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Liberty Food Processing & Refrigeration Facility at Robeson County, NC – A Development for the Lumbee Tribe

Abdur Rahman¹, Christina Theodorou², Elizabeth Basnight³, Hammad Nadeem⁴, Ramsha Nazir Malik^{5,*}

Abstract

This report examines the viability, financial forecasting, and execution plan for the Liberty Food Processing and Refrigeration Facility Project at Robeson County, NC for the Lumbee Tribe, and other local groups. The aim is to assist local farmers by enhancing the appeal of their produce through effective packaging. Additionally, the project seeks to promote Lumbee Tribe cuisine by marketing freshly prepared meals and sharing traditional recipes, thereby highlighting the local culinary heritage. Robeson County is in the southeastern part of North Carolina, United States. It is part of the Lumberton metro area and is known for its diverse cultural heritage, including a significant population of the indigenous Lumbee Tribe. Robeson County is bordered by the state of South Carolina to the south and is characterized by its rural landscapes, agricultural activities, and historical sites. This project is designed to establish a versatile shell building for the co-packer and seeks to replicate and expand upon the successes of incubator models, such as the Weaver Street and Piedmont Food Processing Center (PFPC), addressing a critical gap in the market for small and mid-size commercial kitchen and co-packing facilities. Through comprehensive interviews, data analysis, and exploration of the regional food system, this study outlines the concept, viability, and expected economic impact of this project. Spearheaded by the members of the Lumbee Tribe, this project is set to cater to a wide range of stakeholders, including local Lumbee Tribe vendors and investors, thereby addressing the demand for high-quality, locally sourced food products. NC Growth employed a comprehensive methodology to achieve the project's objectives, beginning with a thorough review of

best practices for incubator kitchens as outlined in professional and academic literature, focusing on strategies, outcomes, and success indicators. The approach included an analysis of available demographic, economic, and market data to gain insights into the project's viability and potential impact. To gather firsthand insights and validate findings, interviews were conducted with multiple stakeholders, encompassing potential tenants, investors, agricultural experts, regulatory consultants, and civil engineering specialists. Additionally, the evaluation of existing and potential partnerships was undertaken to strengthen the project's framework and ensure a collaborative approach. A crucial component of the methodology was the creation of a detailed Pro Forma financial model, designed to provide a comprehensive financial overview and forecast the project's economic sustainability and profitability. NC Growth also helped with a professional architectural

*Author for Correspondence

Ramsha Nazir Malik

E-mail: ramsmalik1997@gmail.com

¹Analyst, NC Growth, university of North Carolina, US + NC Growth, US.

²Program Manager, NC Growth, University of North Carolina, US + NC Growth, US.

³Program Manager, NC Growth, University of North Carolina, US + NC Growth, US.

⁴Analyst, NC Growth, University of North Carolina, US + NC Growth, US.

⁵Volunteer Architect, Co-founder at Zaviya Architectural Design Studio, Pakistan.

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design for the co-packer facility. The 3-D model below shows an outside view of the architectural design of the planned facility.

Keywords: Lumbee tribe, economic impact, co-packer facility, culinary heritage, NC Growth.

INTRODUCTION

The Liberty Food Processing and Refrigeration Facility Project is a project set to be established in Comtech Business Park in Robeson County, North Carolina. A contract packager, or co-packer, is a facility dedicated to packaging and labeling products for clients. In the food sector, these co-packers also act as co-manufacturers, managing the complete production process, including cooking, processing, and blending, as well as the packaging and labeling of food items.

This project is designed to address the critical need for high-quality, locally sourced food products through the construction of a versatile facility that will house a commercial kitchen, a co-packing unit and a refrigeration system. The project's strategic location within the Comtech Business Park signifies its potential for fostering economic growth and sustainability within the region.

Spanning an area of 4.63 acres, the land provided by Liberty Realty Group, owned by Dr. Cheryl Locklear and Christopher Locklear, promises ample space for the construction and operation of the facility. The facility will help with the storage of frozen and fresh food products as well as production and packaging.

This project aims to be a transformative step for the indigenous Lumbee Tribe and the broader community of Robeson County, aiming to create a sustainable economic model through the empowerment of local food production and distribution. The facility is expected to serve a wide array of stakeholders, from local vendors and farmers to investors, thereby enhancing the tribe's economic stability and fostering community growth through job creation and increased economic activity.



Figure 1. Outside view of the proposed 3-D model (Credits: Author).

At its core, the Liberty Food Processing and Refrigeration Facility Project represent more than just a commercial venture; it is a commitment to economic sustainability, food sovereignty, and the overall prosperity of the Lumbee tribe and its surrounding communities. With its innovative approach

to leveraging local food and produce resources, the project is poised to set a precedent for similar initiatives, promoting self-reliance and positive change within the region (Figures 1–2).



Figure 2. Proposed site location in Robeson County (Credits: Google Maps).

Location

The proposed Co-packer shell is set to be constructed in the Comtech Business Park (Figure 3). It will occupy part of 4.63 acres, owned by Liberty Realty Group. This location within Comtech Business Park offers optimal logistics, access to necessary infrastructure, and alignment with the project's broader goals of economic empowerment and community development for the indigenous Lumbee tribe.

Landowners

Dr. Cheryl Locklear: Cheryl graduated from Pembroke State University, now is known as the University of North Carolina at Pembroke, in 1975 with a bachelor's in mathematics. She then followed it up with dental school at the University of North Carolina at Chapel Hill. Dr. Cheryl Locklear was the first American Indian not only accepted into the UNC's School of Dentistry, but to also graduate. She graduated with her D.D.S. in 1979. Then she graduated with her Master's in Public Health in 1984.

Chris Locklear: Chris is a North Carolina native raised in Pembroke, North Carolina. Chris Locklear attended the University of North Carolina at Chapel Hill before moving to Los Angeles, California, where he worked in the entertainment and real estate industries at Abrams Artists Agency as well as Hilton & Hyland Real Estate located in Beverly Hills. After relocating back to North Carolina, Chris served as Project Manager for Ram Lock LLC before joining Realty Executives Locklear Real Estate. Chris is an active member in his community and is delighted to be a part of the Realty Executives Locklear Real Estate Team.

Overview of Lumbee Tribe

The Lumbee Tribe, primarily located in Robeson County, North Carolina (Figure 4), is a vibrant community with a rich history and a compelling cultural heritage. Recognized by the state of North Carolina since 1885, the Lumbee Tribe boasts of over 55,000 enrolled members, making it one of the largest Native American tribes in the state. The Lumbee name is derived from the Lumber River, a central lifeline that courses through their traditional territories, highlighting the deep connection between the Lumbee people and their land [1].



Figure 3. Comtech Business Park (Credits: <https://images.app.goo.gl/TKabenJpFrqYkxZm8>).

Historically, the area now known as Robeson County has been inhabited by Native people for over 14,000 years [2], with a rich presence documented from the Paleo-Indian period through the Woodland and Mississippian cultures. The Lumbee have a storied history of resilience and adaptation. They faced immense challenges during the colonial and antebellum periods, often being misclassified in official documents, yet they have maintained a distinct cultural identity.

The tribe's cultural and political center is Pembroke, NC, where a significant percentage of the population identifies as Lumbee. The tribe has never ceased to strive for federal recognition, which would afford them the legal and health benefits extended to other federally recognized tribes. Despite this, they have forged ahead, solidifying their community and cultural identity without federal support.

The tribe's focus on education and cultural preservation is evident through their support of the University of North Carolina at Pembroke, which started as a normal school for the training of American Indian teachers. This institution stands as a testament to the tribe's commitment to education and serves as a cultural hub for the Lumbee.

Socially and culturally, the Lumbee are celebrated for their annual events like Lumbee Homecoming, which draws members from across the United States to celebrate their heritage and reconnect with their roots. Through these gatherings, the culture of Lumbee tribe will spread, and community cohesion will enhance in addition to providing opportunity for social gatherings.

Methodology

NC Growth analysts maintained an active communication channel by conducting regular interviews with key stakeholders to ensure the project's progression aligned with the envisaged goals. The following stakeholders were interviewed multiple times:

- *Dr. Cheryl Locklear and Christopher Locklear*: Landowners, were interviewed multiple times as they were the key stakeholders, owning the land designated for this project and providing initial investment for the shell building. These discussions served a dual purpose: firstly, to deeply understand their expectations and comfort levels regarding the facility's operational and architectural blueprint; and secondly, to incorporate their insights and preferences into the facility's design and functional components. This collaborative approach was pivotal in crafting a facility that not only embodies efficiency and functionality but also reflects the owners' ethos and commitment to the community.
- *Jason Oxendine*: Owner Raleigh Ice & potential tenant, was interviewed to gain his insights on the refrigeration aspects of the project. His insights were invaluable in the design of the facility.
- *Allanah Hines*: Board of Directors Chair at Weaver Street Market and Chief Culture, Engagement, and Impact Officer, was interviewed to delve into the cooperative's robust commitment to sustainability, local economy support, and community engagement. This discussion illuminated the Co-op's strategic approach to local sourcing, community well-being, and the operational challenges encountered amidst growth, particularly in balancing expansion with the preservation of core values and a community-centric approach.
- *Sue Ellsworth*: Manager at Piedmont Food Processing Center (PFPC) shared her experiences and insights through an in-person visit to the facility. The discussion was aimed at achieving two primary goals: firstly, to capture the Center's foundational missions and the operational challenges it has navigated, particularly as its support dynamics have evolved; and secondly, to understand her perspective on the Center's transition from a nonprofit organization to an entity managed under private stewardship. Ellsworth's contributions were vital in developing a nuanced understanding of the Center as a pivotal hub for fostering food processing entrepreneurship, highlighting its ability to adapt and thrive amidst changing community needs and economic landscapes. These insights were shared with relevant stakeholders to help the Robeson Co-packer project.
- *Alan Fowlkes*: Executive Director at Comtech Business Park was engaged in discussions to understand Comtech's role in providing infrastructure and fostering a conducive environment for development projects. He emphasized Comtech's flexibility towards project proposals aimed at economic development and job creation, highlighting the strategic importance of leveraging existing infrastructure to minimize initial costs. The Locklear family's proximity to the project area was noted as beneficial, underscoring the potential for mutual growth and collaboration.
- *Patricia Tripp*: Artisan Food Solutions was interviewed multiple times as part of this project. She highlighted key infrastructure elements for this facility, including a fresh vegetable preparation area, a cold room, a commercial kitchen, a packaging sector, and loading docks, as essential for operational efficiency. Patricia also highlighted the critical importance of adhering to regulatory standards set by the USDA, FDA, and DEHEK, with a specific focus on the need for non-porous flooring in processing zones and a comprehensive fire sprinkler system to ensure safety and compliance.
- *Dennis Lowery*: Partner at Chicora PLLC, played a significant role throughout the project, being consulted multiple times to leverage his engineering expertise in verifying and enhancing the

financial model. His invaluable insights and technical knowledge were pivotal in ensuring the project's financial structure was both robust and sustainable.

Market Research

Artisan Food Solutions

Patricia Tripp, a restaurateur and a chemist, is founder of Artisan Food Solutions (AFS), founded in 2010 [3], to implement the Food Safety Modernization Act (FSMA). FSMA is one of the most important laws around food safety in the USA in more than 70 years. The founding question was whether small agricultural operations could compete with larger corporations under the new regulations. AFS aimed to ensure small farms, food hubs, and food makers would not only survive but thrive despite the uncertainty surrounding FSMA's impact. Patricia provided some valuable insights during the project based on her experience. She advised consideration of relevant certifications and audits that would help the project in short- and/or long-term life.



Figure 4. Lumbee tribe flag (Credits: <https://lumbeeconfrontkkk.weebly.com>).

Certifications and Audits

- *USDA GAP/GHP* [4]: USDA's good agricultural practices (GAP) and good handling practices (GHP) voluntarily audits the hygiene and safety of fruits and vegetables that are handled, stored, packed, and produced. For co-packers/commercial kitchens, adhering to GAP/GHP standards ensures the raw agricultural products they process meet safety and quality standards, reducing food safety risks.
- *USDA harmonized GAP* [4]: The Harmonized GAP audit consolidates various GAP standards into a single audit process, focusing on field operations and harvesting, packinghouse facility operations, and storage and transportation practices. It simplifies compliance for co-packers/commercial kitchens by providing a unified standard that covers a wide range of food safety practices, making it easier to ensure products meet safety requirements.
- *USDA harmonized GAP Plus+* [4]: This is an enhanced version of the USDA Harmonized GAP audit that includes additional food safety requirements and is benchmarked against the global food safety initiative (GFSI) standards. Co-packers/commercial kitchens that achieve this certification

can access broader markets, as it demonstrates compliance with internationally recognized food safety standards.

- *IFPA harmonized GAP* [5]: The international fresh produce association (IFPA) harmonized GAP standards are designed to align with global food safety practices and facilitate trade by reducing audit fatigue. The IFPA harmonized GAP standards are designed to align with global food safety practices and facilitate trade by reducing audit fatigue.
- *Global GAP IFA* [6]: Global GAP integrated farm assurance (IFA) is a global certification for agricultural production that covers food safety, environmental sustainability, animal welfare, and worker health and safety. It assures co-packers/commercial kitchens that their agricultural inputs adhere to comprehensive global standards, enhancing trust and compliance in their supply chain.
- *Global GAP HPSS* [6]: The Global GAP harmonized produce safety standard (HPSS) is a subset of the IFA standard focusing specifically on produce safety. It offers co-packers/commercial kitchens a targeted certification ensuring the produce safety aspects of their supply chain meet global standards.
- *Primus GFS* [7]: Primus GFS is a GFSI-benchmarked audit scheme covering agricultural production, processing, and handling operations with a focus on food safety. Provides co-packers/commercial kitchens with a comprehensive certification that assures buyers of their commitment to food safety, enhancing market access.
- *Food safety modernization act (FSMA) produce safety rule for human food* [8]: This rule, part of FSMA, establishes standards for the safe growing, harvesting, packing, and holding of fruits and vegetables to reduce contamination risks. Co-packers and commercial kitchens must ensure their operations and the produce they process comply with these regulations to legally operate in the U.S. market.
- *Food safety modernization act (FSMA) for produce safety rule for animal food* [8]: This rule focuses on ensuring the safety of animal food during manufacturing, processing, packing, and holding. It is relevant for co-packers/commercial kitchens producing animal food, requiring them to implement practices that prevent contamination.
- *The food safety modernization act (FSMA) preventive control rule* [8]: It mandates that food facilities maintain a comprehensive food safety plan. This plan must include a thorough hazard analysis and risk-based preventive controls to address and mitigate identified hazards. Co-packers and commercial kitchens are required to implement these preventive controls within their operations to ensure their products are safe for consumption.
- *HACCP (Hazard analysis and critical control points)* [9]: It is a proactive food safety system designed to identify, evaluate, and control hazards that are critical for food safety. It emphasizes pinpointing critical control points (CCPs) in the production process where specific controls can be implemented to prevent, eliminate, or reduce food safety hazards to safe levels. For co-packers and commercial kitchens, establishing a HACCP plan is crucial to ensure the safety of the food they process. This system provides a systematic method for identifying potential hazards in the food production process and offers a structured approach to managing those hazards, ensuring that the food product is safe for consumption. Adhering to HACCP principles is also a regulatory requirement in many regions and a fundamental standard for international trade in food products.
- *ISO 9001*: It is an international standard for quality management systems (QMS) that provides a framework for companies to ensure they meet customer, and other stakeholder's needs within statutory and regulatory requirements related to a product or service. The standard is based on several quality management principles, including a strong customer focus, high-level company management involvement, a process approach, and continual improvement. For co-packers and commercial kitchens, achieving ISO 9001 certification signifies a commitment to consistently delivering high-quality products and services. It helps these businesses enhance their processes, reduce errors, increase efficiency, and improve customer satisfaction. This certification can also offer a competitive edge in the marketplace, as it is often regarded as a mark of quality assurance

by clients and consumers.

- *HARPC and SC Programs* [10]: FSMA regulations mandate that many food businesses implement hazard analysis and risk-based preventive controls (HARPC) and supply chain (SC) programs to enhance food safety management. However, there are notable exemptions, including qualified facilities with less than \$1 million in average annual sales and establishments with fewer than 500 full-time equivalent employees handling low-risk foods. These exempted facilities are not required to implement HARPC and SC programs but must adhere to current good manufacturing practices (cGMPs).
- *Good manufacturing practices* [11]: The federal current GMP regulation (21 CFR 117 Subpart B) applies to all food products regulated by the FDA and mandates that food producers ensure the safe handling of ingredients, products, and packaging materials, as well as processing food in an appropriate environment. The GMP regulation is designed to be flexible and general in nature to help each operation develop and implement suitable practices. GMPs form the foundation of a food safety system that meets minimal food safety requirements. For low-risk activity/food combinations produced at facilities with fewer than 500 employees, no additional preventive controls are necessary beyond cGMPs to comply with the FDA's food manufacturing regulations.

Other Specific Regulatory Requirements

- *Non-porous floors*: In a commercial kitchen or co-packing facility, non-porous floors are crucial for upholding cleanliness and hygiene. These floors prevent water, bacteria, and other substances from penetrating the surface, making them easier to clean and sanitize. Common non-porous materials include sealed concrete, epoxy resin, vinyl, and specific types of ceramic tiles.
- *Fire sprinkler system*: A fire sprinkler system is an active fire protection measure that includes a water supply system, delivering adequate pressure and flow to a network of distribution pipes connected to fire sprinklers. This system is designed to detect and control fires, often extinguishing them completely or at least containing them until firefighters arrive. For co-packers and commercial kitchens, installing a fire sprinkler system is essential for ensuring the safety of the facility, its employees, and its operations (Figure 5).



Figure 5. Green leaf vegetable field (Credits: Google Images).

Field Visits

Piedmont Food Processing Center

The Piedmont food processing center (Figure 6) [12] originated as a collaborative effort uniting four counties: Chatham, Durham, Orange, and Alamance. This unique coalition was formed with the intent of creating a shared resource that could bolster the regional food processing industry.

The center has been operational for 12 years. Throughout its operational lifespan, the center has been a pivotal player in the local and regional food processing landscape. It has contributed to the economic development of the area, supported the growth and success of numerous food businesses, and fostered innovation in the food processing industry.

The PFPC began with initial funding secured through grants from several sources, including the Department of Transportation, Tobacco Trust Fund, USDA, and Weaver St. Market. Despite the original collaborative vision for financial support from participating counties, only Orange County stepped forward to provide significant assistance, particularly in helping with the building's construction. However, the Center now faces current challenges, such as Orange County's shift in focus from economic development to education, creating uncertainty for future support, a disparity between its national recognition and local engagement, and a refocus from directly engaging farmers to other operational areas due to limited success.

Significantly, the PFPC underwent a critical transformation from a non-profit entity to a private organization due to non-compliance with IRS requirements. It currently operates as a management services company, deviating from its initial non-profit model. This shift has allowed the Center to play a vital role in supporting the entrepreneurial ecosystem within the food processing industry, benefiting approximately 65 different businesses, and contributing an annual output of around \$3 million. This not only reflects the direct financial benefits from the businesses it supports but also underscores the Center's contribution to job creation, supply chain enhancement, and local economic stimulation.

The Center offers a range of services, including storage and kitchen rental for food trucks, caterers, and consumer-packaged goods companies, alongside technical assistance for product approval and regulatory compliance. It supports client growth from startup to scaling phases without requiring long-term contracts, charging a minimum monthly fee with variable rates for kitchen usage, and offering additional storage options. This fee structure, combined with kitchen rental, storage fees, food truck commissary services, and minimum monthly fees, forms the core of the Center's revenue streams, transitioning from initial grant funding to relying on operational revenues.

Regarding operational costs, the center covers utilities, maintenance, upkeep, cleaning services, fire safety, pest control, health and safety compliance, staff salaries, insurance, and grease trap and recycling services (Figure 7). The facility layout includes wet and dry kitchens, various equipment provisions, and is designed to meet regulatory compliance and cleanliness standards. The center also offers client support and guidance in several areas, including business address usage, packaging and labeling, collaborations with local small business centers and universities, specialized support, and various storage solutions. The overall facility spans approximately 10,200 square feet, with different spaces allocated for various production types and storage needs, demonstrating its comprehensive support for the local food processing industry.



Figure 6. PFPC site (Credits: Author).



Figure 7. Commercial kitchen At PFPC (Credits: Author).

Weaver Street

The conversation about Weaver Street Co-op (Figure 8), a distinguished grocery cooperative nestled in Carrboro, paints a vivid picture of an organization deeply rooted in principles of sustainability, local economy support, and community engagement. The Co-op's unwavering commitment to local sourcing stands as a testament to its dedication to bolstering local farmers and producers while simultaneously reducing environmental impacts associated with long-distance transportation of goods. This commitment extends beyond mere food retailing to embody a holistic approach towards fostering community well-being and sustainability through thoughtful food practices. As Weaver Street Co-op has expanded its operations, including the opening of new stores and the enhancement of its food production capabilities, it has faced the challenge of maintaining its foundational ethos amidst growth. The expansion into areas, such as commissary kitchens, bread and pastry bakeries, and internal logistics signifies a strategic shift from merely selling ingredients to producing their own food, underscoring the operational complexities and challenges inherent in scaling up while staying true to core values.

The cooperative model embraced by Weaver Street Co-op, characterized by democratic participation of employees and customers in its operations, fosters a profound sense of ownership and accountability among all stakeholders. This model not only promotes a strong community bond but also actively engages in various initiatives aimed at community support, highlighting the Co-op's role not just as a food retailer but as a pillar of community support. The dialogue delves into the challenges associated with operational expansion, particularly the balance between growth and the preservation of the Co-op's core values and community-centric approach. Strategic planning and community engagement emerge as critical components in navigating these challenges, emphasizing the need for a deliberate and inclusive approach to growth.

The insights gleaned from the conversation with Weaver Street Co-op illuminate the pivotal role cooperatives play in community development, sustainability, and supporting the local economy. By prioritizing local sourcing, engaging employees, and customers in its governance, and implementing sustainable practices, Weaver Street Co-op serves as a beacon for other businesses aspiring to make a positive impact on their communities. The cooperative's journey highlights the potential for businesses to contribute meaningfully to community development, offering valuable lessons on the integration of sustainability, local economy support, and democratic participation in the business model. Through its practices, Weaver Street Co-op not only nourishes its community with quality, locally sourced food but also cultivates a culture of sustainability and mutual support that resonates far beyond the confines of Carrboro.

The 2023 Annual Report of Weaver Street Market Co-op showcases their commitment to a sustainable food marketplace in North Carolina (Figure 9). In 2023, they reported \$48.4 million in sales, contributing significantly to local economic impact and food security through their Round-Up program. They prioritize a living wage, with starting pay at \$16/hour, and foster a diverse workplace. However, the year ended with an \$890,000 loss attributed to flat sales, increased food costs, and higher payroll without revenue growth. Their vision includes growing the local food system and supporting small producers, with 50% of sales from local and BIPOC producers. They are also innovating in reusable packaging and regenerative agriculture with projects like Kernza bread.



Figure 8. Weaver Street Kitchen (Credits: Author).



Figure 9. Locally Sourced Food at Weaver Street Market (Credits: <https://indyweek.com/news/northcarolina/weaver-street-markets-phasing-out-paper-and-plastic-bags/>).

Engineering & Architectural Drawings

An architect, Ramsha Nazir Malik was engaged to meticulously craft both 2-D and 3-D (Figure 10) models for the co-packer facility, tailored to an expansive area of approximately 10,000 sq. ft. (Figures 11–14). This design process was comprehensive, ensuring the incorporation of all vital components that are quintessential to a co-packer facility’s functionality and efficiency. The design includes:

- *Cold storage:* This segment is equipped with a walk-in freezer and cooler, designed to house both fresh and frozen products. It is planned to ensure the preservation quality of a wide array of food items.
- *Supply storage:* A dedicated space for the orderly storage of essential supplies and equipment, ensuring the facility’s operations run smoothly and efficiently.
- *Conveyor line:* A pivotal element that enhances the flow of products through the facility, ensuring a streamlined process for both processing and packaging activities.
- *Cannery and cold rooms:* These areas are specially designated for canning activities, accompanied by additional cold storage spaces. This layout underscores the facility’s adaptability in handling diverse food processing requirements.
- *Vegetable, baking, and meat prep areas:* Distinct zones are allocated for the preparation of different types of food, promoting both sanitary conditions and operational efficiency across food processing tasks.
- *Kitchen and dishwashing area:* A central kitchen space, flanked by a comprehensive dishwashing area, underlines the facility’s commitment to maintaining stringent hygiene and cleanliness standards.
- *Freeze-drying and dry storage:* These facilities are tailored for freeze-drying operations, with adjacent spaces for dry storage. This arrangement broadens the spectrum of food preservation

techniques available within the facility.

- *Future grab and go market:* An envisioned expansion area designed to host a direct retail outlet, enabling the facility to directly engage with consumers and markets.
- *Loading dock:* An essential logistic feature, the loading dock facilitates the smooth loading and unloading of products and supplies, critical to the facility's operational logistics.
- *Dumpster area:* Strategically laid out for optimal waste management, this area is configured with precise dimensions to seamlessly cater to the facility's specific waste disposal needs.

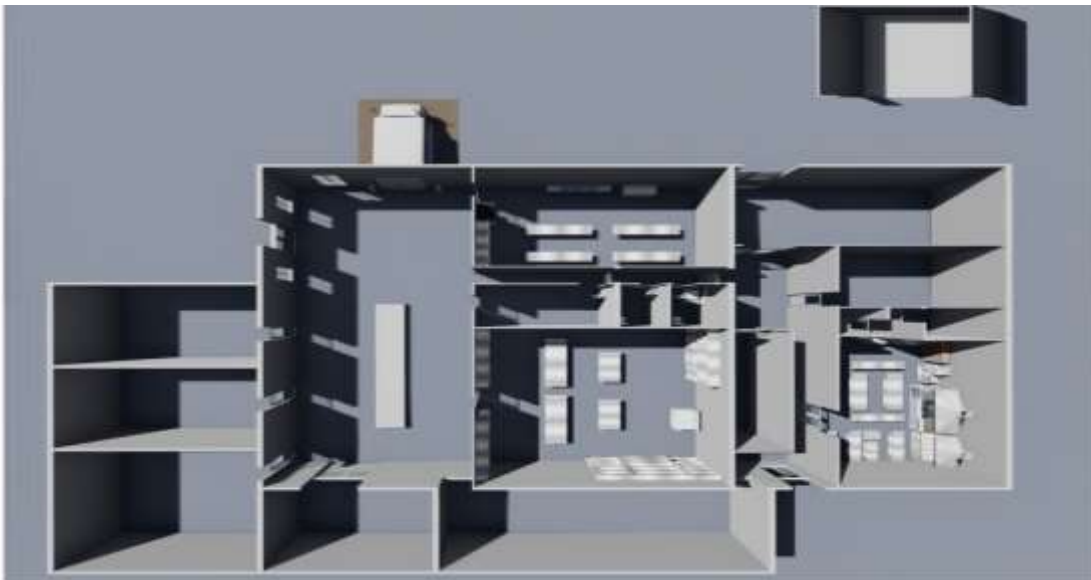


Figure 10. 3D Plan of the Facility (Credits: Author).



Figure 11. Architectural design of Co-packer (Credits: Author).



Figure 12. Side view (Credits: Author).



Figure 13. Top view of Facility with road connections (Credits: Author).

Business Models

The following business models were considered for the facility and are proposed to the client:

Nonprofit Model

The Nonprofit Model involves a nonprofit entity managing the co-packing facility. This approach focuses on delivering community benefits and adhering to nonprofit regulations. The primary goal is to enhance community welfare rather than generate profits. By operating as a nonprofit, the facility can maximize community benefits, such as providing services to local food producers and supporting food security initiatives. Additionally, nonprofit entities are often eligible for grants and tax exemptions, which can provide significant financial support. This model is ideal for projects focused on community development, where the main goal is to serve the community rather than generate profit.

Landlord and Tenant Model

In the Landlord and Tenant Model, the property owner (landlord) rents out the facility to various businesses (tenants) who operate independently within the space. This model simplifies operations for the property owner, who collects rent without being involved in the daily operations of the businesses. The steady income from rent provides financial stability and minimizes the owner's need for direct management of the facility. This model is ideal for property owners who prefer a passive role in the facility's operations, allowing them to benefit from a consistent rental income without the complexities of managing a business.

Cooperative Model

The Cooperative Model is characterized by the users of the co-packing facility also owning and managing it. This collaborative approach fosters a sense of shared responsibility and ownership among the users, encouraging them to work together towards common goals. The cooperative structure promotes profit-sharing, where the financial benefits are distributed among the members. It aligns the interests of all stakeholders, making it ideal for groups with shared objectives, such as local food producers. This model supports collaboration, enhances stakeholder engagement, and ensures that the facility's operations are aligned with the users' needs and goals.

Hybrid Model

The Hybrid Model combines elements of both nonprofit and for-profit models, incorporating aspects of each to balance community service with profitability (Table 1). This model is flexible in its funding and operational approaches, allowing for both nonprofit educational and community-focused elements and for-profit commercial operations. The hybrid approach can adapt to complex environments, addressing multiple objectives simultaneously. It is particularly useful when both community impact and revenue generation are important, providing a versatile framework that can attract diverse funding sources and meet various stakeholder needs. This model allows the facility to serve community interests while also achieving financial sustainability.



Figure 14. Top view of Facility with road connections (Credits: Author).

Table 1. The following table summarizes these business models.

Business Model	Description	Advantages	Suitability
Nonprofit model	A nonprofit entity manages the co-packing facility, focusing on community benefits and compliance with non-profit regulations.	Maximizes community benefits, eligible for certain grants and tax exemptions.	Best for projects aiming for community development and where profit is not the primary motive.
Landlord and tenant	The property owner (landlord) rents out the facility to various business (tenants) who operate independently within the space.	Simplifies operations for the owner, steady income from rent.	Suitable when the owner wants a passive role in day-to-day operations.
Cooperative	A cooperative model where users of the copacker facility also own and manage it.	Encourages collaboration and profit-sharing among users; aligns interests.	Ideal for stakeholders with aligned interests and goals, such as local food producers.

Hybrid model	Combines elements of nonprofit and for-profit models, possibly incorporating both a nonprofit for educational and community-focused elements and a for-profit for commercial operations.	Flexibility in funding and operations; can balance community service with profitability.	Useful in complex environments where both community impact and revenue generation are important.
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Table 2. NC Growth also considered potential level of ownership and organizational structure for the project and is presented in the following table.

Level	Entity	Role Description	Responsibilities
Level 1: Landowner	Liberty Realty Group.	Owns the land and the facility where the co-packer operates.	Responsible for leasing the property and managing land-related legal and financial obligations.
Level 2: Operations Owner	Nonprofit Co-packer (possible).	Manages the day-to-day operations of the co-packing facility.	Handles operations logistics, complies with regulations, and ensures efficient production flow.
Level 3: Tenants	Local businesses and tribal entities.	Rent space in the facility to produce their goods.	Produce their products using the facility's resources, potentially including local food producers.
Level 4: Customers	Local retailers, restaurants, and direct consumers.	Purchase the products produced at the co-packing facility.	Engage with the facility indirectly by consuming or selling the end products.

Competitive Landscape

The co-packer project offers several competitive advantages that position it favorably in the market. These advantages span across operational, strategic, and community support dimensions, making it a robust and attractive proposition for stakeholders.

Lack of Competition

One of the primary competitive advantages is the facility's unique position in the market. The proposed co-packer facility is the only one of its kind within a significant radius, which effectively eliminates direct competition in the immediate area. This exclusivity allows the facility to capture a substantial share of the local market, serving businesses and consumers who would otherwise lack access to such services. The absence of nearby competitors not only enhances market penetration but also provides an opportunity to set industry standards and build a loyal customer base from the ground up (Table 2).

High Demand with Limited Supply

Current market analysis indicates a significant demand for locally packaged produce, coupled with a limited supply. This gap between demand and supply creates an excellent opportunity for the co-packer facility to meet unmet needs. By providing high-quality, locally sourced food products, the facility can quickly gain traction and establish itself as a critical player in the local food industry. The high demand ensures a steady stream of business, contributing to the facility's sustainability and growth.

Strategic Location Benefits

The co-packer facility’s strategic location further enhances its competitive edge. Situated centrally in several key agricultural areas and market facilities, the facility benefits from minimal transportation costs. This central positioning not only reduces logistical expenses but also ensures fresh and timely delivery of produce. The reduced transportation distance enhances the facility’s efficiency and appeals to customers seeking fresh, locally sourced products. This logistical advantage can lead to better pricing and higher margins, making the facility more competitive.

Local Support

Strong local support from the Lumbee tribe and the Comtech Business Park is a vital component of the co-packer facility’s competitive landscape. This backing provides not only a foundation of trust and credibility within the community but also access to valuable resources and networks. The support from these local entities can facilitate smoother operations, quicker problem-solving, and a more integrated community presence. This local endorsement enhances the facility’s reputation and fosters a collaborative environment that promotes growth and innovation.

Funding Opportunities

The co-packer project is potentially eligible for various funding opportunities, which can be instrumental in its development and expansion. Access to grants, subsidies, and other financial aids can significantly reduce the initial capital burden and provide resources for scaling operations. These funding opportunities also offer a safety net that allows the facility to focus on long-term goals and strategic initiatives without the constant pressure of financial constraints. This financial flexibility can lead to sustained growth and competitive stability.

Stakeholder Alignment

The project benefits from synergistic alignment among various stakeholders, maximizing impact through coordinated efforts. This alignment ensures that all parties involved, from local producers to investors, are working towards common goals. Such cohesion not only streamlines operations but also enhances the overall effectiveness of the facility’s initiatives. By aligning the interests of stakeholders, the co-packer facility can harness a collective drive towards success, innovation, and community benefit. This unified approach can lead to enhanced productivity, better resource utilization, and a stronger market presence.

In summary, the co-packer project’s competitive landscape is shaped by its lack of competition, high demand with limited supply, strategic location, local support, funding opportunities, and stakeholder alignment. These factors collectively position the facility as a pivotal player in the local market, poised for success and sustainable growth.

Financial Modeling

The analysis meticulously outlines the essential expenditures needed for land preparation, construction, and the setup of the facility, ensuring a solid foundation for the operational launch. The initial steps include clearing and grading the land at an estimated cost of \$4,000 per acre, covering about 2.61 acres, which is pivotal for preparing the site for construction. Additionally, a one-time expense of \$3,000 is projected for importing dirt, a critical step for the building’s stability (Table 3).

Table 3. Summary of financial CapEx.

CapEx Summary					
CaPex	Total Cost (\$)	Unit Cost (\$ per sq ft Unless Specified)	Land Units	Size	

Land Preparation (clearing, grading, etc.)	8,000	4,000	2
Import dirt for the building	3,000	3,000	1
Shell (metal roof + walls)	400,000	40	10,000
Labour for shell	100,000	10	10,000
Labour + Material for concrete flooring	64,815	350	185
Bathroom	20,000	10,000	2
Dry wall	0		
Paint	0		
Fire sprinklers	5,000	5	10,000
Trim	0		
Electric	70,000	7	10,000
Insurance	0		
Plumbing	0		
HVAC + labour	24,000	12,000	2
Safety and Security	0		
Permits and inspections	1,500	1,500	1
Waste management	0		
Epoxy flooring	0		
Utility connection fee	2,500	2,500	1
Total capital expenses	\$ 698,815		

The construction phase encompasses the erection of the facility’s shell, including metal roofs and walls, estimated at \$40 per square foot over a total area of 10,000 square feet. Labor costs for constructing the shell are anticipated at \$10 per square foot for the same area. Furthermore, the installation of concrete flooring, at a cost of \$350 per cubic yard for 185 yards, ensures a durable base for the facility’s operations. The plan also includes the construction of two bathrooms at an estimated cost of \$10,000, catering to the needs of staff and visitors alike.

The financial projections are based on specific details and assumptions provided by Dennis from Chickora LLC, offering a realistic and informed perspective on the construction and preparation phases (Figure 15). This detailed cost analysis serves as a strategic tool for financial planning and resource allocation, guiding stakeholders through the budgeting, funding, and construction processes essential for bringing the co-packing facility to fruition in Robeson County, NC. The analysis underscores the importance of meticulous planning and budgeting in the establishment of a co-packing facility, providing a clear roadmap for the project’s initial expenditures and operational setup.

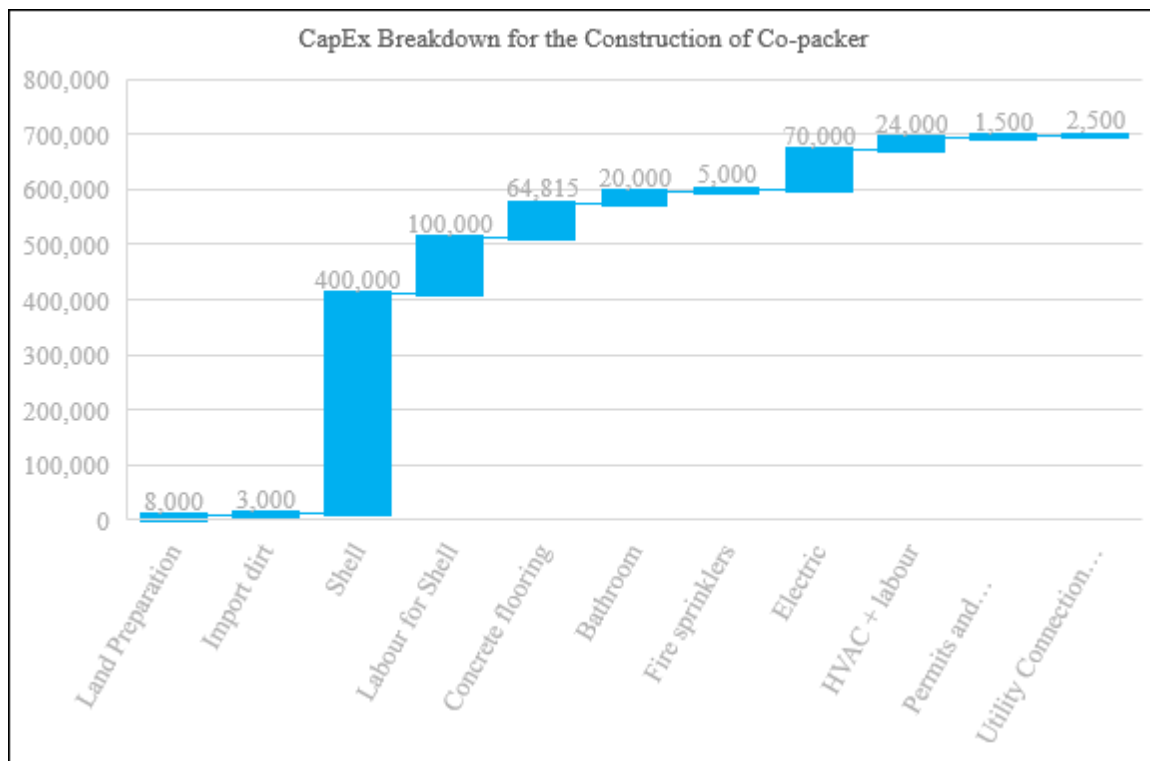


Figure 15. Capex breakdown for the construction of co-packer.

Funding

The North Carolina Agricultural Manufacturing and Processing Initiative (NCAMPI), established by the North Carolina General Assembly, aims to bolster the state’s agricultural sector. With a significant appropriation of \$20 million over two fiscal years, NCAMPI provides financial backing for the development and enhancement of agricultural manufacturing and processing facilities. This initiative recognizes the challenges faced by local farmers due to distant processing locations and aims to mitigate these by fostering closer, more profitable processing opportunities.

The Lumbee Tribe Co-Packing and Refrigeration Facility project aligns with NCAMPI’s objectives by promising to fill a critical gap in local food processing and manufacturing. By leveraging up to \$5 million per facility in grant funds, the project can significantly benefit from financial assistance for site development, infrastructure improvement, and equipment procurement. Furthermore, the initiative’s focus on job creation, reduction of transportation costs, and support for agricultural operations presents a synergistic opportunity to enhance the economic sustainability of the Lumbee tribe and surrounding communities.

To maximize the potential benefits from NCAMPI, the project must demonstrate its alignment with the initiative’s goals, including job creation and the promotion of agricultural operations. A strategic approach to application, highlighting the project’s expected positive impact on the local economy and its contribution to reducing transportation costs for agricultural products, will be critical. Additionally, showcasing the project’s role in filling existing processing gaps will further strengthen the application’s viability under NCAMPI guidelines.

Incorporating NCAMPI funds into the financial strategy for the Lumbee Tribe Co-Packing and Refrigeration Facility project presents a viable pathway to secure necessary capital while advancing the state’s agricultural and economic development goals. Careful planning and a detailed application that aligns with NCAMPI’s criteria can unlock significant funding, contributing to the project’s success and sustainability.

In addition to NCAMPI, several other funding opportunities can offer crucial support for the success of the project:

USDA Resilient Food Systems Infrastructure Program

Managed by the U.S. Department of Agriculture (USDA), this program aims to support and enhance the resiliency of food and agricultural supply chains.

- *Funding opportunity:* The program, identified by Funding Opportunity Number USDA-AMS-TM-RFSI-C-23-0001, is part of the American Rescue Plan Act of 2021. It aims to create resilient food systems infrastructure through cooperative agreements with U.S. states and territories.
- *Eligible entities:* Eligible entities include state departments of agriculture, which are encouraged to partner with at least one additional relevant state agency.
- *Funding and implementation:* States must submit an initial state plan outlining their program proposal and implementation strategy. These plans should describe how they will administer competitive programs for infrastructure grants and potentially engage in supply-chain coordination activities. Up to \$420 million is available under this program.
- *Program goals:* The program aims to expand capacity for the aggregation, processing, manufacturing, storing, transporting, wholesaling, and distribution of locally and regionally produced food products, excluding meat and poultry. Its objectives include strengthening local and regional food systems, creating new revenue streams for state producers, and enhancing the economic resilience of the food supply chain.
- *Application and funding details:* States must submit their plans by a specific deadline and participate in a competitive review process. They are encouraged to include projects that support underserved farmers, ranchers, and small and medium-sized enterprises. The program supports a variety of projects, including modernizing facilities, enhancing safety, improving compliance with food safety requirements, and increasing energy and water efficiency.
- *Additional components:* States may use a portion of the funds for supply chain coordination activities, focusing on business support and market development for local and regional food systems.

This program represents a significant investment in local and regional food infrastructure, aimed at diversifying and securing food supply chains across the U.S.

- *Native American Agriculture Fund (NAF):* \$75,000 available for equipment purchasing and infrastructure, aimed at bolstering agricultural practices among native Americans.
- *NC IDEA:* Provides seed funding for entrepreneurial business projects, suitable for early-stage funding which the project could apply for a mini-grant.
- *NC innovation:* Focuses on commercializing innovative ideas, especially from universities, and could be approached if the project aligns with their criteria for innovation in commercial ventures.

The strategic approach to applying for these funds will involve a detailed demonstration of how the Lumbee project supports NCAMPI's objectives and other grant sources' goals. By showcasing the project's impact on the local economy, its role in filling existing processing gaps, and its contributions to the agricultural sector, the application will be strengthened. This comprehensive funding strategy, combined with careful planning and alignment with grant criteria, will enhance the project's prospects for securing the necessary capital to achieve both sustainability and success.

Recommendations

Following a thorough analysis and review of this report, the recommendations outlined below are essential for the successful development and long-term sustainability of the Liberty Food Processing

and Refrigeration Facility Project for the Lumbee tribe:

- *Leverage funding opportunities:* Pursue grants and financial assistance from NCAMPI, USDA Resilient Food Systems Infrastructure Program, Native American Agriculture Fund (NAF), NC IDEA, and NC Innovation. These funds can significantly reduce the capital burden and support infrastructure development.
- *Adopt a hybrid business model:* Implement a hybrid business model combining nonprofit and for-profit elements. This approach allows the facility to balance community service and profitability, ensuring financial sustainability while serving local food producers and promoting food security initiatives.
- *Engage local stakeholders:* Maintain strong communication and collaboration with local stakeholders, including the Lumbee tribe, Comtech Business Park, and local farmers. Their support and input are crucial for aligning the project with community needs and ensuring its success.
- *Focus on compliance and certifications:* Ensure the facility adheres to relevant certifications and audits such as USDA GAP/GHP, USDA Harmonized GAP, FSMA Produce Safety Rule, HACCP, and ISO 9001. Compliance with these standards will enhance food safety, quality, and market access.
- *Strategic location utilization:* Capitalize on the strategic location within Comtech Business Park to minimize transportation costs and enhance logistical efficiency.
- *Diversify service offerings:* Expand the facility's services to include additional food processing methods, such as freeze-drying and canning, and consider establishing a direct retail outlet. Expanding services can attract a wider variety of clients and boost revenue streams.
- *Implement robust marketing strategies:* Develop comprehensive marketing strategies to promote the facility's services and products. Highlight the unique aspects of locally sourced and processed foods, emphasizing quality and sustainability to attract both local and out-of-state vendors.
- *Enhance community engagement:* Foster a sense of community ownership and engagement through cooperative models and inclusive decision-making processes. Regularly host workshops, training sessions, and community events to strengthen ties and promote the facility's mission.
- *Monitor and evaluate performance:* Develop key performance indicators (KPIs) and perform regular assessments to track the facility's performance. Utilize these insights to make informed decisions, enhance operations, and ensure ongoing improvement.
- *Plan for future expansion:* Develop a long-term strategic plan for future expansion, considering potential growth opportunities and market demands. Prepare for scalability by ensuring the facility's design and infrastructure can accommodate future developments.

CONCLUSION

The Liberty Food Processing and Refrigeration Facility Project at Robeson County, NC, stands as a transformative initiative aimed at enhancing the local food production and distribution for the Lumbee Tribe and surrounding communities. By leveraging comprehensive research, stakeholder interviews, and strategic planning, this project addresses critical gaps in the market for small to mid-sized commercial kitchens and co-packing facilities. The facility's design, strategic location, and adherence to high standards of food safety and quality are poised to drive economic growth, foster community development, and promote the culinary heritage of the Lumbee tribe.

This project highlights the importance of a multi-faceted approach, incorporating aspects of nonprofit and for-profit models to balance community service with financial sustainability. The strong support from local stakeholders, combined with potential funding from various grants and programs, ensures a robust foundation for the facility's long-term success. The project's emphasis on compliance with regulatory standards, strategic location benefits, and community engagement further strengthens

its potential impact.

Moving forward, it is crucial to maintain the collaborative momentum established with local stakeholders and continually adapt to the evolving needs of the community and market. By focusing on expanding services, enhancing marketing strategies, and ensuring rigorous performance monitoring, the Liberty Food Processing and Refrigeration Facility can become a benchmark for similar initiatives nationwide.

In conclusion, this project not only aims to uplift the Lumbee Tribe and Robeson County but also sets a precedent for sustainable and inclusive economic development through local food systems. The Liberty Food Processing and Refrigeration Facility embodies a commitment to innovation, community, and resilience, paving the way for a brighter and more prosperous future for all its stakeholders.

Appendix

Financials

The tables below show a breakdown of the capital cost estimates for the copacker facility.

Robeson County Copacker Facility	
Assumptions	
Model Start Date	4/22/2024
Project Information	
Project name	Robeson County Copacker Facility
City	Pembroke
County	Robeson
State	North Carolina
Type	New construction
Acreage	4.63 acres
Constructed land usage (in sq ft)	10,000
Consulting/project management team	NC Growth
Engineering expert	Chicora PLLC
Construction Assumptions	
Cost of land	\$118,400
Cost per square foot (including site dev. and hard costs)	\$75
Soft costs (as percentage of hard costs)	7%



USDA Partners with North Carolina to Award Over \$6.2 Million to Strengthen Food Supply Chain Infrastructure

HOME · USDA PARTNERS WITH NORTH CAROLINA TO AWARD OVER \$6.2 MILLION TO STRENGTHEN FOOD SUPPLY CHAIN INFRASTRUCTURE

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Transportation & Marketing Program

Administrative Management Staff

Office of Civil Rights

Legislative & Regulatory Review

Outreach

Public Affairs Office

USDA Farmers Market

Date: Monday, April 15, 2024 1:00pm

Contact Info:

Public Affairs
PN@usda.gov
(202) 720-8998

Release No.: 072-24

WASHINGTON, April 15, 2024 – The U.S. Department of Agriculture’s (USDA) Agricultural Marketing Service (AMS) today announced it has a cooperative agreement with North Carolina under the Resilient Food Systems Infrastructure Program (RFSI). Through this agreement, USDA and North Carolina are working together to offer over \$6.2 million in competitive grant funding for projects designed to build resilience across the middle of the supply chain. North Carolina is accepting applications for this Infrastructure Grant funding beginning May 1, 2024, through June 15, 2024.

In May 2023, [USDA announced](#) the availability of up to \$420 million through RFSI to strengthen local and regional food systems. Through this program, AMS has entered into cooperative agreements with state agencies, commissions, or departments responsible for agriculture, commercial food processing, seafood, or food system and distribution activities or commerce activities in states or U.S. territories. RFSI is authorized by the American Rescue Plan. Updates for each state’s Request for Applications for the RFSI program are available on the [AMS website](#).

“This partnership between USDA and North Carolina is allowing critical funding to reach areas of the supply chain that need it most,” said USDA Marketing and Regulatory Programs Under Secretary Jenny Iester Moffitt. “The projects funded through this program will create new opportunities for the region’s small and midsize producers to thrive, expand access to nutritious food options, and increase supply chain resiliency.”

Using RFSI funding, the North Carolina Department of Agriculture & Consumer Services (NCDACS) will fund projects that expand on-farm cold storage and packaging capacity, implement post-harvest handling, provide refrigerated trucks, and expand aggregator facilities. The state’s priorities are informed by stakeholder engagement and outreach to underserved producers to better understand their needs.

“We are excited to leverage this \$6.2 million in federal funding to improve the food supply chain for consumers, agribusinesses and farmers,” said North Carolina Agriculture Commissioner Steve Trolier. “Specifically, this program will better position produce, dairy products, eggs, aquaculture and value-added products produced in our state and will offer additional opportunities for profitability.”

Those interested in receiving a subaward should apply directly through [NCDACS](#). Applications will be accepted beginning May 1, 2024, through June 15, 2024. AMS encourages applications that serve smaller farms and ranches, new and beginning farmers and ranchers, underserved producers, veteran producers, and underserved communities.

For more information, visit the [AMS Resilient Food Systems Infrastructure webpage](#).

USDA looks the lives of all Americans each day in so many positive ways. In the Biden Harris Administration, USDA is transforming America’s food system with a greater focus on more resilient local and regional food production, fair markets for all producers, ensuring access to safe, healthy and nutritious food in all communities, holding new markets and streams of

eson County Copacker Facility				
CaPex	Total Cost (\$)	Unit Cost (\$ per sq ft Unless Specified)	Land Size Units	Comment
Land preparation (clearing, grading, etc.)	8,000	\$4,000	2.0	2 acres of land to be cleared; unit cost given per acre.
Import dirt for the building	3,000	\$3,000	1	One time cost based on dirt required.
Shell (metal roof + walls)	400,000	\$40	10,000	10,000 sq ft considered.
Labor for shell	100,000	\$10	10,000	10,000 sq ft considered.
Labor + material for concrete flooring	64,815	\$350	185	\$350/ cubic yard where height of cube is 6 inches. So, 10,000 sqft => 5000 cubic ft => 185 cubic yard.
Bathroom	20,000	\$10,000	2	Estimate cost for 2 bathrooms; 1 bathroom costing \$10,000.
Dry wall	0			
Paint	0			
Fire sprinklers	5,000	\$5	10,000	10% area assumed.
Trim	0			
Electric	70,000	\$7	10,000	Per sq foot.
Insurance	0			
Plumbing	0			
HVAC + labor	24,000	\$12,000	2	Two 5 tons HVAC cost (3500 sq ft).
Safety and security	0			
Permits and inspections	1,500	\$1,500	1	One time cost.
Waste management	0			
Epoxy flooring	0			
Utility connection fee	2,500	\$2,500	1	
Total capital expenses	\$698,815			

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