



Meeting Agenda

Sustainability Commission

Friday, January 12, 2024

8:00 AM

Development Services Room

CALL TO ORDER

CITIZEN COMMENTS (Open for citizens to be heard on any issue or concern, including those related to items on the agenda. Please submit a Speaker Card at the beginning of the meeting if you would like to address the Commission. If you would like to speak on an agenda item, the Chair will hold your comment until the public comment period associated with the item. As provided by law, the Commission shall make no decisions or consideration of action of citizen comments for items not on the agenda, except to refer the matter to the Planning Director/Staff for administrative consideration, or to a schedule the matter for consideration at a later date. Those addressing the Commission are requested to come to the microphone and identify themselves by name and address for the official record. The Chair may restrict the period for public comment, including the length of the public comment period, the number of individuals who can speak and the length of time each individual may speak. When time allows, the standard individual public comment time is two minutes.)

Comments on agenda items may be made in person at city hall or by emailing planningintake@franklintn.gov before noon on the day of the meeting. Emailed comments will be provided to the Commission and included in the minutes, but not read aloud in their entirety during the meeting.

APPROVAL OF MINUTES

1. Consideration Of Approval Of Minutes

NEW BUSINESS

2. (8:00 - 8:05) Announcements and Introductions
3. (8:05 - 8:30) Future Options for 200 kW Solar Project
4. (8:30 - 8:55) Honeybee Glass Recycling
5. (8:55 - 9:00) 2024 Outlook Discussion

OTHER BUSINESS

ADJOURN

Anyone needing accommodations due to disabilities please contact the ADA Coordinator at 615-791-3277 at least 24 hours prior to the meeting.



Meeting Minutes

Sustainability Commission

Friday, November 10, 2023

8:00 AM

Development Services Room

CALL TO ORDER

Vice Chair Christina Christiansen called the meeting to order at 8:03 AM

Board Members Present: John Brevard, Eric McElroy, Keith Gordon, Al Pramuk, Christina Christiansen, Brian Stone, and Anna Timme

Board Members Absent: Mike Cassity and Alderman Beverly Burger

Staff Present: Kelly Dannenfelser, Tia Holden, Teresa Anderson, Eric Conner, Joe Polenzani, Kevin Lindsey, and Andrew Orr

Visitors Present: David Verner and Ron Merville

CITIZEN COMMENTS (Open for citizens to be heard on any issue or concern, including those related to items on the agenda. Please submit a Speaker Card at the beginning of the meeting if you would like to address the Commission. If you would like to speak on an agenda item, the Chair will hold your comment until the public comment period associated with the item. As provided by law, the Commission shall make no decisions or consideration of action of citizen comments for items not on the agenda, except to refer the matter to the Planning Director/Staff for administrative consideration, or to a schedule the matter for consideration at a later date. Those addressing the Commission are requested to come to the microphone and identify themselves by name and address for the official record. The Chair may restrict the period for public comment, including the length of the public comment period, the number of individuals who can speak and the length of time each individual may speak. When time allows, the standard individual public comment time is two minutes.)

None.

Comments on agenda items may be made in person at city hall or by emailing planningintake@franklinTN.gov before noon on the day of the meeting. Emailed comments will be provided to the Commission and included in the minutes, but not read aloud in their entirety during the meeting.

APPROVAL OF MINUTES

1. Consideration Of Approval Of Minutes

Sponsors:

A motion was made by Eric McElroy, seconded by Keith Gordon to approve the Minutes from the October 13, 2023 meeting. The motion carried 6-0. (Anna Timme arrived after vote)

NEW BUSINESS

2. Announcements

Sponsors:

3. (8:05 AM to 8:40 AM) Ultium Battery Plant Presentation

Sponsors:

David Verner presented on Gresham Smith, an overview of the battery market, what makes battery plants different, Ultium 2, and the future of battery technology.

Gresham Smith is a full-service architecture, engineering, and design practice, headquartered in Nashville, that has been in business for fifty-six years. They specialize in markets ranging from aviation and healthcare to land planning and environmental affairs. Some of their projects include the Ultium Cells Phase 1 EV Battery Manufacturing Plant in Warren, OH, Phase 2 EV Battery Manufacturing Plant in Spring Hill, TN, and the new Honda Li Ion Battery Plant. Mr. Verner said there is not an energy problem but an energy storage problem. Dams, gasoline, and batteries are forms of energy storage. However, batteries allow other technologies to be viable. Mr. Verner mentioned he was skeptical at first but faced a tipping point after two incidents. The first was with his gas-powered chainsaw that would not start; he then bought an electric chainsaw that was very easy to use. The second was the GMC electric Hummer that goes from zero to sixty in three seconds, which is faster than a Corvette or Mustang. After these incidents, Mr. Verner realized the public buys performance and concluded batteries are a better, more performative technology. There is a strong commitment across businesses to adopt battery technology. Sales projections for electric vehicles are moving up with another large demand wave coming. There are various stages of battery production including mining, processing, cell manufacturing, pack manufacturing, and recycle and reuse. Gresham Smith is deeply involved in cell manufacturing and holds thirty-five percent of the market share. Mr. Verner shared that he has seen many companies, with no experience in EV or batteries, looking to get involved in the production process. This shift is being driven by the Inflation Reduction Act. EV battery manufacturing projects are driving commodity prices and are experiencing higher amounts of inflation due to demand.

Mr. Verner discussed what makes a battery plant different. EV cells can be configured in many different ways. The Spring Hill plant manufactures cells. The main differences in battery plants compared to traditional manufacturing facilities are as follows:

- Ultra low humidity environment, some even as low as less than one percent
- Unique hazards
- Non-US processing vendors, which means most materials come from countries in different time zones, languages, and cultures, leading to difficulties in project design and development
- Major power consumption, Mr. Verner saw one facility that needed 80 Megawatts of electricity, while other projects consume 130 Megawatts of power
- Physical scale, EV Battery Manufacturing Plants are typically 3,000,000 to 4,500,000 square feet, equal to 45 to 65 football fields
- Equipment density, Mr. Verner showed how a battery plant is typically laid out, including electrode production, assembly, and formation
- Speed to market due to high demand for EVs

Ultium 2 is a Battery Cell Manufacturing Site in Spring Hill, TN. The plant is 165 acres, costs 2.2 billion dollars, and will create more than 1,300 new jobs. Mr. Verner explained the number of HVAC systems to keep humidity down and the general layout of the facility. The building prioritized life safety and building safety. The building has a central spine, running along one side of the building, that serves as a protective wall that employees can use to exit the building. Mr. Verner's team researched and mapped out specific paths for employees in the event of a fire. The manufacturing plant also includes a fire command center for firefighters to see what is happening in the building during an emergency. Lastly, there are sprinkles, smoke detection, volatile chemical detection, and gas detection systems. There are many products being developed to help mitigate hazards.

John Brevard asked how battery fires start. Mr. Verner explained they are typically manufacturing defects. A cell could be punctured, electricity could short circuit, but overall these fires are rare. Battery fires are much fewer than gasoline fires.

Technology is changing rapidly and the design process is always improving. Mr. Verner briefly stated that dry mixing could potentially be a new way of developing batteries. There is also an Iron Phosphorus battery that is less energy dense but more

stable. All of these new technologies are to increase safety. Battery technology is easier to build and easier to maintain than traditional technology. EVs have better performance and more torque but require more electric infrastructure and charging time. Grid demand is another concern with developing battery plants and increased demand for EVs.

Mr. Verner believes the future of power generation is small, modular nuclear reactors. This approach may take another five to seven years to implement due to the regulatory environment. He hopes to see a bipartisan agreement on implementing this form of power generation.

Batteries are at a point where they can compete with gasoline and are creating a completely new industrial ecosystem for the U.S.

Eric McElroy asked about hydrogen-powered vehicles. Mr. Verner used to believe hydrogen was the future. However, investor pressure has pushed for batteries. Hydrogen would be more difficult to distribute, unlike gas stations or charging stations. He believes it could be a parallel technology used for tractor trailers and locate fueling stations in major cities.

Anna Timme asked if the battery plants have backup generators. Mr. Verner answered with no, since the power demand is too high.

Anna Timme asked, in relation to sustainability, what drivers the industry has to reduce its carbon footprint. Mr. Verner said this is spearheaded by customers. Minor source air permit in Spring Hill. The plant is powered up in a way to keep emissions below the permitted levels. Water from the plant is easily taken to a municipal water plant for reuse. Overall, air and water emissions from battery plants are low except for the high energy demand. The main goal is to drive down energy consumption.

Anna Timme asked, as customers are pressuring manufacturers for lower carbon emissions, is there an offset strategy for carbon-free manufacturing outside of small nuclear reactors? Mr. Verner responded that there is no specific strategy. He discussed one client who asked for carbon-free manufacturing. If solar was used, it would take 565 acres of solar panels to power the battery manufacturing plant. It was not logical to cut down a forest for a carbon-free manufacturing plant. He believes small nuclear reactors are the only way to go.

Mr. Verner then discussed the recyclability of EV batteries. When an EV battery is no longer useful, it is still a good battery, but does not hold as good a charge for the vehicle. One idea for recycling old batteries is placing them in shipping containers and using them for temporary backup power at large facilities. It could also be used for peak shaving. They can then be repurposed for home backup power. Finally, batteries will have their rare metals extracted and recycled.

John Brevard asked if the manufacturing process has robotics. Mr. Verner responded that the manufacturing process is highly automated, so there is a lot of robotics involved. There are still jobs in manufacturing, but companies cannot find people to do the jobs. Robotics allows the gaps to be filled.

John Brevard asked if there is any on-the-job training or formal training. Mr. Verner stated there is training, but he is not familiar with the specifics. He advises young people to attend a two-year Tennessee College of Applied Technology program, get a certificate, and then apply for jobs in manufacturing.

4. **(8:40 AM to 8:55 AM) Future Options for 200 kW Solar Project**

Sponsors:

Ron Merville with Energy Source Partners will attend the next formal Sustainability Commission meeting for further discussion.

Mr. Merville did a brief overview of the 200 kilowatt solar project at a local waste water plant. It sits on an acre of land leased by the City of Franklin. The project includes a power purchase agreement between Energy Source Partners, Tennessee Valley Authority, and Middle Tennessee Electric. They will ask the city to amend the contract. Energy Source Partners want to replace and improve the current solar panels to create more energy. Mr. Merville proposes keeping the current contract with the Tennessee Valley Authority, which includes 80 percent of the revenue given to the city. The contract has made over

\$160,000. The city could make more money with panel improvements. They will ask the city if additional power can be tied into a building near the waste water plant. Energy Source Partners is defined by the State of Tennessee as a private utility and pays all regular taxes.

5. **(8:55 AM to 9:00 AM) Approve 2024 Meeting Schedule**

Sponsors:

A motion was made by Al Pramuk, seconded by Keith Gordon to Approve the 2024 Sustainability Commission Meeting schedule. The motion carried 7-0.

OTHER BUSINESS

Brian Stone asked if anyone was aware of the Brownfield Investment Act passed by Tennessee. Starting in January, applications can be submitted for up to \$20,000 to conduct brownfield studies. This includes a 5 million reoccurring fund that grants up to \$500,000 for brownfield reinvestment.

Eric Conner gave an update on the EECBG project. Applications were released last Monday, November 6 2023. The deadline for applications has been extended until March 2024

ADJOURN

A motion was made by Al Pramuk, seconded by John Brevard to Adjourn. The motion carried 7-0.

There being no further business, the meeting adjourned at 9:07 AM.

Chair

Date



File #: 21-05738

DATE: November 16, 2023

TO: Sustainability Commission

FROM:

SUBJECT:

(8:00 - 8:05) Announcements and Introductions

PURPOSE:

The purpose of this memorandum is to provide information to the Sustainability Commission concerning

BACKGROUND/STAFF COMMENTS:

(Brief description of the history and supporting information regarding the item, including an explanation of why staff is recommending the action.)

FINANCIAL IMPACT:

(Include the cost of the item, how the item will be funded, which fund it will come from, if there are grants or loans involved and whether the item is included in the current approved budget.)

RECOMMENDATION:

Staff recommends that (item name) be (action)



File #: 21-05736

DATE: November 16, 2023

TO: Sustainability Commission

FROM:

SUBJECT:

(8:05 - 8:30) Future Options for 200 kW Solar Project

PURPOSE:

The purpose of this memorandum is to provide information to the Sustainability Commission concerning

BACKGROUND/STAFF COMMENTS:

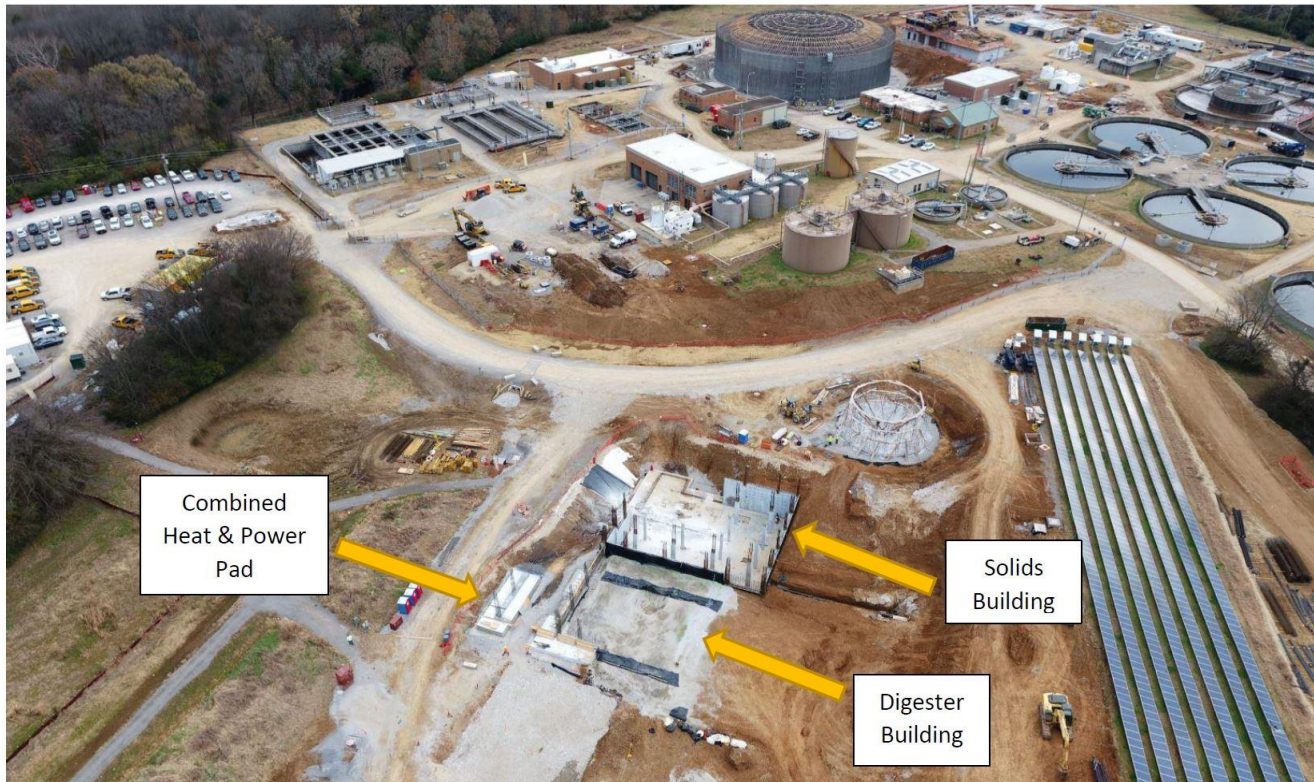
(Brief description of the history and supporting information regarding the item, including an explanation of why staff is recommending the action.)

FINANCIAL IMPACT:

(Include the cost of the item, how the item will be funded, which fund it will come from, if there are grants or loans involved and whether the item is included in the current approved budget.)

RECOMMENDATION:

Staff recommends that (item name) be (action)



City of Franklin

Solar Photovoltaic Project and Options

January 12, 2024

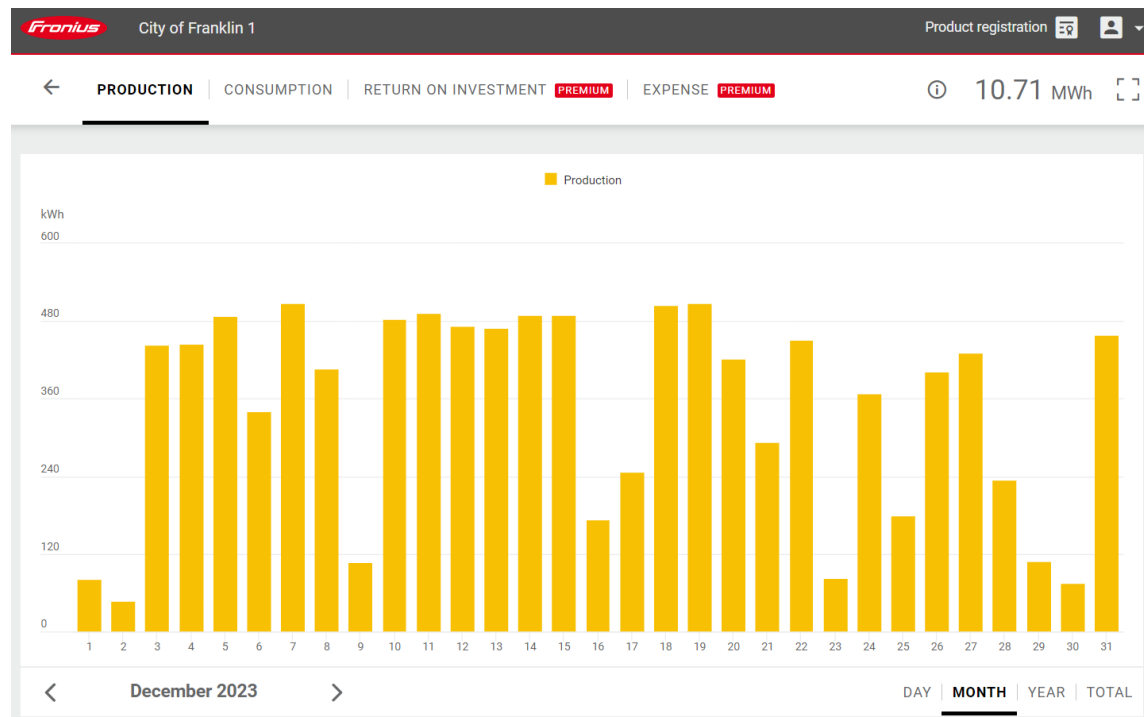
Project Benefits

- 200 kW Ground-mounted Solar Array
- Solar Earnings as of October 2021:
\$492,112.50
- Solar Earnings to date in excess of
\$550,000.00
- Existing 20-year contract with TVA ends
April 29, 2032
- Public/Private Partnership

Project Benefits

City of Franklin pays over **\$2,000,000.00** in energy costs per year to MTEMC for electrical power at the WWTP. This project helps reduce those costs.

Solar Projection Report



Carbon Reduction Plan Benefits

CO₂ Savings total



1,577.11
Tons



22,201
Miles



36,685
Trees



3,567,476
Miles

Carbon Reduction Plan

Option 1

- Amending our existing Agreement to allow the replacement of the existing 220 W solar panels with 480 W or higher solar panels.
- Benefits:
 - Maintain the existing TVA Contract with the City.
 - The City's share of the original 200 kW solar project of 80% remains the same.
 - The additional solar power will be directed into the Motor Control Center of the adjacent Solids Building.

Carbon Reduction Plan

Option 2

- Amend our existing Agreement to improve the existing racking to accommodate as much solar power as possible at the existing site. (Approximately 800 kW)
- Benefits:
 - Maintain the existing TVA Contract with the City.
 - The City's share of the original 200 kW solar project of 80% remains the same.
 - The additional solar power will be directed into Motor Control Center of the adjacent Solids Building.



Contact Information

**Ron Merville, PE
CEO**

Energy Source Partners, LLC

M: 615-337-3924

Email: ron.energysp@att.net





File #: 21-05871

DATE: December 19, 2023

TO: Sustainability Commission

FROM:

SUBJECT:

(8:30 - 8:55) Honeybee Glass Recycling

PURPOSE:

The purpose of this memorandum is to provide information to the Sustainability Commission concerning

BACKGROUND/STAFF COMMENTS:

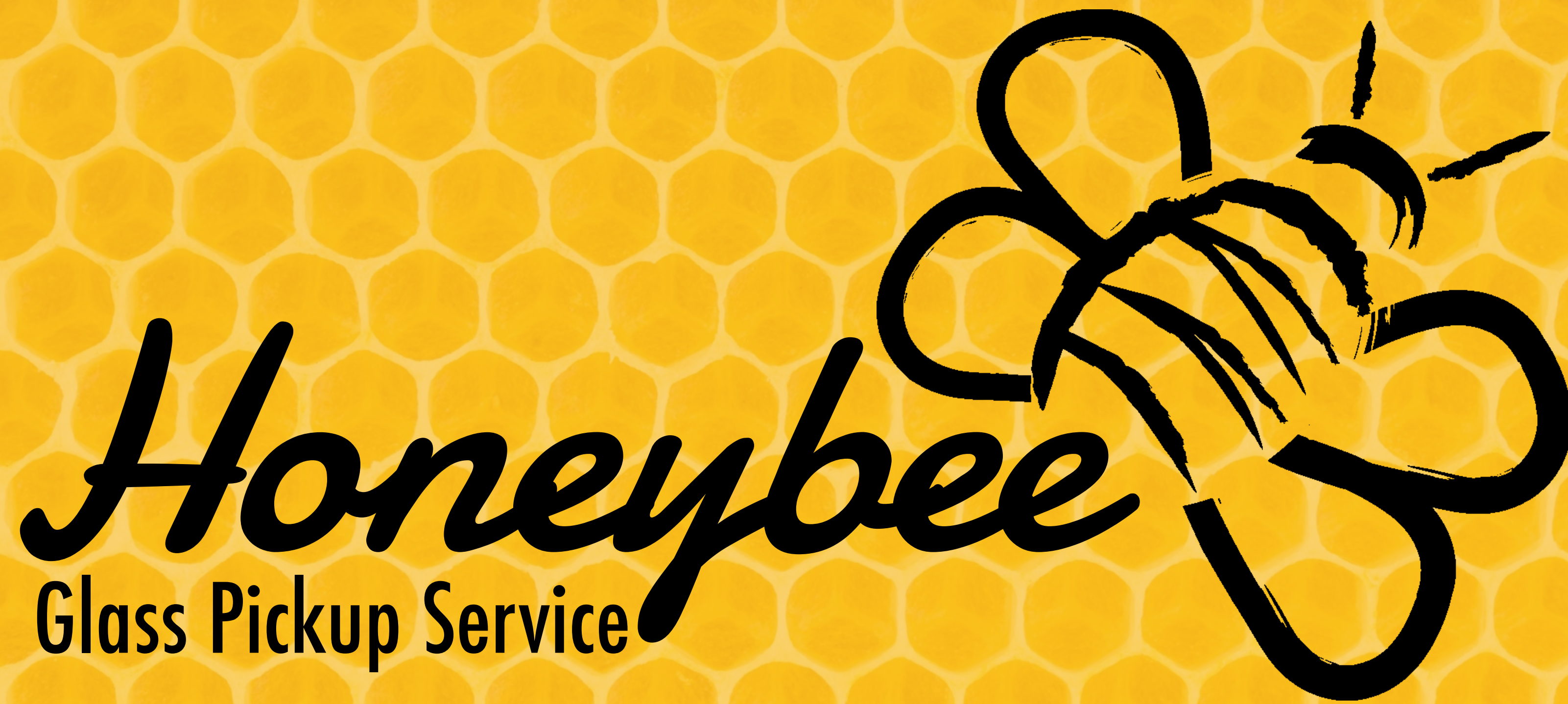
(Brief description of the history and supporting information regarding the item, including an explanation of why staff is recommending the action.)

FINANCIAL IMPACT:

(Include the cost of the item, how the item will be funded, which fund it will come from, if there are grants or loans involved and whether the item is included in the current approved budget.)

RECOMMENDATION:

Staff recommends that (item name) be (action)



Franklin, TN

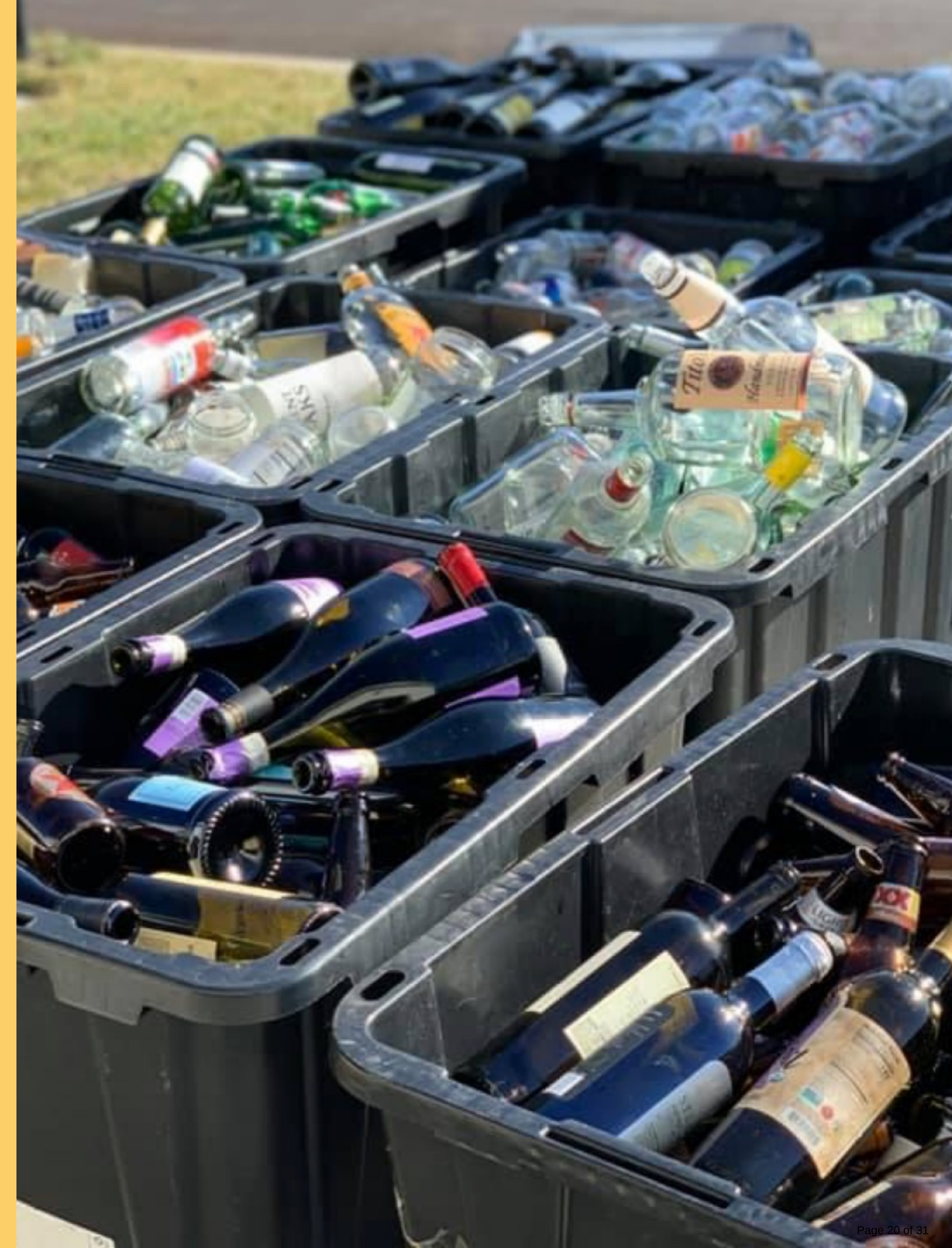
Company History

Solving a problem

Honeybee started as a simple way to help neighbors on my street. Every few weeks, I would call my friends and say, "I'm heading to the recycling center. Want me to take yours, too?"

Within a few months, I had people asking me for help. So I reached out to Jennifer at Keep Williamson Beautiful who introduced me to Randy at the recycling center on Century Dr to see if I could drop glass with them. Randy was quick to help.

- Veteran owned and operated
- Started in October 2019
- Primarily services Westhaven
- Tennessee LLC
- 274 customers



About the Founder

Neil Whitney

I'm an Army Veteran who was born and raised in North Carolina. I was stationed at Fort Benning, at the Pentagon, in Northern Virginia, and, finally, in Miami. I served on active duty, and later in the Intelligence Community.

After leaving public service, my wife and I moved to California when I took a job at Apple, Inc. We had a tremendous five years in San Francisco. In 2017, we decided to leave the West Coast and Apple to start a family in Tennessee while I pursued a startup.

I'm currently the CEO of a venture-backed tech startup that operates in the digital fitness industry.

Always looking to stay busy, I run Honeybee as a weekend hustle. My Military Veterans friends are eager to join me on this journey to grow Honeybee as full time operators of the business.



Our Purpose

Doing our part

When thrown in a landfill, a glass bottle takes 1,000,000 years to decompose. That's nearly 13,000 lifetimes.

Our missions is simple:

- Help our neighbors
- Improve the environment
- Give back to Military Veterans
- Run a healthy business
- Be a good role model



Business Operation

Collecting Glass

Honeybee offers once-monthly pickup. Customers sign-up for service on Honeybee.vet via Stripe. Once the customer is signed up, she/he receives a heavy-duty, 12-gallon storage container to stash glass between pickups.

On pickup days, customers leave their Bee Bins beside their garbage can. A 'Workerbee' drives through the neighborhood to collect glass. The glass is sorted by color.

Once the pickup route is complete, the Workerbee takes the glass to the commercial recycling center for disposal.



Glass Chain of Custody

What happen to glass

To date, the glass collected by Honeybee has gone to the commercial recycling center. But we have another possible and cleaner solution...

Florim USA in Clarksville has offered to take the glass. Florim will process the glass, and turn it into tile.

Having Honeybee collect glass and take it to Florim creates a win-win-win for the consumer, the City of Franklin, and Florim USA.

Honeybee would not receive revenue a contribution from Florim USA.



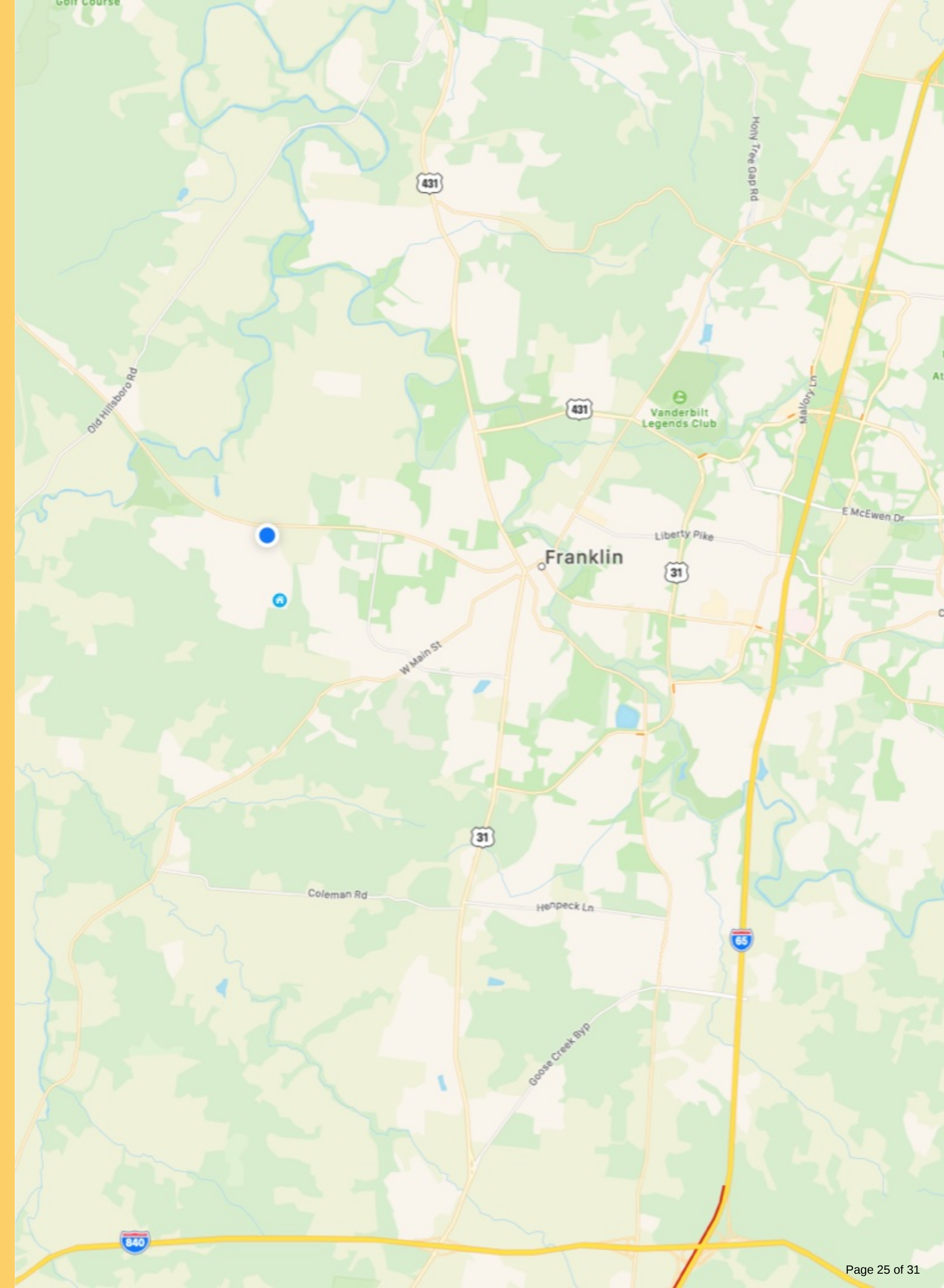
Demand to Expand

Growing beyond Westhaven

Each week, Honeybee receives 5-10 requests to expand into new neighborhoods. But resource and growth constraints make expansion difficult through the near term.

In order to expand, Honeybee should focus on high-density neighborhoods - making pickups and logistics cost effective and manageable.

- About 10% of Westhaven currently uses Honeybee



The Ask

Municipal support

In order to expand, Honeybee seeks support from the City of Franklin.

The business currently has linear growth. While we are pleased with the growth and community support, in order to expand beyond Westhaven and support Franklin’s environmental initiatives, the business will need a larger, more substantial commitment of revenue and/or capital.

Honeybee is seeking a 4-year, \$280,000 contract with the city of Franklin as well as a 10-year sole service provider agreement.

	Year 1	Year 2	Year 3	Year 4	Total
City of Franklin. Contract Amount	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 280,000
EoY Target New Customers (Households)	1,000	2,000	3,000	4,000	10,000
Projected Tonnage of Recycled Glass (LBS)	180,000	360,000	540,000	720,000	1,800,000



Use of Proceeds

Team Growth and Utility Needs

Labor: Managers and controllers to oversee.

Vehicles: Honeybee will look to procure vehicles from local car dealers in order to support the local economy.

Insurance: Given the unique nature of handling glass and to insure the welfare of the Workerbees, the business will require strong workers' compensation and general liability insurance as well as vehicle insurance.

Sales & Marketing: Customer churn is has proven to be very low; therefore new customer acquisition costs and general sales and marketing are expected to remain low.

Equipment: Bins, collection gear, and safety gear.





Honeybee Expansion Plan

Honeybee operates almost exclusively in Westhaven.

Westhaven Subscribers (rounded down):	275
Approx pounds collected per monthly pickup:	2,000

City of Franklin could assist in expanding Honeybee into greater Franklin

Approx households in Franklin	27,500
Approx % of Franklin serviced already	1%

Honeybee's expansion would divert a significant amount of glass from the landfill.

Servicing % of Franklin	Projected pounds collected per month	Projected pounds collected per year
5%	10,000	120,000
10%	20,000	240,000
15%	30,000	360,000
20%	40,000	480,000
25%	50,000	600,000

Honeybee operates as a for-profit business and will donate* 20% of sales revenue to local charities or organizations that focus on environmental impact and/or sustainability (i.e. Tennessee Wildlife projects in Franklin).

(*After 2 years of operations.)

Subscribers	Donation (Quarterly)	Donation (annually)
1,375	\$8,250	\$11,000
2,750	\$16,500	\$22,000
4,125	\$24,750	\$33,000
5,500	\$33,000	\$44,000
6,875	\$41,250	\$55,000



File #: 21-05737

DATE: November 16, 2023
TO: Sustainability Commission
FROM:
SUBJECT:

(8:55 - 9:00) 2024 Outlook Discussion

PURPOSE:

The purpose of this memorandum is to provide information to the Sustainability Commission concerning

BACKGROUND/STAFF COMMENTS:

(Brief description of the history and supporting information regarding the item, including an explanation of why staff is recommending the action.)

FINANCIAL IMPACT:

(Include the cost of the item, how the item will be funded, which fund it will come from, if there are grants or loans involved and whether the item is included in the current approved budget.)

RECOMMENDATION:

Staff recommends that (item name) be (action)

2024 Sustainability Commission Work Plan

- Future of the 200 kW solar project
- Bee City USA application
- Litter Survey: Make the litter survey an annual practice to occur in February. Better coordinate litter pick ups
 - Williamson County inmates litter patrol (periodic)
 - Keep Williamson Beautiful volunteers (periodic)
 - COF Streets Department
 - TDOT (infrequent)
 - Other
- Energy Policy Guide action items
 - EECBG allocation for sports lighting
- City Hall LEED Initiatives: additional follow up with the new city hall project related to LEED credits;
- Analyze glass recycling options
- Energy Reporting: provide fiscal year usage and costs
- Educational Trip somewhere in region
- Continued work on all three policy guides with regular commission updates
- Social media/public outreach/communication plan

2024 Meeting dates:

- Jan 12th
- Feb 9th
- No March Meeting (Litter Pick-Up)
- April 12th
- May 10th
- June 14th
- No July Meeting
- Aug 9th
- Sep 13th
- Oct 11th
- Nov 8th
- Dec 13th (Holiday Breakfast)

