while providing fresh locally-grown produce for our neighbors, friends, and family.

### *Aasaaska Foundation LLC Farming & Business Practices*

- Aasaaska Foundation began as a small-scale growing operation in 2020 and is still in the process of expanding and establishing itself. Since 2020, they have focused on applying the knowledge gained from agricultural and beekeeping coursework and training. The acquisition of 53 Benton Street is an important step in laying the foundation for our LLC. Since they are in the beginning stages of our urban farming business, they do not currently have any contracts to sell food to any organizations or school systems. They are unable to predict the specific, expected amount of produce we will grow or sell.
- In the past, Aasaaska Foundation sold at pop-up events hosted by Keney Park Sustainability Project and donated excess produce to Foodshare. They did not establish any contracts because they were still experimenting with the types of crops they were growing and growing conditions
  - Due to this, they could not promise a set amount of produce at specific intervals to any contractees.
- Their plan with 53 Benton Street is to expand our growing operations to increase the amount of produce grown and sold. They are working to create a curriculum to train others how to grow their own food and care for bees.
- **They will not have any active beehives at 53 Benton Street.**
- More on beehives: Each hive can produce between 60-80 pounds of honey per year, depending on various factors, such as:
  - Hive placement
  - Weather
  - Pests
  - Geographic location
  - Local flora
  - Temperature
  - Pesticide exposure
  - Diseases
  - Competition
  - Aarvah plans to grow appropriately 300 various plants and herbs that vary in weight. It is imperative to understand that they need and can use this space for storage of our materials. A hive starts out at 25% of its size at the beginning of



the season. There is a need for safe clean storage of the other 75% as well as many other materials, such as food, medicine and PPE.

#### *Aasaaska Foundation LLC Materials*

Aarvah's most recent presentation (including site layout) and project narrative can be found here, as well as uploaded on the City of Hartford P & Z Site

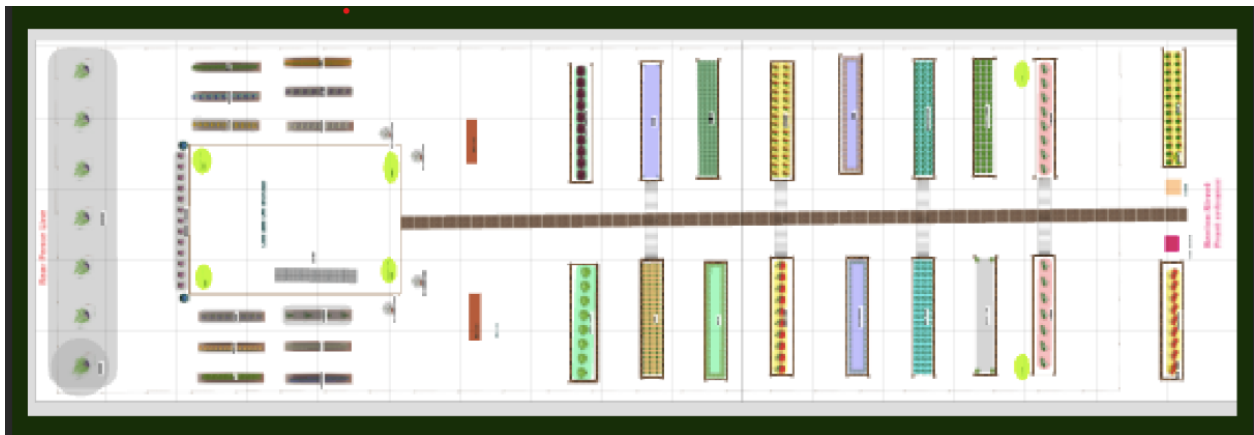
- [Aasaaska Benton St. Presentation \(3.5.23\).pdf](#)
- [53 Benton Narrative for NRZ \(2.23.23\).pdf](#)

#### *Aasaaska Foundation LLC Letters of Support (Including NRZ Letter)*

- [Letter of Support MARG NRZ 53 Benton Street.pdf](#)
- [Letter of Support MARG NRZ 53 Benton Street.pdf](#)
- [KPSP LOS 53 Benton Street \(3.20.23\).pdf](#)
- [53 Benton Street Resident Letters of Support \(4 Total\).pdf](#)

#### *Image of Site Plan:*

The image is a bit distorted but it is up to scale.



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#### **Lauren Little & Lauren Little Edutainment LLC**

#### **Proposal for 176 Clark Street**

[laurenlittleedutainment@gmail.com](mailto:laurenlittleedutainment@gmail.com)

#### *About Lauren & Lauren Little Edutainment (LLE) LLC*

Lauren Little is the founder of Lauren Little Edutainment. Lauren Little Edutainment specializes in farming, urban agriculture curriculum, and environmental education for all ages. Services are designed to educate and train individuals on how to develop an understanding of the Earth.

#### *Lauren Little Edutainment LLC Business Goals:*

- LLE's role is to work with partners to be able to impact every single student in Hartford and to increase their access to locally grown produce.




- LLE aims to help residents of Hartford, and especially students and their families, develop a relationship with nature through the art of farming.
- All recipients of LLE services increase their understanding of earth science, are motivated and encouraged to pursue a future in agriculture.

#### *Lauren Little Edutainment LLC Farming & Business Practices*







- LLE uses a mix of standard row planting, and uses succession growing to allow for early, mid, and late harvests.
- LLE takes advantage of crop rotation and other intensive farming practices to increase yield and expects to be growing within the standards previously defined above.
- LLE provides produce to the community through direct sales, client contracts, and subsidization from local non profits, schools and organizations.
- To date, Lauren has served roughly 7,000 students and their families in the Greater Hartford area. This includes providing local, organic produce and urban, agricultural educational programming, farm to school training, curriculum development, and assisting in developing school-based teaching gardens.
  - In addition, LLE serves clients through the Tri State Area including Boston, New York City, Bridgeport, New Haven, and Lake Placid, New York.
- LLE anticipates that their soil supplier will be We Care Denali in West Hartford via Keney Park Sustainability Project (KPSP).
  - In the future, LLE anticipates sourcing soil deliveries from Jessica's Garden, We Care Denali and Agway.

#### *Lauren Little Edutainment LLC Materials*

Lauren's most recent presentation, project narrative, and site layout can be found here, as well as uploaded on the City of Hartford P & Z Site

-  LLE LLC Presentation March 2023.pptx
-  LLE LLC Letter of Intent Narrative March 2023.pdf
-  LLE LLC Property Layout March 2023.pdf

#### *Lauren Lauren Edutainment LLC Letters of Support (Including NRZ Letter)*

-  NERA Letter of Support for 176 Clark Street.pdf
-  NERA Letter of Support for 176 Clark Street.pdf
-  Report. Co-Designing Teen-Adult Environmental Action with Hartford Communities...
-  Letter of Support for 176 Clark Street (4.14.23).pdf
-  Lauren Little Edutainment LOS from The Village 04.25.23.pdf
-  KPSP LOS 176 Clark Street(3.20.23).pdf

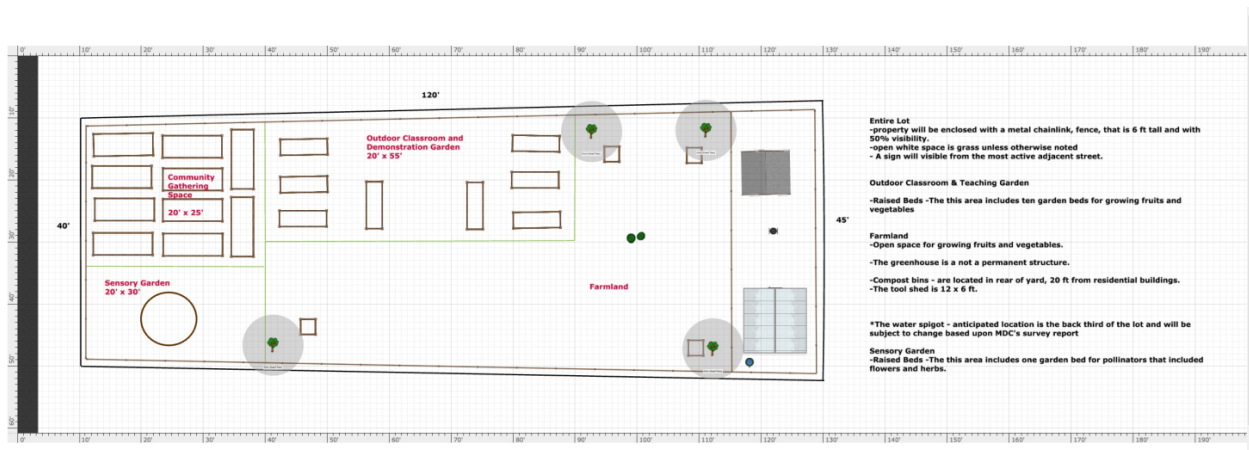
#### *A Snapshot of Lauren Little Edutainment LLC's Partners*

- Community Organizations
  - Public Allies CT (statewide)
- Department of Agriculture
  - Office of Lieutenant Governor Bysiewicz

- State of Connecticut
- City of Hartford
- Hartford Public Library
- Educational Institutions/Higher Education
  - Hartford Public Schools
  - Trinity College
  - Community First School
  - UConn
  - Trinity Day Academy
- Nonprofits
  - Boys & Girls Club of Hartford
  - Keney Park Sustainability Project
  - Mutual Aid Hartford
  - The Village
  - Root to Rise
  - Real Artways
  - CT Science Center
- Businesses
  - Bro Doughs Pizza
  - Mercado Popular
  - Local Bodegas

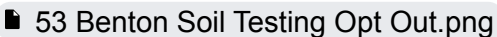

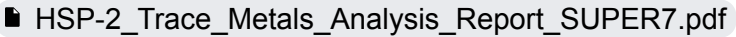
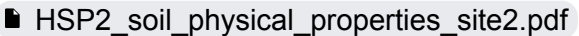
**Image of Site Plan:**

The image is a bit distorted but it is up to scale.



**Points of Emphasis**

- The Urban Farmers will cultivate, process, and sell (distribute) their products to local vendors, including bodegas, schools, businesses, as well as other vendors.
- Being a fully functional farm requires aspects of and training education; this allows for sustainability and ensures that future potential workers have the necessary knowledge and skills.

- Educational training done in these Urban Farms are part of their paid services.
- Each lot for the Urban Farms plans intends to connect to MDC for water services, but due to prohibitive cost, rain barrels and a water catchment system will be used for now.
  - This innovative water management system will help with water runoff concerns.
  - The farmers will use drought resistant foods and rain gardens to ensure successful food production in this system.
- The Urban Farmers have established LLC's and a cumulative of 10 years of professional farming and food cultivation experience. Aarvah and Lauren are both providing their own financial, resources, and labor into these endeavors. For each vacant lot, a single entity (Aarvah Quinonez for 53 Benton Street and Lauren Little for 176 Clark Street) is the primary operator.
- This project will benefit Hartford residents immensely by providing educational opportunities, affordable and healthy fruits and vegetables, and aesthetic improvements to currently blighted lots (that have been vacant for years). More details regarding secondary benefits of these Urban Farms are listed below.
- Soil testing
  - 53 Benton Street - It was determined by National Resources Conservation Service (NRCS) that 53 Benton Street should be opted out of for soil testing, due to the amount of concrete on that site. There is a screenshot of that recommendation linked below.
    -  53 Benton Soil Testing Opt Out.png
  - 176 Clark Street - Soil testing was completed by National Resources Conservation Service (NRCS) on November 22nd, 2023. Results are linked below.
    -  HSP-02\_pXRF\_report\_signed.pdf
    -  HSP-2\_Trace\_Metals\_Analysis\_Report\_SUPER7.pdf
    -  HSP2\_soil\_physical\_properties\_site2.pdf

***Items Needed (as stated by HHS if requested)***

- Compost Plans
  - LLE will have tumblers, which will not contain food scraps and will be secured. This method produces no runoff or odors and prevents infiltration by animals.
  - Aasaaska Foundation LLC will not have any compost on site.
- DEEP's Integrated Pest Management Plan
- Organic, Agricultural Chemicals Used
- Soil remediation plans if needed

**Neighborhood Revitalization Zone (NRZ Support)**

- To reiterate, each Urban Farmer has support from their districts NRZ in this project. Aarvah Quinonez has the support of Maple Avenue Revitalization Group (MARG) and Lauren Little has the support of North East Revitalization (NERA).
    - [Letter of Support MARG NRZ 53 Benton Street.pdf](#)
    - [NERA Letter of Support for 176 Clark Street.pdf](#)
- 

### ***Farming for Commercial Use***

- Each Urban Farmer is the primary operator on their respective lot.
  - Each Urban Farmer will pay property taxes on their lots each year.
  - Hours of operations:
    - Urban Farmers will be on site during normal operating hours as 9:00 AM - 6:00 PM, similar to any other business. During the cold season, they will be on site at least biweekly to ensure the property is secured, provide maintenance (removing snow, salting the side-walk, and any other maintenance as needed).
  - Parking and foot traffic
    - Parking requirements will be adhered to, especially at 176 Clark Street in accordance with the fire station regulations.
    - Training or educational sessions are limited and visitors will adhere to parking restrictions.
  - Any compost plans or water catchment plans are included on site layouts, if necessary.
  - Security:
    - Per current zoning regulations the applicant acknowledges that a 6' fence can not be approved with this application, but to ensure security they will apply for fencing permits. This request will be notated on the site layout and justified in the narrative for the project, for safety purposes.
  - Other Security measures can or may include: solar power for electricity (lights on site), security cameras, and a standing order with HPD for "no loitering" signs at each site.
  - For any educational trainings on vacant lots, there will be a fee associated with this, determined by the Urban Farmers.
- 

### ***Benefits of the Urban Farms for the City of Hartford***

- **Increased Local, Healthy Food Production:** The farmers have established partnerships with Hartford Public Schools, charitable food organizations, and farmers' markets to distribute their crops to Hartford residents. They plan to make crops readily available to neighbors and other community members, an effort that will combat food insecurity.
- **Increased Land Ownership and Stewardship:** The vacant lots were previously owned and maintained by the City of Hartford. As business owners and land stewards, the farmers will take extraordinary care of the lots.

- **Combating Climate Change:** Planting vegetation helps to moderate air temperatures by providing shade and releasing moisture into the air. It also combats the urban heat island effect, a phenomenon where cities are hotter than surrounding rural communities because dark surfaces such as roofs, roads, and buildings that are concentrated in the city absorb and trap heat (United States Environmental Protection Agency, 2023).
  - **Improved Mental and Physical Health:** Physical and visual access to natural settings supports human health and well-being. Access to green spaces like urban farms and community gardens have been shown to lower blood pressure, reduce stress, improve concentration, and increase positive emotions (National Alliance on Mental Illness, 2020).
  - **Decreased Crime:** A study out of Philadelphia showed that rehabilitating vacant lots reduced crime in the surrounding area, without displacing it to other parts of the city.<sup>5</sup> Additionally, the farmers have each considered security measures for their lot in order to protect their business and maintain safety for the neighborhood (Branas and MacDonald, 2019).
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### ***City of Hartford Zoning Information***

#### 3.3.3 - Open Space Uses

A. Community Gardens. A space used to grow plants for personal use, education, recreation, community distribution, or beautification by members of the neighboring community. Community gardens may be divided into separate plots for cultivation by one or more individuals or may be farmed collectively by members of the group and may include common areas maintained or used by community group members.

F. Urban Farms. A ground or roof-level **agricultural operation** of any size, excluding agricultural growing (such as aquaculture) occurring in a permanent indoor facility other than a farm structure, which is **used for urban agriculture for commercial purposes**, whether for **profit** or non-profit, with a **single entity** serving as the primary operator.

[https://library.municode.com/ct/hartford/codes/zoning\\_regulations?nodeId=n3.0US\\_3.3PRUSDEUECCO](https://library.municode.com/ct/hartford/codes/zoning_regulations?nodeId=n3.0US_3.3PRUSDEUECCO)

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### ***Urban Farms vs. Community Gardens***

“Urban farms typically have the goal of turning a profit whereas community gardens, which are run by residents and non profit organizations, tend to orient themselves toward education and facilitating relationships between people and nature. These divergent goals result in different models of operation. For instance, urban farms have fewer people doing more of the labor and getting paid for it. In community gardens, however, individuals often have their own plots of land and pay a membership fee to garden (Weiss, 2021).”

### *Alternatives to Urban Farms*

- *Community Gardens*
    - SINA
    - At KNOX Community Gardens, gardeners apply for space to grow and pay a small fee each season (KNOX, 2022). This will not happen at each Urban Farm lot.
  - *Miscellaneous Urban Growing/Gathering Spaces*
    - At Kamora's Cultural Center, community gatherings are frequent. This will not be the case at each Urban Farm. The Urban Farms are businesses and are focused on food production; with limited programming and community events.
  - *Edible Landscape/Shared Garden*
  - *Urban Homesteads*
  - *School Based Teaching Gardens*
    - School based gardens - Noah Webster Garden, Garden at Wish
- 

### ***Administrative Notes***

- All of the documents for the Urban Farmers have been uploaded (in chronological order) on the City of Hartford Citizen Access Portal for zoning purposes. When the applicant began uploading documents in December of 2022, some of these presentations were initial. They have since been updated substantially. **Thus, the documents that were uploaded most recently should be the ones used for any public hearing notices.**
-



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30 Laurel Street • Suite 3D • Hartford • CT • 06106

December 20<sup>th</sup>, 2022

Attention of: City of Hartford Planning and Zoning Commission

Please consider this letter as Hartford Land Bank's authorization to go forth with the urban farming proposal previously submitted for 176 Clark Street, Hartford CT, 06120.

As stated, Hartford Land Bank is the current owner of this property as of October 21<sup>st</sup>, 2022. 176 Clark Street's parcel number is 240119093 and is zoned NX-2.

Hartford Land Bank intends to transfer ownership of this property to Lauren Little and Lauren Little Edutainment, LLC once this property is granted a new designation of urban farm zoning via the City of Hartford Planning and Zoning Commission process.

176 Clark Street is one of three vacant lots that Hartford Land Bank, in partnership with Keney Park Sustainability Project and local urban farmers, propose for urban farm zoning. Revitalizing 176 Clark Street and two other vacant lots into active urban farms and community gardens will benefit the community immensely.

These urban farms will provide educational opportunities, access to gardening, affordable and healthy fruits and vegetables, community engagement opportunities, and aesthetic improvements to blighted lots. The Hartford Land Bank is committed to working with our community members to revitalize neighborhoods and build wealth, health, and social benefits for our residents. Turning these lots in urban farms is one avenue in which to do so.

We thank you in advance for your time and consideration.

Sincerely,

Hartford Land Bank Staff

HartfordLandBank.org • 860.335.0347

[info@hartfordlandbank.org](mailto:info@hartfordlandbank.org)