FEASIBILITY STUDY
PAGE VALLEY FOODS
PROJECT

PREPARED BY:

EQUATORIAL EQUITY CAPITAL PARTNERS, LLC

LEAWOOD, KANSAS

February 3, 2023

Contents

1. Executive Summary

In the last 5 months of 2022, we supported the Agriculture Subcommittee of the Page County Economic Development Authority in determining the feasibility of building and operating a meat processing facility within Page County. In the course of completing the study, we worked together as a team to determine the appropriate size of the facility, what functions and capabilities it should have, what the facility would cost to construct and what investors or stakeholders in the facility could expect in terms of profits. Many conversations were held with producers and supporting organizations in the county as well as counties surrounding Page County. A key question of the county was to assess the number of animals that could be processed through the facility. In order to understand how to develop valid numbers of animals and revenues, we worked with an existing business of a similar nature located in the Western U.S. and built financial models off of their actual and forecasted operating results as well as recent construction costs of expanding their facility.

Based on this analysis, we have the following conclusions:

- Enough cattle are available in the county and in the wider region to sustain a facility sized to process between 50 and 100 head of cattle per week. There are competitive facilities nearby, but the one we would build would be unique to Virginia in offering services such longer hang times, freezer capacity to support longer storage for local producer, superior information management to assess inventory and revenue enhancements, state of the art meat processing/inspection technology to digitize weight and label for producers, value-add meat production such as beef sticks and jerky and marketing services to sell direct to consumers, restaurant and grocery to enhance income to local producers and attract more cattle and other animals for processing.
- The primary model for the business would be USDA-inspected custom processing, which is aimed at producers who are raising for themselves and for direct-to-consumer products. The region feeds out significant livestock that are sold at livestock exchanges. A portion of the capacity of the facility would be expected to be used for cattle purchased, processed and resold by the business. It can also be expected as revenues are increased for local producers that producers may be willing to direct their product through the Page Valley processing plant.
- We have identified a site for building the facility at the southern end of Page County. The site has access to atrial roadways and plenty of room for efficient logistics and for future expansion.
- The potential exists for the business to collaborate with the aforementioned business in the Western U.S. in several ways, including the use of the facility design, operating procedures and supply chain to speed project development and lower long-term costs. However, the decision as to how or whether enter into a collaboration agreement is not yet made and would be done at the outset of the next phase of project development.
- We estimate total project capital requirements of $8,634,273 which includes a $300,000 budget for the Design and Development phase of the work effort. We anticipate that the project would be financed using a combination of equity, loans and grants. Project development is anticipated to produce an operating facility in a timeline between 14 and 20 months depending on whether the collaboration with the existing business is used to shorten facility design time and train employees prior to start of operations.
- The operating plan for the business will be to ramp up to a total of 50 head processed per week in the first year of operation and gradually increase processing rates to 100 head per week over a

period of five years.

- The facility would open employment with 14 persons including a General Manager, functional managers and skilled employees. That level would ramp up to a total of 35-40 persons at the five-year point. Financial models anticipate average annual salary and benefits of approximately $60,000.
- Based on our analysis and without a guaranteed investment return to the investor group, EBITDA would range from $389,380 in the first full year of operation to $911,264 in the fifth year of operation. Assuming that a 20% equity investment is leveraged by debt and grant funds, an internal rate of return of 36% is anticipated for the facility with a 3.32-year payback.

Ultimately, these profits would be used to reward producers, employees and investors in a way that makes the citizens and county government of Page County proud to be a part of the project. We believe that a premium facility, operated in a professional manner focused on benefiting and serving producers will succeed as an investment and as a service to the agricultural community within Page County.

Thank you for the opportunity to assist.

2. Scope and Project Description

This document outlines and provides analysis of a plan for developing a new business within Page County, Virginia that will process up to 5,000 head of cattle per year into high-quality food products for consumers in the Mid-Atlantic states. While the business has yet to be formally organized, for the purposes of this report, it will be called Page Valley Foods (PVF). Central to the business will be the construction and operation of a processing facility located within the county. While beef processing will be the primary focus of the facility, it will have a contingent multi-species operating plan to include the processing of hogs, sheep, and goats to assist in capacity utilization and to serve local producers.

Page County is like other surrounding counties on both sides of the Blue Ridge Mountains in that farmland is being converted from agricultural use due to a cost-benefit analysis by farmers driven by the present value of real estate and the perceived future value of the farm producing crops or raising livestock. With this in mind the feasibility of this project is defined by its ability to achieve the following objectives:

- Provide producers with a way to improve the economics of livestock production within Page County and the surrounding regions by giving them a reliable processing service capable of optimizing the value of cattle and other species and allowing them to share in the profits of the business.
- Offer the potential to expand into other areas of food production to maximize the agricultural output of Page County and the broader region
- Create a business proposition for investors that attracts the capital needed to establish and operate the company over a 30-year period.

2.1. Business Overview

The foundational concept of the business is that producers are driven by two primary factors:

- They want to optimize profitability, get a fair return on the investment of their time and land and do this in a way that they see as being sustainable for the foreseeable future.
- They take pride in the quality of their livestock and in the appreciation that consumers have for the meat they produce.

The premise is that producers will seek a processing partner that best supports these factors. PVF needs to design, build, and operate a facility and provide services in such a way that they do this better than the alternatives available to the producers. As long as this is the case and as long as consumer preference for high-quality meat products remains approximately where it is today, a properly run business will succeed.

2.1.1. Facility Capabilities

Our assessment is that sizing a facility that can process 100 head of cattle per week is the right starting point for the project. In reaching this conclusion, we have taken into account analysis reported on in September 2020 by Matson Consulting under contract from the Virginia Foundation for Agriculture, Innovation and Rural Sustainability (VA FAIRS)[1], which advises that facilities smaller than this struggle with viability and have longer periods of investment recovery. There are other factors as well:

[1] A Study of Small-Volume Red Meat Processing in Virginia, Matson Consulting, September 2020

- We believe that a facility built large enough to ultimately process 100 head per week is only marginally more expensive to construct and operate than one that processes 25 head or 50 head per week.
- The facility must be USDA-inspected to allow for the sale of PVF products across state lines.
- Page Valley producers already have a reputation for bringing premium cattle to market. So, the facility should be designed to attract these producers by offering premium processing and customer service systems that can enhance their revenues and are distinctively better than other regional processors. These capabilities should include:
    - Sizing a carcass cooler capable of offering a minimum of 21-day hang time at the 100 – head per week rate and to offer longer hang time for an additional fee. While the business is growing, the extra cooling and freezer capacity can be used to provide longer carcass hang time and more freezer storage room to support marketing of PVF high quality beef to consumers, grocers, and restaurants for any processor partner.
    - Sizing a freezer to allow producers to share costs on longer term storage in support of individual or aggregate sales, and marketing.
    - Having advanced carcass and primal scanning technology available to support sales to restaurants and other customers requiring consistency in quality.
    - Possessing an advanced carcass and weighed and labeled tracking and inventory management system to provide producers with confidence and information for streamlined sales operations and knowledge to guide continuous improvement.
- The facility will be equipped with a back-up power generator to allow the cooler and freezer chillers to run indefinitely during an extended power outage.
- Producers also have a desire to work with a processor having a further processing/value-add capability. In terms of a capability, if implemented this would include a smokehouse along with a kitchen for mixing, grinding, cooking, and finished product packaging. Potential products would include sausage, jerky, snack sticks, bone broth, soups, sauces, chilis and pet treats.
- A design plan that can be easily expanded if the business grows beyond projections.
- PVF may consider an option to base its design and operating plan on an established custom processing business located in the Western U.S. Working with an existing design and operational history will have many advantages:
    - Shorten the time needed to design, build, and commission the facility and reduce the design phase cost for the project.
    - Provide an existing set of financial and operational data that will be more believable to investors and grant reviewers.
    - Provide a location to train employees, educate stakeholders and a business partner with whom to share and develop best practices, metrics and operational data.

2.1.1.1. Summary of Representative Facility

PVF may investigate the option to collaborate with an existing custom processing business. We believe that this facility is well designed and has attributes that match our requirements. A layout and elevation view of this facility are shown in Figure 1 and Figure 2 below.

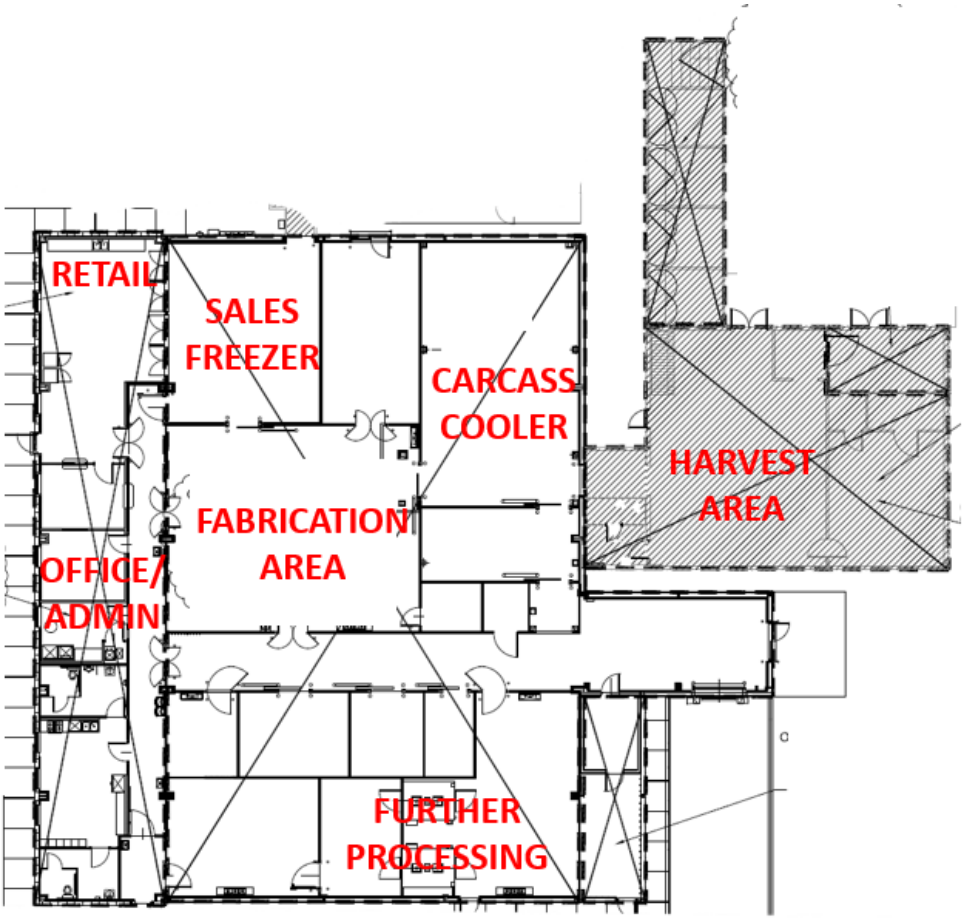

Figure 1 - Plan View of Representative Facility

**FOR EXAMPLE, PURPOSES ONLY*

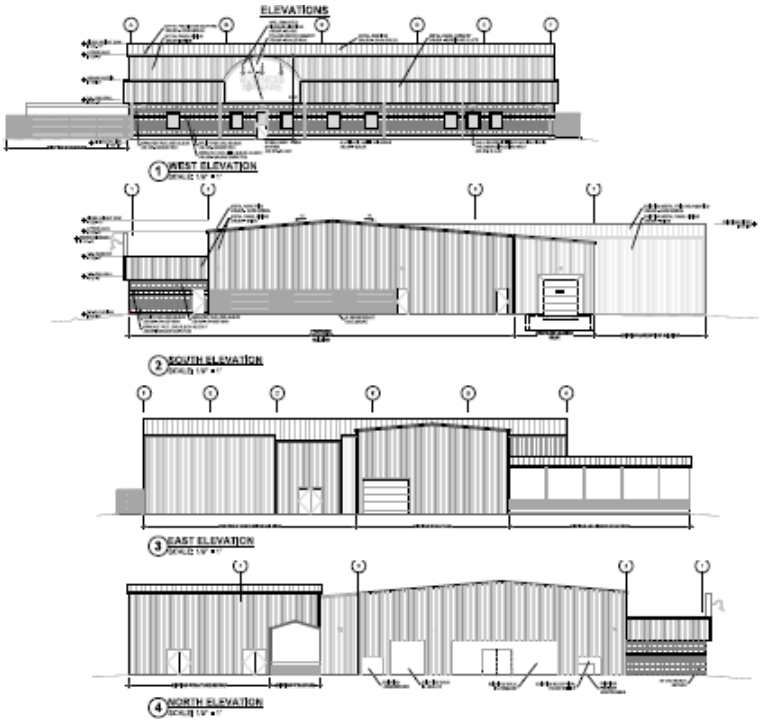

Figure 2 - Elevation View of Representative Facility

**FOR EXAMPLE, PURPOSES ONLY*

The facility has well-planned functional areas as shown in Table 1 below.

Function	Area (Sq. Ft.)	Elevation
Harvest Area	1,767	15'
Carcass Cooler	1,179	15'
Fabrication Area	1,378	15'
Sales Freezer	756	15'
Further Processing	1,531	15'
Other Process and Traffic Areas	2,877	15'
Retail	719	10'
Office/Admin	1,522	10'
TOTAL	**11,729**	

Table 1- Facility Area by Function

2.1.1.1.1. Utilities

The representative facility consumes utilities according to the following schedule:

Service	Qty	Units
Electricity	400	KW
Propane	1,300	MBH
Water	5,000	gal/day

Table 2 - Projected Utility Consumption

2.1.1.2. Proposed Site

A number of sites have been evaluated in Page County using criteria such as affordability, proper zoning, access to electricity and water, and accessibility to farmers and customers. An ideal site will also be expandable and acceptable to the surrounding community.

A proposed site will have plenty of room for setbacks, logistics efficiency and for facility expansion. It will also have easy access to major throughfares in the county including US Routes 340, 211, and 33. Page County is an ideal location equidistant to Washington DC and Richmond.

It is not practical to install a natural gas line to the best locations we have reviewed to site the facility. So, propane will be planned for use as the source for process heating and steam generation at a cost assumption of twice the cost of natural gas.

2.1.1.3. Waste Disposal

A processing facility generates offal, inedible and edible waste. Offal includes organs such as hearts, livers and tripe. Those are harvested and stored in a cooler for sale as pet food or for human consumption. Inedible waste includes bones, entrails, blood, hides, and fat/trimmings. Like most small facilities, including those within the Shenandoah region, PVF plans to pay a local renderer to remove the solid waste from the site. However, there are opportunities to turn the cost into additional revenue

streams on all outputs from the plant through policy consideration, innovation, and additional investment.

2.1.1.4. Wastewater

The facility will generate approximately 5,000 gallons per day of wastewater. Because of the proximity within the watershed of the Shenandoah River and the desire to avoid a permit approval process, PVF will plan to treat water on site such that it can be trucked to a nearby wastewater treatment facility, a holding pond system, or an anaerobic digester to meet environmental standards and minimize long term costs. PVF will plan to discharge water at a BOD level of 200 mg/ml by whatever means is determined by engineers and to avoid discharge directly into the Shenandoah River or its tributaries.

2.1.1.5. Process Equipment and Technology

A list of facility design details will include a complete list of infrastructure (i.e., coolers, rail systems, water treatment systems) and process equipment (i.e., systems and equipment for washing, cutting, packaging.) We will evaluate each purchase decision independently and look for cost-saving opportunities.

We believe that there will be wise technology investments for carcass inspection, packaging and in other areas that will allow us to reach more lucrative markets and add value to customers. For instance, we will seek to justify best in class technology for carcass inspection to demonstrate product quality to restaurants and quality-conscious foodservice companies. We will seek the best product packaging and shelf-life enhancing process technologies available.

2.1.1.6. Information Technology

Strong inventory management and customer service systems will characterize the facility along with the tracking and tracing identification technologies needed to establish and achieve high standards for managing livestock, carcasses, and components throughout the process. These investments will attract both producers and consumers by increasing confidence in the business as well as provide sound and timely management information.

2.1.2. Producer Business Development Services

While several of PVF's target producers have successful farmer's market and on-line sales programs, many producers are not selling directly to consumers. A significant factor in the situation is a lack of knowledge in how to succeed as well as the logistics challenges of packaging, marketing, and shipping perishable foods. To this end, PVF will offer to assist producer partners in several ways:

- Assist in the process of establishing and hosting a website and an e-commerce platform for representing their products.
- Provide a complete set of services for packaging, marketing, order fulfillment, and distribution to deliver online or subscription sales economically and with confidence such that first-time customers evolve into repeat customers.

These services will be fee-based, where the fees will recover incremental costs and generate a profit margin for the business.

It is equally crucial for producer partners who are succeeding with their own direct sales programs to know that they are being fairly treated and that their proprietary information is being held in strict confidence.

2.2. Competition

PVF will face competitors that fall into three distinct categories:

- Existing small to medium-sized facilities currently in operation
- New regional facilities that are in the process of development
- Processing outside of the region

2.2.1. Existing Regional Competition

Many of PVF's baseline customers are currently working with either T&E Meats, a federally inspected facility in Harrisonburg, or Gore's Processing, Inc., which operates Foltz Meat Processors, a federally inspected facility in Edinburg and a second state-inspected facility in Stephens City. The facilities combine to process approximately 150 head of cattle per week along with hogs, sheep and goats. T&E Meats is partially owned by a producer raising grass-fed beef. Both businesses highlight their local connections and relationship with farmers. Both offer further processing services and have associated retail operations. The facilities each employ between 15 and 25 people and their service is considered acceptable to the majority of potential PVF customers.

However, we believe that PVF will have the following advantages:

- All three facilities are small, aging, space-constrained and have limited cooler space. They have noted limitations as defined by producers or customers. PFV's facility will have substantially more cooler and freezer space and an expansion plan to grow capacity. It will be designed for efficiency, be modern and clean, and will create a positive impression with producers and customers.
- There is apparently excess demand for processing slots that these facilities cannot meet including an experience of 12-18 month wait times to obtain a slot. Numerous pork producers in the Shenandoah Valley would double their production but the slots are not available to them.
- Neither of the facilities have strong inventory management and reporting systems.
- None of the businesses are known to actively assist customers in developing an on-line sales and marketing capability.

Figure 3 - Gore's Processing Edinburg Facility

Figure 4 - Gore's Processing Stephens City Facility

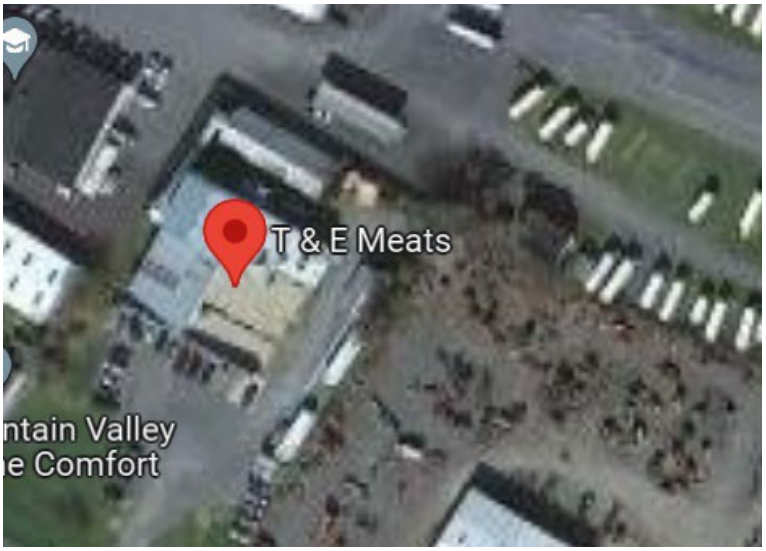

Figure 5 - T&E Meats Facility

The strategy for growing PVF will be to offer premium services at a similar or lower cost and to pursue a collective business approach that shares a portion of business profits with producers, employees and investors to enhance commitment to volume and quality production.

Seven Hills Foods is a substantially larger facility capable of receiving full trailer loads of livestock. It also represents itself as a producer-centric business.

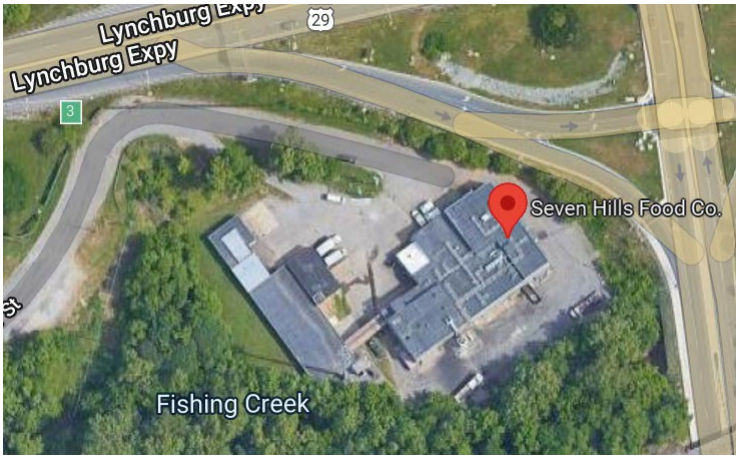

Figure 6 - Seven Hills Lynchburg Facility

We believe that Seven Hills presents more of an opportunity to attract their northern producer customers than it is a competitive threat.

2.2.2. Emerging Regional Processors

Page County is not alone in its efforts to develop a local processing facility to serve its local producers. We are aware of several other projects under consideration, all of which, to our best knowledge, are smaller. Those facilities will undoubtedly attract some local producers and will, in all likelihood, serve them well. We can also assume that they will be competing for the same pool of grant and loan assistance funds that we will be seeking ourselves.

A recent announcement (December 2022) has been released by Wholesome Foods of Edinburg indicating their plan to expand operations to include a USDA-inspected slaughter facility to serve their supply chain. The facility will involve a $1.2 million investment and will employ 12 people. It received an AFID grant as part of its financing of the project. Total headcount over three years is projected to be 750 beef cattle, making it a relatively small project (i.e., 250 head/year.)

Our strategy for competing with these businesses for livestock will be to demonstrate increased returns to producers combined with strong procurement agreements to assure loyalty and increase throughput. This will lead to word-of-mouth marketing. Additionally, we anticipate that our technology investments cannot be replicated or justified at a smaller scale. We also believe that partnering with an existing large-scale custom processing business could give us a variety of advantages in terms of operational costs, business practices, employee training and enrichment and sales that will not accrue to a smaller or stand-alone processor.

2.2.3. Processing Outside of the Region

The most significant opportunity and threat is to capture fat cattle that are being sold outside of the region or to work with producers to fatten cattle locally. Even among organizations and individuals where the answer should be clearly known, there is not a clear understanding as to why the cattle production business in Virginia, which is known for its abundant grasslands, has evolved such that a significant portion of the cattle are being finished outside of the state. Capitalizing on this opportunity cannot be a part of the PVF launch because it will take time to achieve. But working with local cooperatives or feed mills to increase the availability of feed in the region and to potentially include enhancements such as steam-flaking (which can significantly reduce time to market, feed costs and enteric methane emissions) should be an important part of the long-term PVF business strategy.

2.2.4. Cooperation

Another way to look at the existing smaller regional processors is to consider the possibility for co-operation. The fact is that if more cattle can be fattened locally, there will be plenty of business for everyone. Areas of cooperation could include training, supplies purchasing, collaboration on a small-scale rendering system and facility consolidation as well as increasing state legislature and university awareness of the growing industry within Virginia.

2.3. Availability of Livestock

For PVF to succeed, there must be enough cattle, hogs and sheep/goats compared with local processing capacity to sustain the facility. The data shown in Table 3 - Summary of USDA 2017 Census Data for nearby Virginia Counties provide useful planning information. Observations include the following:

- In 2017, there were in excess of 420,000 head of cattle being raised within a 75-mile radius of

Page County. Were all of those animals being fattened in-state, there would be more than enough to support the PVF facility and all of the other processing plants in Central Virginia. However, our understanding is that a substantial portion of the livestock are cow/calf operations and that there is limited finishing of cattle in the area.

- There are very few hogs being raised in the region. For hogs to develop into a significant amount of work for the facility, there would be a need for active development of breeders in the region.
- Sheep and goats could be a factor for filling processing capacity and an intentional development effort should be undertaken to work with producers to bring their livestock to the facility. Hair sheep in particular are the fastest growing herds in Virginia and with the growing diversity of our cities including Asia, Latin America, and the Middle East there is a strong market for this meat product.

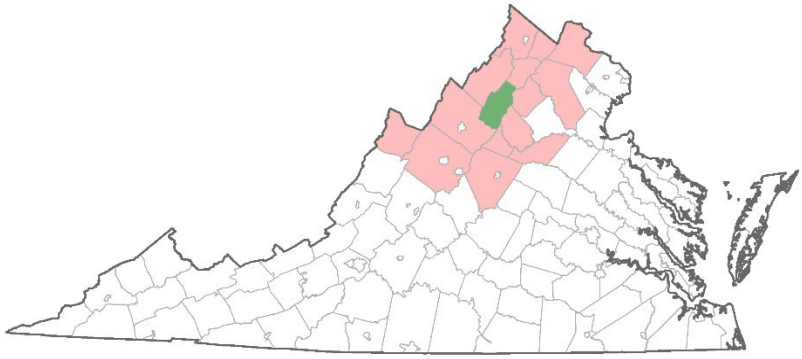

Figure 7 - Target counties surrounding Page County within 100-mile radius of plant site

Table 3 - Summary of USDA 2017 Census Data for nearby Virginia Counties

County	Head	Sales ($1,000)	% Direct to Consumer	Hogs	Sheep/Goats	Distance to Plant (miles)
Page	22,094	9,337	4%	521	1,373	15
Greene	7,143	2,368	3%	3	435	21
Albemarle	21,644	7,219	14%	224	2,627	43
Augusta	103,068	52,516	8%	1,480	10,054	41
Rockingham	111,162	45,788	7%	690	6,547	21
Frederick	16,884	5,848	12%	Not Reported	2,449	42
Warren	6,440	2,378	12%	133	426	42
Clark	623	5,782	7%	61	1,272	64
Fauquier	43,765	17,126	12%	563	3,080	62
Loudon	16,480	6,354	18%	919	4,262	71
Rappahanock	12,997	3,832	15%	41	1,154	40
Madison	26,369	13,595	9%	341	853	35
Highland	14,584	11,090	9%	-	2,898	75
Orange	23,938	9,589	5%	122	1,364	41
Shenandoah	35,102	15,866	8%	780	2,508	38
TOTAL	**462,293**	**208,688**	**10%**	**5,878**	**41,302**	

In the process of determining the appropriate size for the facility, we connected with the following resources and received valuable feedback on the size and nature of the opportunity:

- Virginia Farm Bureau – Brian Walsh, Grassroots Membership and Fundraising Coordinator for the state organization facilitated a meeting between Jeff Noland and a group of four large producers in the county. The group was supportive of the concept of building a producer-centric facility capable of offering premium processing and logistics services. In addition to organizing the producer group, Brian was very helpful in providing access to VAFAIRS reports by Matson Consulting, which analyzed the statewide meat processing capacity and economics. The study's conclusions were used in establishing the economic justification for a facility of at least 50 head per week.
- Virginia Cattleman's Association – Virginia Cattleman's Executive Director Brandon Reeves spoke with Jeff Noland and in addition to being supportive of the project, offered that the facility would likely benefit from processing culled dairy cattle into boned beef.
- Virginia Tech Extension agents in Page County and in 14 surrounding counties were contacted and most responded in a favorable way to the project. Several noted that projects were already under consideration in some of their counties, that hog production had declined significantly, and that processing sheep and goats would be a wise thing to do to absorb overhead and processing capacity. The agents provided additional resources including advice to use the USDA survey whose data is included in Table 3
- Conversations with individual farmers demonstrate willingness to bring cattle to the facility provided that it offers them the same financial opportunity as regional livestock auctions.
- Several members of our agricultural steering committee are also producers who are primarily marketing their own beef. The members have been instrumental in validating inputs into the financial model and supporting the conclusion that there are plenty of animals that would be brought to a facility that offers a competent, premium service at competitive prices.

PVF's strategy for ensuring that it has adequate custom processing volume is as follows:

- Develop agreements with Page Valley and other local producers to bring a quantity of cattle to

the facility to support a phased ramp up schedule. Excel in the processing of those cattle to give the local producers confidence in PVF.

- Develop a storage, sales and marketing and distribution business model to demonstrate directly to producers how they can directly benefit from processing their livestock at PVF.
- Work these foundational producers to network with other producers that they believe will benefit from what PVF has to offer and gradually increase processing volume by widening the circle of producer-partners.
- Develop a marketing campaign to reach out directly to targeted producers.
- Implement a strategy to gradually increase the number of cattle that are being fattened locally and establish an infrastructure to ensure that the majority of these cattle are available to PVF.

2.4. Human Resources

Managing and staffing the PVF facility is a key challenge to succeeding with the business development. Work is highly technical and requires unique skill and experience. The general staffing strategy is as follows:

- During Phase 2 we will need to identify a General Manager capable of managing operations and performing all tasks required at the site. PVF has identified a number of potential candidates to fill the position. The ideal individual will be supported as follows:
    - Augment existing skills with hands-on training at a potential partner facility and establish a sustainable consultative relationship including on-going remote training and problem resolution as PVF comes on-line.
    - Incentivize the General Manager with participation in profit sharing at the facility.
    - Have the General Manager be focused entirely on operations and customer service and allocate the business development function to ownership or other stakeholders.
    - Identify a second high-potential individual to act as the Assistant General Manager who can stand in for the General Manager as needed and to eventually replace the General Manager when the need arises.
- The General Manager will be responsible for staffing the facility with a team of between 15 (the team leaders who will be present at the start) and 35 (the projected staff level at 100 head/week) persons in the following positions:
    - Butcher – Stun, kill, skin, eviscerate, collect edible offal, separate and collect blood and inedible offal, split and wash carcasses.
    - Fabricator – Cut up carcasses according to specific cut sheets. Track and label cuts from specific carcasses. Interact with inventory management for carcasses and finished cuts.
    - Packager – Operate vacuum packaging equipment. Wrap individual cuts of meat as per processing instructions.
    - Further Processor – Operate smokehouse. Execute recipes according to work orders and work instructions.
    - Maintenance – Receive training from vendors and other training resources. Develop preventive maintenance program for the facility. Perform preventive and reactive maintenance tasks according to work instructions. Maintain spare parts inventory.
    - Inventory and Logistics Manager – Receive and maintain livestock prior to processing. Manage weighing of carcasses prior to chilling. Manage carcass inventory. Inspect and record inventory prior to freezer or fresh meat delivery. Manage shipping process. Manage work in process inventory tracking and reporting.

- Sanitation and Food Safety – Develop and maintain sanitation procedures for the facility. Coordinate the transport of waste from the facility including wastewater and material for rendering. Execute or oversee the execution of sanitation procedures for the facility.
- Administrative – Maintain records. Handling communications coming into and out of the facility.

The business plan anticipates an average compensation per employee of $59,393 per year including salary, bonuses, and benefits. PVF will plan to offer health insurance and retirement savings plans to full-time employees and a more limited benefits package to any persons working on a part-time basis.

PVF plans to collaborate with local technical education facilities including Page County Technical Center and Laurel Ridge Community College to identify candidates for employment at the facility and to develop specific programs for teaching the basic skills needed to succeed in the positions.

2.5. Capital Budget and Financing Plan

The budget for the project the project is broken down into three phases with Phase 1 being this Feasibility Assessment:

- Phase 2 - Design and Development including Legal Definitions and Organizational Structure
- Phase 3 - Construction and Commissioning
- Phase 4 – Production Initiation and Ramp-up

2.5.1. Phase 2 - Design and Development Phase Budget

Once financing is in place to fund it, the project will commence a design and development phase with the following tasks and objectives:

- Develop a legal and business document to engage partners and investors
- Conduct due diligence and establish an option to purchase the preferred site
- Determine interest and if appropriate, execute working agreement with an experienced business partner upon which the design and business plan is based in this study.
    - Adapt the design of the representative facility to meet our specific location and business requirements. Alternatively, engage a local experienced engineering team to assess time and cost to design a new facility from the ground up.
- Complete preliminary civil engineering activities associated with siting the facility on the land and determine steps that confirm necessary approvals. This will include confirming the ability to source water from the well located on the facility and to process wastewater as defined by environmental quality and cost.
- Develop cost structure and executable agreement for offtake of wastewater and the inedible solid waste.
- Develop supply agreements with enough producers to establish a minimum level of production needed to make the facility viable.
- Reach out to target customers to discuss the PVF quality plan and develop requirements of the facility to meet the needs of those customers.
- Develop all required environmental and construction permits needed to begin construction.
- Develop a complete project implementation plan (task list and schedule)

The budget for completing this phase is $300,000.

We anticipate that these tasks will be completed within a six-month period.

Additionally, during this phase of work, an investment memorandum/prospectus will be developed, and a capital campaign undertaken to obtain the financing needed to complete the project.

2.5.2. Phase 3 - Construction and Commissioning Phase

Once the design and development phase are completed, the financial assumptions are verified and a go forward decision is made, a construction and commissioning phase will be undertaken to complete and activate the business.

The construction and commissioning phase budget includes the following factors and is shown in Table 4:

- Land Acquisition – Acquire adequate land for the possibility of multiple expansions of the processing plant and or other food related production functions as well as animal holding pens in a priority site. Pay fees associated with the acquisition and make initial property tax payments on the property during construction and prior to the start of operations.
- Site Preparation – The general contractor will execute the design plan according to permit requirements. This will include grading, compaction, building a foundation, excavating and installing underground tanks, creating roadways and pour foundational concrete for pads and building piers.
- Design Application Fee – The design application fee is an estimate of the funds required to complete a detailed design for the facility. The design may be evolved from a representative facility or be an entirely new facility. The facility design must be largely agreed upon prior to getting bids for construction and site preparation services.
- Construction and Acquisition – The major cost is the construction of the building and the acquisition of infrastructure/ equipment including components cooling systems, electrical equipment, rail systems, fixtures and other processing equipment that is physically attached to the building. We believe the escalated cost is a fair estimation to construct and outfit the PVF facility.
- Process Equipment – The balance of plant equipment is a combination of tables, containers, cooking equipment, packaging equipment and other similar items needed to facilitate production. This line item covers the acquisition of this equipment.
- Talent Development – Key personnel will be hired at the facility during the construction phase and will participate in the process of developing procedures, hiring staff, overseeing equipment installation, and commissioning systems.
- Information Systems, ID and Advanced Process Technology – The budget will also include a provision for purchasing and implementing technologies that will differentiate the PFV facility and allow it to develop business that relies on quality and precision in order to be sustained. The information systems platform includes a system such as Microsoft Dynamics that can be cloud-deployed and adapted to our needs. ID technology will be used in conjunction with this business system to track livestock, carcasses, work-in-progress and finished goods with precision. Advanced Process Technology includes a system such as an X-ray/Imaging system that allows carcasses to be inspected and qualified for certain sales situations prior to or at the time of delivery.
- Operating Expense – As the facility is completed and commissioning begins, utilities will be incurred and disposable or “expense” items such as knives and sanitation disposals will be consumed.

Table 4 - Construction and Commissioning Phases Budget Items

Item/Task	Cost
Land Acquisition	$ 360,000.00
Site Preparation	$ 100,000.00
Application of Design and Process	$ 130,800.00
Construction and Acquisition of Facility	$ 6,200,000.00
Process Equipment not included with Facility	$ 375,000.00
Information Systems, ID and Advance Process Technologies	$ 185,000.00
Talent Development prior to operations	$ 143,333.33
Operating Expense prior to operations	$ 200,000.00
TOTAL	**$ 7,694,133.33**

The Construction and Commissioning phase is anticipated to take 14 months to complete.

Notes:

- The Construction and Commissioning budget includes a provision for establishing a limited over-the-counter retail capability and the acquisition or subcontracting of delivery vehicles for supporting local and regional product distribution and logistics.

- The cost- of-living index between Luray, VA and the area where the representative facility is located are roughly equivalent with both being located in small towns within a 2-hour's drive from a major metropolitan center. So, it is reasonable to use the appraised value of the comparable facility as a cost to construct the PVF facility.

- At the present time, costs for completing any major construction or technical project are elevated due to higher-than-normal costs and delayed availability of construction material and facility equipment as compared to historical information. As the project moves forward there is an opportunity to refine budgets and activate value engineering to maximize the investment of all parties.

2.5.3. Phase 4 – Production Initiation and Ramp-up

Once the facility begins processing cattle, work will proceed deliberately while employees are trained, and systems are debugged. During this time, there will be negative cash flow, as the facility will have full staffing while revenues gradually increase. The ramp up period is expected to proceed as follows:

- Month 1 – 10 head/week
- Month 2 – 25 head/week
- Month 3 – 35 head/week
- Months 4 to 12 – 50 head/week

For the first quarter of operation, the facility will experience negative cash flow that has to be financed out of working capital. This budget is shown in Table 5 below:

Table 5 - Ramp up cash requirements

Production Rate	Period	Cash Flow
10	Weeks 1-4	$ (52,130.67)
25	Weeks 5-8	$ (19,275.93)
35	Weeks 9-12	$ (2,627.23)
	TOTAL	**$ (74,033.83)**

2.5.4. Calculation of Working Capital

Working Capital is defined as the difference between current assets and current liabilities. The calculation is made as follows for the purpose of establishing financing requirements:

- Two months of facility expenses at full employment: $416,106.80.
- Provision of $150,000 for financing the trade accounts payable.

The total working capital requirement for budget purposes is $566,106.80.

2.5.5. Summary of Financing Requirements

The result of the funds required to complete the phases of the project is shown in Table 6 below.

Table 6 - Project Financing Requirements

Factor	Amount
Design and Development	$ 300,000
Construction and Commissioning	$ 7,694,133
Ramp Up	$ 74,034
Working Capital	$ 566,107
TOTAL	**$ 8,634,274**

2.6. Forecast of Financial Results

The following sections provide the basis for the forecasting of financial results at the facility.

2.6.1. Revenue and Cost of Goods Sold

The factors shown in Table 7 below are used in calculating revenue in areas other than further processing.

Table 7 - Facility Primary Processing Revenue Factors

Factor	FY2024	FY2025	FY2026	FY2027	FY2028
Total Head Processed	50	55	60	65	70
% Purchased for Resale	5%	10%	10%	10%	10%
Processing Only	47.5	49.5	54	58.5	63
Process Only Harvest Fee/Head	$ 100.00	$ 100.00	$ 100.00	$ 100.00	$ 100.00
Custom Processing Fee/pound	$ 1.05	$ 1.05	$ 1.05	$ 1.05	$ 1.05
Live Weight	1,450.00	1,450.00	1,450.00	1,450.00	1,450.00
Live Cost/Pound	$ 1.60	$ 1.60	$ 1.60	$ 1.60	$ 1.60
Whole Carcass Yield (Dressing %)	60%	60%	60%	60%	60%
Carcass Weight	870.00	870.00	870.00	870.00	870.00
Carcass Yield (Retail Yield)	46.61%	46.61%	46.61%	46.61%	46.61%
% Primal	50%	50%	50%	50%	50%
Primal Average $/Pound	$ 10.00	$ 10.00	$ 10.00	$ 10.00	$ 10.00
% Ground Beef	50%	50%	50%	50%	50%
% Ground External Purchase	25%	50%	50%	50%	50%
$/pound External Beef	$ 2.25	$ 2.25	$ 2.25	$ 2.25	$ 2.25
Gnd Beef Revenue Avg $/Pound	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00
Revenue Accelerator	100%	103%	103%	103%	103%
Cost Accelerator	100%	103%	103%	103%	103%

Notes on the revenue factors:

- Total Head Processed – the total number of cattle processed at the facility (not including culled dairy cattle) on a weekly basis with annualization multiplying the factor by 52.
- % Purchased for Resale – Purchasing cattle from local producers whose current business is to settle at livestock exchanges. It calculates the number of cattle purchased each week as a percentage of the total processed.
- Process Only Harvest Fee/Head – The amount charged per head for harvesting a beef and producing a chilled carcass without aging.
- Custom Processing Fee/Pound – The amount charged per pound of carcass hot weight for aging, cutting, wrapping, and storing meat according to an agreed-upon cut sheet.
- Live Weight – The average live weight of a purchased beef.
- Live Cost/Pound – The price paid per pound of live weight for those cattle being purchased, processed and sold by the business.
- Whole Carcass Yield – The hot weight of the carcass divided by the live weight of the animal
- Carcass Weight – The hot live weight multiplied by the whole carcass yield (prior to chilling and aging)
- Carcass Yield – The amount of finished meat after processing divided by the carcass weight.
- % Primal – Portion of the finished meat sold as primal cuts
- Primary Average $/Pound – Average price of a pound of primal cut
- % Ground Beef – % of meat ground for ground beef
- % Ground External Purchase – Amount of finished ground beef sales that are purchased from outside of the facility or coming from culled cattle processed at the facility
- $/pound External Beef – Amount/pound paid for boned beef from outside of the facility that is destined for grinding (including fat)
- Revenue Accelerator – Multiplier for increasing revenue year-to-year.
- Cost Accelerator – Multiplier for increasing costs year-to-year.

The revenue forecast for primary processing activity for the initial 5-year period based on the inputs shown in Table 7 is shown in Table 8 below.

Table 8 - Summary of Primary Processing Revenue

Primary Processing Revenue	FY2024	FY2025	FY2026	FY2027	FY2028
Basic Processing	$ 2,503,345.00	$ 2,616,471.00	$ 2,854,332.00	$ 3,092,193.00	$ 3,330,054.00
Meat Sales	$ 362,419.94	$ 840,814.25	$ 917,251.91	$ 993,689.57	$ 1,070,127.23
TOTAL Primary Processing Revenue	**$ 2,865,764.94**	**$ 3,457,285.25**	**$ 3,771,583.91**	**$ 4,085,882.57**	**$ 4,400,181.23**

2.6.2. Further Processing

PVF will have a further processing facility with a kitchen and smokehouse needed to add value to meat cuts including:

- Snack Sticks
- Jerky
- Bologna

- Hot Dogs
- Summer Sausage
- Chipped Beef
- Pet Treats

The analysis places a minor emphasis on the financial impact of further processing. However, conversations with the potential partner facility and the general understanding of the producer group indicate that further processing is a profitable business with significant upside potential.

Factors used in producing values for sales and costs of further processed products are shown in Table 9 and Table 10 below. These are a placeholder for actual values that will be developed during the design phase of the project.

Table 9 - Definition, Sales and Cost Components in Further Processing

Further Processing Costs	Snack Sticks	Jerky	Bologna	Hot Dogs	Summer Sausage	Chipped Beef	Pet Treats
Sales Unit Size (pounds)	0.25	0.25	0.5	0.5	1	0.5	0.5
Net Processing Shrinkage (%)	105%	105%	105%	105%	105%	105%	105%
Beef $/pound	$ 3.00	$ 3.00	$ 3.00	$ 2.00	$ 3.00	$ 3.00	$ 1.00
Labor $/package	$ 0.40	$ 0.40	$ 0.25	$ 0.25	$ 0.40	$ 0.40	$ 0.10
Labor $/lb	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50
$ Ingredients/unit	0	0	0	0	0	0	0
$ Ingredients/pound	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25
$ Packaging/unit	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10
$ Packaging/pound	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25
Other Variable $/pound	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ 0.01
Other Variable $ /package	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05
Total Incremental Unit Cost (External)	$ 1.52	$ 1.52	$ 2.33	$ 1.86	$ 4.42	$ 2.48	$ 1.23
Total Incremental Unit Cost (Processing)	$ 0.80	$ 0.80	$ 0.91	$ 0.91	$ 1.56	$ 1.06	$ 0.76
Revenue/Sales Unit (External)	$ 4.00	$ 6.00	$ 5.00	$ 5.00	$ 10.00	$ 4.50	$ 3.00
Gross Margin External	62.08%	74.72%	53.33%	62.85%	55.83%	44.81%	58.96%
Gross Margin Further Proc Only	25%	25%	25%	25%	25%	25%	25%
Revenue/Sales Unit Internal	$ 1.00	$ 1.00	$ 1.13	$ 1.13	$ 1.95	$ 1.32	$ 0.94

Table 10 - Unit Sales per Product per Year

Unit Sales	FY2024	FY2025	FY2026	FY2027	FY2028
Snack Sticks	1,000	1,150	1,323	1,521	1,749
Jerky	1,000	1,150	1,323	1,521	1,749
Bologna	500	575	661	760	875
Hot Dogs	500	575	661	760	875
Summer Sausage	500	575	661	760	875
Chipped Beef	500	575	661	760	875
Pet Treats	1,000	1,150	1,323	1,521	1,749
Portion Internal	25%	25%	25%	25%	25%
Portion External	75%	75%	75%	75%	75%

Sales for further processing are calculated as external (sales to consumers from the facility) and internal

(cost plus profit margin for custom processing) in Table 11 below.

Table 11 - Annualized Further Processing Revenue

Further Processing Revenue	FY2024	FY2025	FY2026	FY2027	FY2028
Processing Revenue	$ 1,428.91	$ 1,643.24	$ 1,889.73	$ 2,173.19	$ 2,499.17
Product Sales	$ 18,937.50	$ 21,778.13	$ 27,524.53	$ 28,516.41	$ 31,810.05
TOTAL Further Processing Revenue	**$ 20,366.41**	**$ 23,421.37**	**$ 29,414.26**	**$ 30,689.59**	**$ 34,309.22**

2.6.3. Cost of Goods Sold

Cost of goods sold are direct costs for purchasing cattle or material used in the bill of material for packages of meat and further processed products. Gross margin is revenue minus cost of goods sold.

Procurement is payments for live cattle purchased and for additional boned beef purchased for making ground beef for resale.

Processing supplies include packaging materials, including wrapping paper, plastic bags for vacuum sealing, case boxes and combos. Knives, personal protective gear and other equipment with an economic life of less than one year are included in this category.

Table 12 - Calculation of Cost of Goods Sold and Gross Margin

Cost of Good Sold	**FY2024**	**FY2025**	**FY2026**	**FY2027**	**FY2028**
Procurement	$ 320,354.84	$ 733,273.45	$ 800,201.63	$ 867,231.47	$ 934,378.21
Processing Supplies	$ 218,872.74	$ 240,760.01	$ 262,647.29	$ 284,534.56	$ 306,421.83
Total Cost of Good Sold	**$ 539,227.58**	**$ 974,033.46**	**$ 1,062,848.92**	**$ 1,151,766.03**	**$ 1,240,800.04**
Gross Margin	$ 2,346,903.76	$ 2,506,673.16	$ 2,738,149.25	$ 2,964,806.14	$ 3,193,690.41
Gross Margin %	81.32%	72.02%	72.04%	72.02%	72.02%

2.6.4. Other Expenses

Other expenses include labor, rent and a combination of variable and fixed expenses. Rent has been discussed in section 2.7.2 Rent Calculation.

2.6.4.1. Payroll

Payroll is the largest expense item for the facility, as it is a labor-intensive business. Headcount projections are shown in Table 13 below. Headcount per function is derived from staffing levels from the representative facility.

Table 13 - Forecasted Staff Levels and Labor Cost

	2024	**2025**	**2026**	**2027**	**2028**
Head/week	50	55	60	65	70
GM	1	1	1	1	1
Admin HC	2	2	2	2	2
Harvest	2	3	3	3	3
Processing	7	8	9	10	11
Logistics	2	2	2	2	2
Total Staff	14	16	17	18	19
Avg Salary	$ 61,285.71	$ 60,125.00	$ 59,647.06	$ 59,222.22	$ 58,842.11

Salary costs are computed as follows:

- A General Manager making a base salary of $80,000/year with a total cost including benefits of $104,000.
- Three functional leaders making a base salary of $60,000/year a total cost including benefits of

$234,000.

- The balance of employees making $20/hour for 2,080 hours/year plus benefits at a burden rate of 130%.

In addition to their base pay, the vision for the business is that it will incentivize employees by allocating a share of profits to the operations team.

2.6.4.2. Variable Expenses

Variable expenses include waste treatment, health care costs, payroll taxes, sanitation and other expense categories that will vary with production volume.

2.6.4.3. Fixed Expenses

Fixed expenses include insurance, advertising, property taxes, office expenses and other items that do not vary with the production rate.

2.6.5. Annualized Financial Forecast

The summary of the sections on revenue and expense is the overall financial forecast for the system, which is shown in Table 14 - PVF Forecast for EBITDA. EBITDA is an acronym standing for earnings before interest, taxes, depreciation and amortization and is considered a simple method of determine free cash flow in an economic analysis.

Table 14 - PVF Forecast for EBITDA

	FY2024	FY2025	FY2026	FY2027	FY2028
Revenue					
Basic Processing	$ 2,503,345.00	$ 2,616,471.00	$ 2,854,332.00	$ 3,092,193.00	$ 3,330,054.00
Meat Sales	$ 362,419.94	$ 840,814.25	$ 917,251.91	$ 993,689.57	$ 1,070,127.23
Further Processing	$ 20,366.41	$ 23,421.37	$ 29,414.26	$ 30,689.59	$ 34,309.22
Total Revenue	**$ 2,886,131.34**	**$ 3,480,706.62**	**$ 3,800,998.17**	**$ 4,116,572.17**	**$ 4,434,490.45**
Expenses					
Cost of Good Sold					
Procurement	320,354.84	733,273.45	800,201.63	867,231.47	934,378.21
Processing Supplies	218,872.74	240,760.01	262,647.29	284,534.56	306,421.83
Total Cost of Good Sold	**539,227.58**	**974,033.46**	**1,062,848.92**	**1,151,766.03**	**1,240,800.04**
Other Expenses					
Rent	$ 520,900.78	$ 520,900.78	$ 520,900.78	$ 520,900.78	$ 520,900.78
Total Payroll	$ 878,800.00	$ 986,960.00	$ 1,041,040.00	$ 1,095,120.00	$ 1,149,200.00
Variable Costs	$ 387,408.21	$ 395,257.87	$ 402,408.44	$ 416,958.91	$ 431,617.47
Fixed Costs	$ 343,100.00	$ 353,393.00	$ 353,393.00	$ 353,393.00	$ 353,393.00
Tota, Other Expenses	$ 2,130,208.99	$ 2,256,511.65	$ 2,317,742.22	$ 2,386,372.69	$ 2,455,111.25
Total OPEX	**$ 2,669,436.57**	**$ 3,230,545.11**	**$ 3,380,591.14**	**$ 3,538,138.73**	**$ 3,695,911.30**
EBITDA	**$ 216,694.77**	**$ 250,161.51**	**$ 420,407.03**	**$ 578,433.44**	**$ 738,579.15**

For further analysis of marginal costs, Table 15 - Analysis of Variable Costs provides a breakdown of labor, processing supplies and other variable costs on a per pound basis as measured on finished product weight.

Table 15 - Analysis of Variable Costs

	FY2024	FY2025	FY2026	FY2027	FY2028
Weight of Meat Produced	1,186,101.61	1,449,679.75	1,581,468.82	1,713,257.89	1,845,046.95
Labor Cost Per Pound	$ 0.74091	$ 0.68081	$ 0.65827	$ 0.63920	$ 0.62286
Processing Supplies Per Pound	$ 0.18453	$ 0.16608	$ 0.16608	$ 0.16608	$ 0.16608
Variable Costs Per Pound	$ 0.32662	$ 0.27265	$ 0.25445	$ 0.24337	$ 0.23393

2.6.6. Breakeven Analysis

The chart shown in Figure 8 provides an indication of how volume processed at the facility impacts profitability. The breakeven point for the facility is 31.7 head per week, assuming that the rent paid to the PVF Real Estate investors covers mortgage costs only.

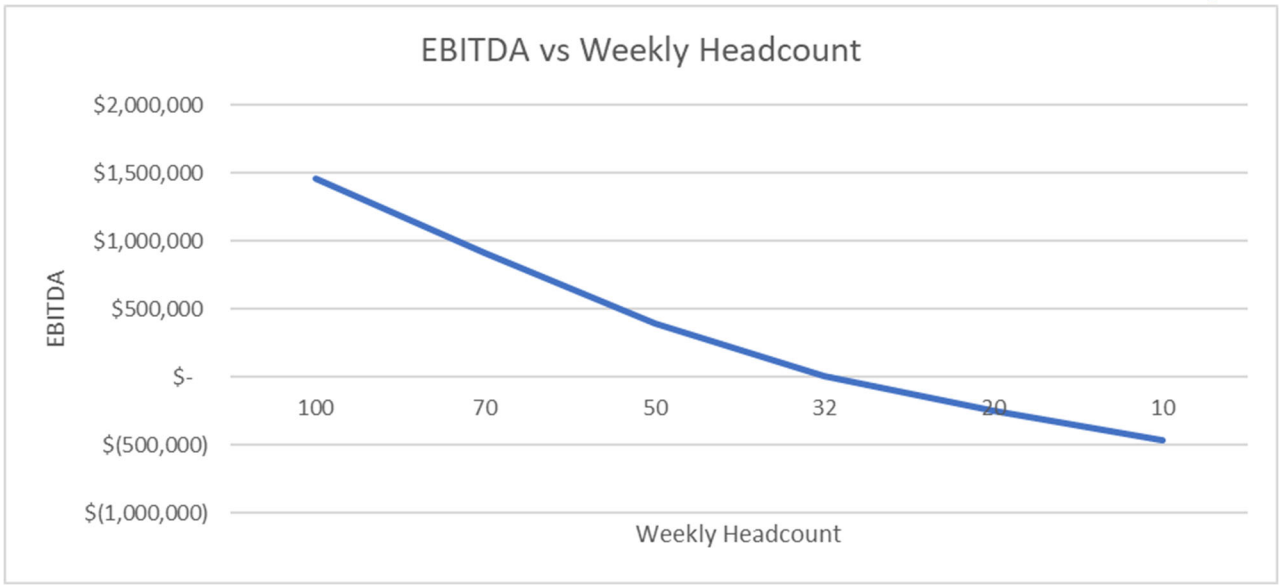

Figure 8 - Breakeven Analysis

2.7. Capital Budget and Project Financing

Financial analysis has been completed for a 5-year period beginning during calendar year 2024. We believe that PVF can be financially viable under several operating scenarios. Initial analysis is primarily undertaken in the simplest and least lucrative business model, which is to work primarily as a custom processor. However, the facility plans to begin purchasing and processing cattle and selling meat in the first year at a low rate of 5% of total headcount and increase that to 10% through the 5-year planning horizon to support producers who do not market their own meat, to begin the process of developing retail markets as part of a long-term strategy and to capitalize on short-term opportunities as they arise.

Essentially, the business development plan is for the following to take place:

- A group of investors/ producer investors, using public grants, low and no interest loans and private equity will construct and define ownership and operation of a processing facility. The intention will be for the entity owning the facility to form a public/private partnership (P3)/ cooperative potentially with Page County or some other public entity such that the facility will be operated in part for the good of the county and in part for a financial return to investors. For purposes of the feasibility analysis, the initial approach to doing this is to structure a rent payment between the investor group and an operator group such that the investors receive a minimum set return on their investment commensurate with risk and long-term market returns. This is the model used at the representative facility from which our financial analysis if derived.
- Financial analysis is based on beginning processing in the first year of operation at a rate of 40-50 head per week and slowly ramp total production to 70 head per week over a 5-year period. The primary business of the facility will be as a custom processor of beef cattle. For this analysis, there is no gross profit included for processing hogs, sheep or goats, although it is likely that this will be done at some point within the first five years of operation, both as a community service and as a way to use capacity and absorb overhead.
- Once basic operations are established and the facility is satisfying its producer customers, the business will begin to execute a marketing, sales, and distribution strategy. That strategy will include any or all of the following:
    - Aggregate product from producer customers and selling in support of local producers who want to sell individual farm branded product through farmers markets, regional grocers and restaurants, and direct to consumers. Use the capacity of the overall facility and network to capture business that would be unavailable to individual producers.
    - Establish a quality standard and perhaps other criteria to develop a Page Valley branded beef product that can be identified by regional and national consumers. Work closely with premium food service channel partners, chefs and others to understand how to create products that they and their customers are looking for. Then, make wise investments to capture markets we want to participate in. Begin selling the premium product under that designation and attempt to further build that brand.
    - Add-on a food hub to produce meat and other finished food products targeted for sale to scaled prices points to meet local and higher-end customer needs. Seek to position

local food products into national feeding programs such as WIC, SNAP, schools, prisons and other institutional settings.

- Obtain organic/ regeneratively grown certification for the facility and work with selected producers to raise and sell cattle that can be certified as USDA Organic and/or GMO or antibiotic-free. Seek to maximize the humane treatment of animals at the facility and at producer farms by working with recognized authorities in this space. Seek also to be known for environmental stewardship in regional water quality and in reducing the climate footprint of beef production and processing. This combination of things will ultimately lead to high profit margins and will strengthen any brand messaging we attempt to put forward.
- Work with a national or regional retailer looking for strong local producers. Whole Foods Markets is an example, but there are others such as MOM's organic market, Sprouts and Wegman's that have similar programs.

The PVF business concept can position itself at the intersection of several important trends: local production, environmental awareness, and humane treatment of animals, leading to significantly higher profits above basic processing services.

2.7.1. Financing Plan

The financing plan for the business is anticipated to include three components as shown in Table 16 below.

Table 16 - Project Financing Structure

Component	Amount	% of Total
Grants	$ 1,726,855	20%
Loans	$ 5,180,564	60%
Equity	$ 1,726,855	20%
TOTAL	**$ 8,634,274**	

The following is a discussion of the three financing components.

2.7.1.1. Grants

PVF anticipates that it will be able to attract USDA grant funding in the Meat and Poultry Processing Expansion Program Phase II or III round. The grant program is anticipated to fund 20% of the total project budget. We believe that the grant can be won because the project meets all of the major decision criteria:

- Expansion of processing capacity
- Empowerment of producers and increasing producer profitability
- Strong community involvement
- Embracing of "climate smart" production practices

Grants, together with loan guarantees, are the "Public" portion of the public-private partnership. We will be required to establish performance metrics that show the public benefit and overall business viability and to report on progress toward those metrics on a quarterly basis for a period of time following the initiation of the business.

In addition to the federal grant, PVF intends to pursue a grant to assist in financing the project design phase from the Virginia Agriculture and Forestry Industries Development (AFID) fund of up to $500,000. Financing requirements will be adjusted to account for this and any other additional grants that are obtained to assist in project development and financing.

2.7.1.2. Loan Programs

In addition to grants, USDA is offering loan guarantees for selected projects. For the same reasons given above as to the project attributes alignment with objectives, PVF anticipates that we will be able to obtain loans for 60% of project capital requirements from local, state and federal sources.

2.7.1.3. Equity

Finally, the "Private" portion of the project will be funded by producers and other local and outside investors. Producers should be given first priority and represent a minimum of 50% of the equity total.

2.7.2. Rent Calculation

For the purposes of determine and recovering the cost of building the facility, rent is calculated to be the cost of capital as a mortgage payment plus the cost of equity used to security a loan.

The rent calculation included in the project budget is shown in Table 17 and Table 18 below .

Table 17 - Rent Calculation Factors

Factor	Value	Units
Term	20	Years
Rate	3%	
Return	10%	

Table 18 - Rent Calculation – Annual Amount

Loan Payment	$	348,215.30
Equity ROI	$	172,685.48
Total	$	520,900.78

3. Page Valley Development

The project is being undertaken in conjunction with the Page County Economic Development Authority (Page EDA) whose primary interest is the growth of business activity within the county. Page EDA is authorized by the county Board of Supervisors which is a group of five elected supervisors (elected from each of five county electoral districts) a Board Chairman who is elected at-large, and each of the three towns. The mission statement of the Board of Supervisors is: "To provide our citizens and businesses with a superior quality of life by delivering county services and programs in a fiscally prudent and responsible manner."

Page Valley is a slightly larger area than the county and includes a portion of southern Warren County to the north of Page County.

At the outset of the feasibility the following general initiatives were introduced and will be a part of the development phase of the project and the on-going operation of the facility.

- Establishing a reliable brand to represent the valley's products, including a portion of the meat processed at PVF
- Development of Page Valley as a food tourism destination
- Support of efforts to decrease food insecurity within the county

Page Valley is a natural place for people to want to live in and visit. It is a beautiful, rural landscape bisected by the South Fork of the Shenandoah River and surrounded by mountains. The Luray Caverns and nearby Shenandoah National Park draw over a million visitors to the area each year. Luray and other towns within the county are wonderful, quaint places that provide a respite from the hustle and bustle of city life just 2 hours away in Washington, D.C. So, it is reasonable that the PVF project can entice larger numbers of visitors to spend more time in the county and to make it a better place to call home.

Figure 9 - South Fork of the Shenandoah River

Figure 10 - Page Valley surrounded by Shenandoah National Park and the Massanutten Mountains

3.1. "Page Valley" Brand

An effort has been previously undertaken to identify products grown or raised within the as "Page Valley Grown." As development is undertaken at PVF and the business grows and stabilizes, there is likely to be an effort to either enhance and bring more meaning to "Page Valley Grown" or to develop a new and distinct brand designation. Several things will be important and need to be acknowledged in doing this:

- The relationship with producers and maintaining their willingness to bring cattle and other livestock to the facility is the key to its success. So, the development of any "facility brand" and its marketing should not interfere with existing brands or marketing plans that are in place with individual producers.
- The vision for the brand will be that it will have criteria for participation. Those criteria have yet to be developed but could include a formal quality designation (i.e., USDA Choice or USDA Prime), an organic designation, a genetics or breed designation (i.e., Angus, Hereford, Wagyu certified), a non-GMO and antibiotic-free designation and/or a Global Animal Partnership designation.
- The primary purpose of the brand will be to do things together that individuals cannot do on their own, this being a statement primarily about volume and consistency of supply.

Brand development would be funded out of retained earnings at the facility or through other funds contributed to the program by participants or others.

3.2. Food-focused Tourism

Several small towns in the general area of Shenandoah National Park have established themselves of culinary destinations. Washington, Virginia is one example of a town that draws significant tourist traffic due to its fine eating establishments. Producing meat alone is not going to allow Page Country to do this. But, with a successful brand or reputation at PVF or a concerted effort to attract meat-centric businesses such as barbeques or barbeque contests (i.e., using meat grown with the county), drawing more people into the region for eating and staying to eat is most likely made easier.

4. Economic Analysis

4.1. Impact on Regional Economy

PVF will have the following impact on the regional economy:

- Create between 15 and 35 full-time, skilled jobs with an average salary and benefits package in the range of $60,000 per year.
- Engage engineering and construction resources from within the county and region to assist with design, construction and maintenance of the facility.
- Provide regional producers with a reliable partner to process their cattle, hogs and other livestock, leading to an increase in agricultural activity.
- Raise the regional tax base through taxes on PVF profits and by raising the income of regional producers.
- Provide an impetus for a food-based tourism program.

4.2. Impact Regional and National Market

As part of its long-term objectives, PVF will have an impact on regional and national markets as follows:

- An important strategic aspect of the PVF project is to increase the number of cattle that are being fattened in Virginia and not being sent for finishing the Midwest. Succeeding at this should lead us to the following:
    - Increased profits for Virginia producers
    - Greater geographic diversity for processing
    - An improved environmental footprint with decreased transportation costs.

- Using a proven design from an existing custom processing business and developing a business arrangement that provides a combination of consulting and intellectual property will allow PVF to avoid some risks associated with starting a new business. This model can be used by other firms around the country to lead to greater supply chain diversity.

4.3. Impact on Producers

PVF will be a collaborative effort between producers and investors where producers have input into the services and priorities of the processing plant. Additionally, PVF will seek to promote a larger percentage of direct-to-consumer sales by providing market services and assisting producers with improved order fulfillment logistics. The development of a successful branded product and the sale of products for higher margins will increase producer profits.

4.4. Impact on Consumers

PVF will help regional consumers across a broad spectrum:

- For consumers seeking a premium product, PVF and its producer partners will deliver a better product more consistently and on a larger scale.
- For mid-range consumers, PVF can assist producers in aggregating supply to bring branded and generic products to larger retailers and foodservice firms.
- For value consumers, PVF can work local food hubs and producers to process livestock and develop products that people can more readily afford.

4.5. Impact on Suppliers

PVF will work with local suppliers of products and services whenever possible to further build the Page Valley and greater regional economy.

5. Management and Staffing Plan

5.1. Legal Structure of the Business

The PVF business model has several potential legal structures. Ultimately, the model that best meets the combined objectives of investors, producers, the Page County administrators and elected officers will be the one that is chosen. The structure will be determined at the outset of Phase 2.

5.2. Management and Oversight

A Board of Directors is likely to consist of Producer Partners, investors and government leaders. This Board will hire and retain the General Manager and oversee business development activities.

5.3. Staffing and Training/Employee Development Plan

PVF, Inc. intends to employ between 15 and 35 persons in several job classifications. The leadership team for the facility will consist of a General Manager and four functional managers as shown in Figure 11. As the business is starting up, it will be important for the General Manager and functional managers to each be willing and able to do any job in the facility.

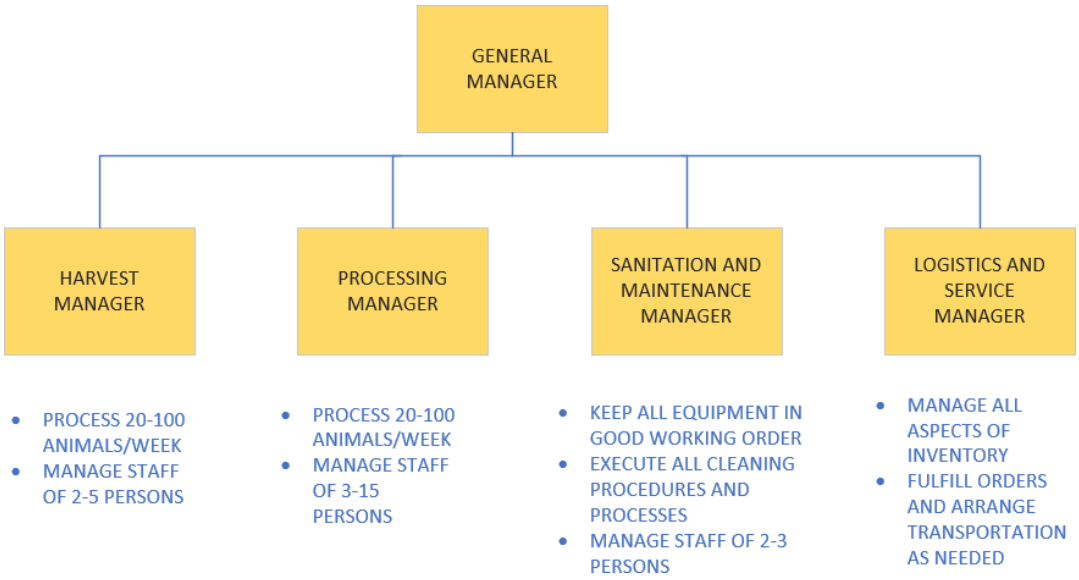

Figure 11 - PVF, Inc. Organization Chart

5.4. Food Safety Plan

PVF, Inc. will be USDA inspected and will further implement a formalized sanitation and statistical process control system (including but not limited to HACCP) for managing food security at the site. The proper application to assure USDA inspection will be developed in the business planning process.

5.5. Environmental Sustainability

PVF, Inc. will seek to put its own business operations and those of its producer partners at the forefront of leadership in climate change and overall sustainability.

6. Risk Assessment and Management Plan

6.1. Business Risk

Business risk is defined as being ability to have sufficient volume compared with operating expenses to maintain consistent and predictable profits.

The top business risk is that the facility will be unable to attract sufficient volume of livestock to overcome fixed costs. The primary strategy for managing this risk is to develop relationships with foundational supplier partners who together can bring enough livestock to the facility to ensure profitability and to satisfy equity investors. The facility will excel in servicing these producers and will further incentivize them such that they will network with additional producers to increase business volume.

Finally, while processing beef cattle will be the primary focus on the facility, it will seek to maximize utilization of human resources and assets by processing hogs, sheep and goats in such a way that it can be efficiently managed.

6.2. Operational Risk

Operational risk is defined as the risk that the facility is unable to carry out its mission to be a quality leader for processing services within the region.

The primary strategy for managing operational risk is to recruit and retain a senior staff, pay them well and continue to enrich their capabilities with training, and personal development.

The business will further manage operational risk by developing and operating from a set of formalized practices and procedures that are developed internally.

Employing well-trained and motivated staff is a key element of managing operational risk. PVF intends to work with local community colleges in Page County to develop training programs from which qualified staff can emerge.

Finally, the facility will employ comprehensive building security management and process automation and data collection where possible to assist in avoiding problems before they happen through predictive analysis.

7. Financial Analysis

7.1. Sensitivity Analysis

Two factors have the most significant marginal impact on PVF, Inc.'s earnings:

- Payroll costs
- Fees charged for basic services

7.1.1. Sensitivity Analysis – Payroll

Using the 50 head per week scenario with PVF Real Estate being guaranteed mortgage costs only, Figure 12 below shows that a 1% increase in payroll costs reduces annual EBITDA by $8,788.

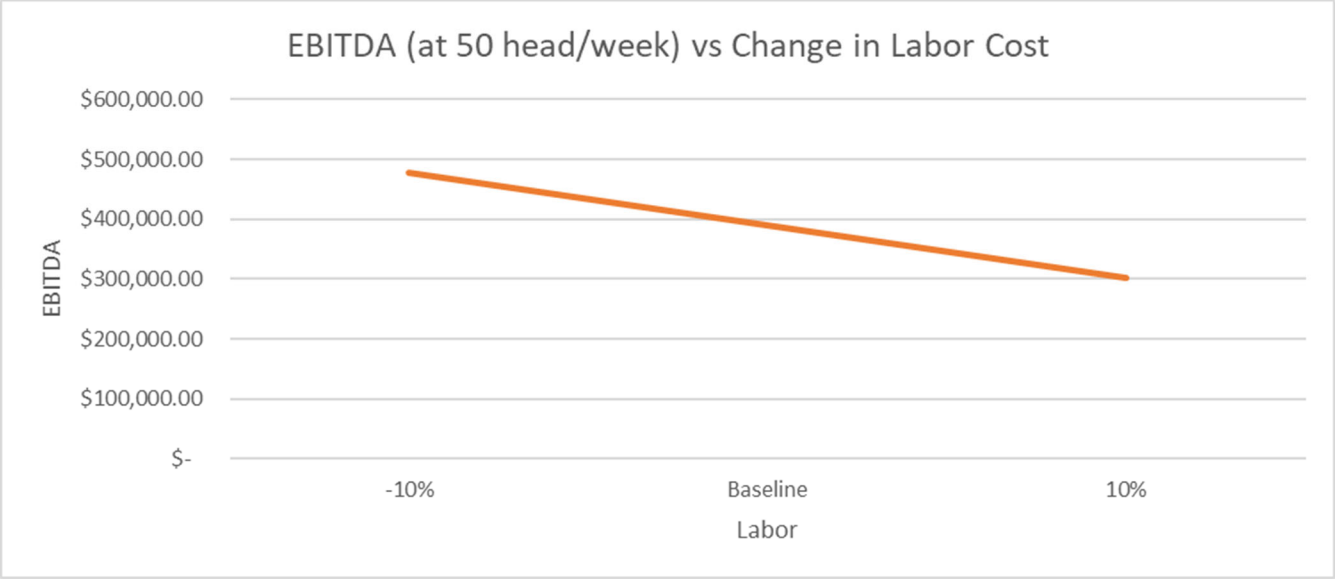

Figure 12 - Impact of Payroll Change on EBITDA

7.1.2. Sensitivity Analysis – Processing Fees

Using the 50 head per week scenario with PVF Real Estate being guaranteed mortgage costs only, Figure 12 below shows that a 1% increase in processing fees costs increases annual EBITDA by $25,033.

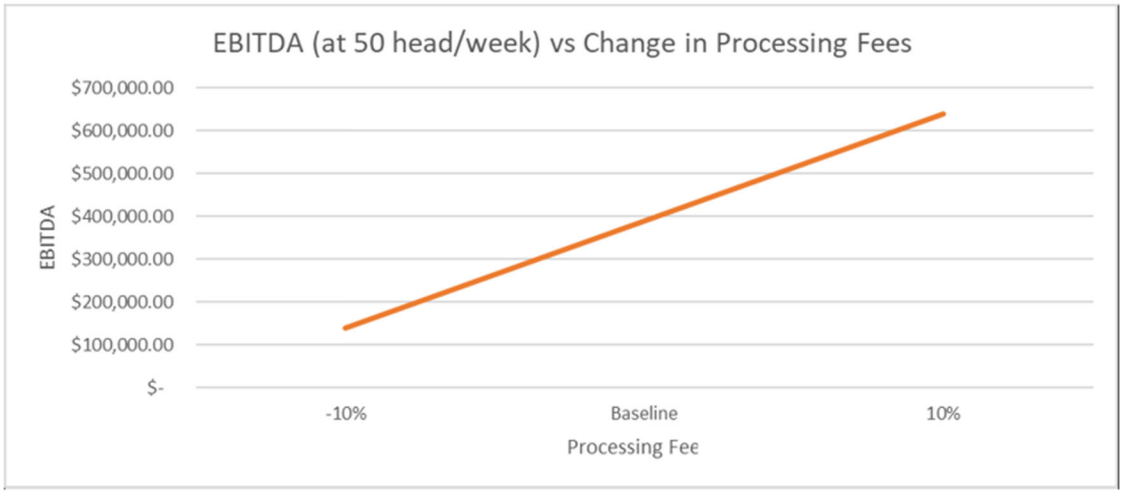

Figure 13 - Impact of Fee Changes on EBITDA

APPENDIX A. QUALIFICATIONS OF JEFF NOLAND

Overview:

Jeff Noland is an experienced process engineer and business executive. He has worked extensively in the animal protein industry, been instrumental in the development and sale of businesses and in the development of new food chain-centric businesses driven by emerging technologies.

Relevant Work Experience:

- Seaboard Corporation. Business Development Staff. Reporting to CFO and President of Seaboard Farms. Led numerous projects in transportation, supply chain analysis, processing technology and acquisition at the outset of Seaboard's entrance in the pork production and processing market and in the firm's shipping and flour milling lines of business.
- Shick Esteve. Vice-President and General Manager. Reporting to the CEO/Owner. Firm focused on food industry applications. Led transformation of business to be data and metrics-driven, doubling revenue and increasing gross profit margin by 50%. Managed permanent and contracted staff in excess of 200 persons spanning engineering, project management, procurement, field service, installation and information technology. Led initiation of new liquids and automation technology business units. Achieved ownership goal of selling the business to a European parent.
- Ronning Engineering. Executive Vice-President. Reporting to CEO/Owner. Firm focused on the engineering and delivery of turnkey thermal processing and dehydration systems. Responsible for all aspects of company operations. Led effort to diversity company application expertise into wood products from previous reliance on wet distiller's grains and food waste processing and overall EBITDA annualized growth of over 35%. Achieved ownership goal of selling the business to a European parent.
- Energyworks NA. Managing Director. Reporting to CEO/Owner. Chief electrical and process engineer for unique manure to energy facility certified as the largest nutrient credit generator in the Chesapeake Bay Watershed. Responsible for facility construction, commissioning, grid interconnection. Led post-commissioning effort to develop animal feed ingredient from process byproduct and sale of nutrient credits to customers within the watershed.
- Active projects include. Development and management of an emerging, FDA-regulated consumer pharmaceutical processing system for a complex liquid product. Development and delivery of largest system in the world for the torrefaction of woody biomass. Support to ownership/executive management in the construction and commissioning of new processes in animal slaughter rendering, metals manufacturing and wood pellet manufacturing.

Education:

- Master of Business Administration. Georgetown University. 1985
- Bachelor of Science, Electrical and Computer Engineering. University of Illinois. 1981