Klamath River Forest Products Business Plan

KLAMATH RIVER
FOREST PRODUCTS

TABLE OF CONTENTS

CHAPTER 1 – EXECUTIVE SUMMARY

Klamath River Forest Products (KRFP) aims to revitalize a former sawmill site in Happy Camp, California by developing a biomass campus that will include a specialty sawmill, a wood wool cement large wall element manufacturing facility, and potentially a small-scale biomass power generation system. All these operations will support forest restoration and local economic development. The project seeks a combination of public and private funding to move from planning into phased implementation. This chapter provides an executive summary of our plans. The body of the plan contains the details supporting the summary information presented below.

1.1 BUSINESS DESCRIPTION

For decades, forests around Happy Camp have grown more wood fiber per year than is harvested. While more annual growth than harvest seems like a favorable situation, over the long term forests become overstocked. This causes them to become more susceptible to disease, insects, and ultimately wildfire. Unfortunately, in 2020 the Slater Fire destroyed over 200 homes in Happy Camp and took two lives—stark evidence of this problem. KRFP aims to turn this challenge into an opportunity: thinning forests to improve forest health and reduce wildfire risk, while using the trees harvested during thinning as the raw material inputs for several forest products that are in strong supply. **Figure 1.1** illustrates a typical forest before and after thinning. See Chapter 2 for a more detailed description of KRFP's business.

Figure 1.1—Example of a Northern California Forest Before (left) and After (right) Thinning

Source: US Forest Service

1.2 MARKET OPPORTUNITY

Northern California is highly wildfire-prone, and homeowners increasingly struggle to secure homeowner's insurance. At the same time, California is among the nation's leaders in adopting mass timber building construction. KRFP will serve these unmet market needs by converting feedstock from regional wildfire-risk reduction projects into high-margin lumber products and wood wool cement large wall elements (WWC-LWE), which are used to build energy-efficient and fire-resistant homes. The initial pilot-scale WWC-LWE operation described in this business plan will have the ability to produce enough wood wool cement material to construct 20 homes annually, with the nearby Karuk Tribe serving as a key partner in initial market development. In parallel, a specialty sawmill will produce large dimension beams and specialty lumber products to meet the needs of the fast-growing yet underserved mass timber building industry.

Figure 1.2 shows examples of large dimension timbers and wood wool cement large wall elements. An optional air-curtain burner with power generation can further monetize low-value residuals, lower disposal costs, and provide behind-the-meter energy and potential renewable credits. Collectively, these integrated revenues reduce exposure to fiber volatility, leverage public funding opportunities tied to wildfire mitigation and rural

development, and position KRFP as a resilient, mission-aligned supplier to Northern California and the broader West. See Chapter 3 for more information about KRFP's market opportunities.

Figure 1.2—Example Large Dimension Timbers (left) and Wood Wool Cement Large Wall Elements (right)

Source: Mark's Lumber and Eltomation

1.3 OPERATIONS PLAN

KRFP is building an integrated, small-scale manufacturing campus in Happy Camp, CA, designed to turn underutilized forest resources into high-value products while supporting regional forest restoration and community resilience. The operation combines a specialty sawmill for large timbers, a pilot WWC-LWE manufacturing plant using small-diameter logs, and a potential biomass power unit fueled by mill residuals. Sited on a former industrial property with phased, modular systems, KRFP will rely on restoration timber, hazard removals, and partnerships with Karuk Tribe and USFS to secure both early market access and raw material supply. With an initial workforce of about nine full-time staff, supported by local training programs, the venture will generate jobs and provide products that meet local housing and infrastructure needs. Strong partnerships with the Tribe, USFS, and local environmental groups anchor the project, ensuring alignment with forest health, wildfire risk reduction, and community development goals. See Chapter 4 for more operational plan details.

1.4 MANAGEMENT & ORGANIZATIONAL STRUCTURE

KRFP will be organized as a for-profit entity in the State of California. Jasmine Borgatti will be the general manager responsible for overseeing all operations. Jasmine brings extensive, varied expertise in business management, project management, and stakeholder coordination and engagement. She will be supported by Operations Manager Eric Hokanson, a native of Happy Camp with over 30 years of manufacturing and maintenance experience in California's forest products industry. Abigail Yeager will serve as finance, marketing, and community engagement manager. Additional staff will be added as needed as operations progress. See Chapter 5 for additional details about KRFP's management team and organizational structure.

1.5 ENVIRONMENTAL & REGULATORY CONSIDERATIONS

The net effect of KRFP's operations on the environment should be excellent, sequestering carbon while reducing wildfire risk and providing value. Two regulatory hurdles envisioned are acceptance of WWC-LWE as a building product and the necessary permits or certifications to operate the air-curtain burner for power generation. See Chapter 6 for additional information about environmental and regulatory considerations.

1.6 FUNDING STRATEGY

It is currently estimated that KRFP will require approximately $5 million in startup capital to launch operations in Happy Camp. The funding strategy blends government grants, philanthropic support, and private capital to ensure both financial feasibility and mission alignment. Early-stage non-dilutive funding of $3.0 to $4.0 million is expected from sources such as CAL FIRE, the U.S. Forest Service, the Ford Family Foundation, the McConnell Foundation, the Richard King Mellon Foundation, and the U.S. Endowment for Communities and Forestry. These commitments will provide a strong foundation while reducing overall financial risk.

The remaining $1.0 to $2.0 million will be secured through a mix of private investment and/or debt financing. This diversified approach balances flexibility and control, while leveraging public and philanthropic funding to attract private capital. Together, the funding package will position KRFP to deliver wildfire-risk reduction, rural economic development, and innovative forest products manufacturing. See Chapter 8 for more details on the funding strategy.

1.7 FINANCIAL PERFORMANCE

KRFP requires an estimated $5.0 million in startup capital, which includes $1.3 million for initial equipment and site preparation, an allowance of $2.7 million for additional site and equipment costs that will be identified through detailed engineering, and $1.0 million in working capital to support early operations. This capital package will be financed through a blend of government grants, philanthropic contributions, private investment, and commercial debt. Although KRFP expects to secure the majority of the funding through grants and philanthropy, financial performance has been modeled much more conservatively under the assumption that $1.0 million will come from non-dilutive funding sources (grants and philanthropy), with the balance raised through debt.

Given this more conservative approach to financial modeling, revenues are projected at approximately $2.0 million in the first year of operation, reflecting a phased ramp-up of both the sawmill and WWC-LWE lines. By Year 3, when full operations are achieved, revenues are expected to reach $3.4 million annually, with about 75% generated from specialty sawmill products and 25% from WWC-LWE panels. Over the 10-year forecast, revenues are projected to grow at an average annual rate of 3%, reaching $4.3 million by Year 10.

Operating performance is underpinned by disciplined cost management. By Year 3, raw material costs (mainly logs and cement inputs) are projected at $1.33 million annually, while fully loaded labor costs are approximately $950,000. At steady-state, KRFP is expected to achieve gross margins of 35-40% and operating margins of 15-20%, generating sufficient cash flow to service debt, reinvest in operations, and support community objectives.

Key investment metrics confirm the project's financial viability. Based on the pro forma model, KRFP achieves an internal rate of return (IRR) of approximately 11% and a net present value (NPV) of $0.76 million at a 10% discount rate. The project consistently generates positive operating cash flow beginning in Year 3. Although the simple payback period extends slightly beyond the 10-year projection horizon, the enterprise demonstrates a resilient cash flow profile that supports long-term financial sustainability. See Chapter 7 for additional details.

1.8 IMPACT ASSESSMENT

KRFP will deliver broad benefits that extend beyond financial performance. The project is expected to create stable, high-quality jobs in Happy Camp, with strong participation from the Karuk Tribe, and to build workforce skills in forestry, milling, and innovative wood products manufacturing. By establishing a reliable outlet for small diameter timber, KRFP supports active forest management that reduces wildfire risk, improves forest health, and enhances biodiversity.

Environmental gains include cleaner water and more resilient stream flows, reduced sedimentation from catastrophic wildfires, and improved aquatic habitat for culturally important salmon populations. The project also advances climate goals by stabilizing forest carbon and producing low-carbon building materials.

Culturally, KRFP strengthens Tribal sovereignty, safeguards sacred and natural resources, and ensures that economic development in Happy Camp aligns with community values. Taken together, these impacts demonstrate that KRFP is not only a sound business investment, but also a catalyst for ecological restoration, cultural revitalization, and rural economic renewal. See Chapter 9 for additional information.

1.9 RISK ASSESSMENT

KRFP faces risks common to forest-products startups, including raw material supply variability, permitting delays, market competition, and exposure to wildfire or flooding. These risks are mitigated through strong stakeholder partnerships, conservative financial planning, and a phased project design that allows for flexibility and adaptation. Long-term supply agreements, proactive engagement with regulators, and contingency planning for disaster scenarios further reduce exposure. With these safeguards in place, KRFP is positioned to operate resiliently and sustainably in a challenging but opportunity-rich environment. See Chapter 10 for a more in-depth review of risks and mitigation strategies.

CHAPTER 2 – BUSINESS DESCRIPTION

2.1 OVERVIEW

KRFP is a rural manufacturing venture based in Happy Camp, California, anticipating operating on a leased former sawmill site. The business will combine a small-scale specialty sawmill with a pilot-scale wood wool cement manufacturing facility. The sawmill will focus on producing large dimension timbers and glulam lamstock for local and regional markets, targeting high-value, niche construction applications. Initially, there will be no lumber drying or planing operations, allowing for a lower-cost entry and streamlined setup. The pilot wood wool cement plant will use a labor-intensive, low-capital process to produce structural panels—sufficient to build 10-20 homes annually. This approach reduces risk while allowing the business to test and refine the product for the underdeveloped U.S. market.

A critical partner in the venture is the Karuk Tribe, headquartered in Happy Camp, which is actively exploring ways to meet its housing and infrastructure needs using local, forest-based materials. The Tribe's interest in sourcing both sawn timber and wood wool cement panels for community development provides a built-in market and accelerates building code adoption through its sovereign status. The U.S. Forest Service is also a key partner, given its stewardship of surrounding National Forest lands and its central role in supplying low-value timber through restoration and wildfire risk reduction projects. The business development effort is being led by Happy Camp Community Action, a local nonprofit that will establish a for-profit subsidiary to operate the business. Additional site infrastructure includes an air-curtain burner capable of generating 0.1 MW of power from mill residuals and local green waste, with the potential to support a microgrid—an idea that might be explored as the project matures.

2.2 MANUFACTURING SITE DESCRIPTION

2.2.1 Site-Specific Information

KRFP will operate on a leased parcel located within the town of Happy Camp, California. The site was formerly a sawmill and plywood manufacturing facility. The site is well suited for KRFP's plans because it offers a combination of existing industrial footprint, utility access (water and power), and proximity to both raw material sources and local labor. It is situated along Highway 96 and is well suited for receiving logs from forest restoration projects and distributing finished products to regional markets.

The entire site is approximately 127 acres and is currently zoned for industrial use. It includes flat, developable ground, which minimizes the need for extensive site work. Basic infrastructure components such as road access, water, and electricity are in place. KRFP will only lease a portion of the site as shown in **Figure 2.1** on the following page, which illustrates the entire site and the portion leased by KRFP.

The leased area includes space to: house the sawmill and WWC-LWE manufacturing operations and raw materials and finished products storage. The site may also host an air-curtain burner for biomass and by-products into heat and power. The inset in the figure illustrates the plant is located near the town core; this helps ensure close coordination with KRFP's partners in the Karuk Tribe and the U.S. Forest Service. There is considerable room for expansion if needed. Environmental Site Assessments will be completed as appropriate prior to finalizing the lease. Funding for the cost of the assessments has been secured.

The site is owned by Mr. Daniel Yeager. KRFP has had initial discussions with Mr. Yeager. A lease agreement has not yet been executed, but he is supportive of KRFP's plans and has indicated a strong willingness to see the project move forward. As will be further described in the financial performance chapter of this plan, KRFP has assumed lease costs that are included in the financial modeling. Our financial model will be updated to reflect actual lease costs after an agreement has been reached with Mr. Yeager.

Figure 2.1—KRFP's Industrial Site

2.2.2 Other Site-Related Considerations

Happy Camp, KRFP's hometown, is a rural community of roughly 900 people. It is ethnically diverse; self-identified whites are the largest demographic with about 50% of the population, followed by Native Americans with just over 30%. Happy Camp's median household income of $32,353 is barely 33% of California's overall average of $95,521. However, California's income figures are heavily affected by the incomes of its massive urban areas—quite far from Happy Camp in more ways than one.

The KRFP location, in the northeast part of Happy Camp, is several hundred feet from the nearest residence. Trees that frame the location will help to absorb some of the expected noise.

Unemployment exceeds the state average. There are nearby higher education options (Southern Oregon University, Rogue Community College, Humboldt State University, Oregon Tech, College of the Siskiyous, and College of the Redwoods all within 100 miles). Of its residents over 25, 80% have high school diplomas. Younger locals often leave for better opportunities.

While Happy Camp can experience rough winter conditions, it has a surprisingly temperate climate for a small town nestled in the mountains of Northern California. However, summers and fall months bring a very different challenge—*fire season*. The area is highly prone to wildfire due to heavy forest fuel loads built up over decades of limited management. Recent years have underscored the increasing danger as hotter, drier summers and longer fire seasons—linked to broader climate shifts—have placed the community at greater risk. Smoke-filled skies and evacuation warnings are not uncommon, and many locals have firsthand experience with fire loss. This backdrop reinforces the urgency and importance of projects like KRFP's biomass campus, which are designed not only to support the economy but also to help reduce fuel loads and mitigate the wildfire hazard that threatens the community's safety and long-term resilience.

Happy Camp has a small airport which is closed to fixed-wing aircraft, but can accommodate helicopters. Police services are provided by the Siskiyou County Sheriff's offices, with patrol support from the California Highway Patrol. The Karuk Tribe operates local medical and dental clinics, with more advanced medical services in Yreka, CA and Medford, OR. Local fire and ambulance services are provided by volunteers, as is common in the rural West.

From a dispassionate analysis of our home and its people, we have two main takeaways. While first response support in Happy Camp is not what it might be in a larger city, we consider it adequate to the needs of a small biomass campus. From a human resources standpoint, a low median household income should mean that locals willing to earn better livings will welcome the opportunity to do so in a local industry.

The best form of first aid is firm safety guidelines followed and supervised with diligent attention, including regular safety meetings and proper PPE. KRFP, as a small enterprise, needs every employee to work safely and be able to contribute. We have every motivation to establish robust safety guidelines and assure that they are followed. We are acutely aware that it is far more economical to retain and keep employees safe than it is to pay increased industrial and other insurance premiums, lose staff, and overcome any adverse shift in public perception. We believe that employees feel most valued and motivated when they have the tools to work safely, combined with management's emphasis on safety over haste.

The benefits of a concerted safety program extend far beyond the simple economic factors of reduced absenteeism and lower insurance premiums. KRFP will employ local people well known to each other, managed by others who have probably known them since childhood. Anything less than a program of strong caring for our neighbors' health and welfare through high safety standards would fall short of our basic principles.

2.3 PLANNED COMPONENTS OF THE BUSINESS OPERATIONS

As previously described, there are three main components of KRFP's business. Each is described in more detail in the following subsections.

2.3.1 Small-Scale, Specialty Sawmill

This portion of KRFP's operation will focus on processing logs into specialty lumber products. Two factors drive this decision. First, a supply study completed by The Beck Group, along with interviews with local logging contractors, indicated that the region has a supply of harvested larger-diameter logs (20" or greater on the small end) that are currently underutilized due to a lack of nearby sawmills equipped to handle them. Second, there are relatively few sawmills along the entire U.S. West Coast capable of producing large dimension timbers, specifically solid-sawn beams 6" x 6" and larger. Even fewer mills can produce those timbers in lengths exceeding 20'. Other lumber product options include specialty lumber for manufacturing mass timber panels and lumber known as lamstock, which is the raw material used to make glulam beams. As a result, KRFP intends to capitalize on both the local availability of underutilized large-diameter logs and a regional market opportunity for long-length, large-section timbers.

The sawmill will be designed for low-throughput, high-value production, with equipment selected to accommodate the processing of oversized logs into timbers and structural members for architectural and engineered wood applications. Products will include rough-sawn beams, glulam lamstock, and custom-cut orders serving regional builders, timber frame contractors, and potentially the Karuk Tribe. The mill will operate without dry kilns or planers in its initial phase, reducing capital costs and permitting complexity. Instead, the focus will be on flexible, batch-based production with minimal overhead and the ability to adapt to evolving product demands.

Core equipment will likely include a heavy-duty bandsaw mill, a log deck and infeed system, and a basic trim and outfeed line for rough sizing. Rolling stock for handling logs and finished products are also included in the capital plan. The operation will be staffed by a small, skilled crew, with an emphasis on craftsmanship and efficient handling of challenging fiber. Given that many logs will originate from fuel reduction and restoration work on nearby national forests, KRFP's sawmill serves not only as a business opportunity, but as a key enabler of sustainable forest management—creating value from logs that are currently difficult to utilize. The U.S. Forest Service is expected to be a critical partner in ensuring consistent raw material supply aligned with ecological objectives and local contracting capacity.

See Chapter 3 for more detail on lumber markets and Chapter 4 for more details on raw material supply.

2.3.2 Pilot Scale WWC-LWE Fabrication Facility

The second core element of KRFP's operations is a pilot-scale manufacturing facility designed to produce Wood Wool Cement Large Wall Elements (WWC-LWE), a durable, fire-resistant, and thermally efficient building material that combines shredded wood fiber with Portland cement. While widely used in Europe for structural and insulating wall systems, WWC-LWE products are largely untested in the U.S. construction market. These panels offer numerous benefits including high fire resistance, excellent acoustic and thermal insulation, pest resistance, and compatibility with low-carbon and natural building practices. They are simple and fast to assemble, which can significantly reduce building cost—a major advantage for builders.

The KRFP pilot facility will produce enough WWC-LWE material to support construction of approximately 10 to 20 homes per year, each around 1,500 square feet. Initial demand is expected to come from the Karuk Tribe, which is pursuing new housing development and has expressed strong interest in using locally sourced, climate-appropriate, and fire-resilient building systems.

The production approach will rely heavily on manual labor rather than automated systems, reducing up-front capital requirements and making the facility more accessible to a rural workforce. Local workers will be trained to carry out core manufacturing steps including fiber preparation, mixing, casting, and curing. This low-capital, labor-intensive model not only reduces financial risk but also supports workforce development and job creation in the Happy Camp area. Initial product development will focus on standardized wall panel dimensions suitable for residential construction, with future iterations adapted to meet evolving demand and builder feedback. See Chapter 3 for more detail on lumber markets and Chapter 4 for more details on raw material supply.

2.3.3 Air-Curtain Burner Power Generation

KRFP's facility is also likely to include an air-curtain burner system equipped with a 0.1 MW generator, designed to convert woody biomass residuals into heat and power (see **Figure 2.2**).

Figure 2.2—Air-Curtain Burner with Power Generation

This system is part of a separate project initiated by the Karuk Tribe, which is seeking a partner and host site for the equipment, along with a productive use for the power it generates. The air-curtain burner offers a practical, low-emission solution for managing wood waste generated by both the sawmill and WWC-LWE operations, as well as green waste from the surrounding community. The technology uses a high-velocity curtain of air to create a high-temperature, low-smoke combustion environment—substantially reducing particulate emissions compared to open burning. With a heat recovery and generation unit installed, the system can convert this thermal energy into a modest but meaningful amount of electricity for on-site use. However, the feasibility and permitting of siting and operating the air-curtain burner with energy recovery at this location have not yet been evaluated and will require further analysis.

The power output of up to 100 KW will help offset KRFP's electrical demand and could serve as a stepping stone toward broader community energy resilience. Given Happy Camp's remote location and frequent wildfire-related power disruptions, there is potential for the air-curtain burner to serve as a foundation for a microgrid or backup power system. While this application has not yet been formally studied, early conversations with community stakeholders suggest strong interest warranting additional investigation. The modular design of the system allows for phased implementation and potential scaling, depending on local energy needs and infrastructure capacity.

Beyond its energy role, the air-curtain burner is a critical tool for sustainable biomass management. It provides a responsible, cost-effective way to dispose of low-value residuals—such as bark, trim ends, and fines—that are difficult to market through conventional channels. It may also be used to process logging

slash and hazardous fuels from forest thinning projects, reinforcing KRFP's alignment with regional wildfire mitigation and restoration goals. Together with the sawmill and WWC-LWE plant, the air curtain burner supports a circular utilization model, which maximizes the value of local biomass while minimizing waste, emissions, and reliance on fossil fuels.

When timber is felled and cut up in the woods, large amounts of woody biomass in the form of branches, tops, and other organic material become by-products. By themselves, they would not be economical to gather and are typically gathered and burned as slash. If there is a destination for these, such as the air-curtain burner KRFP plans to install, this material can be combusted to provide power. See Chapter 3 for more detail on lumber markets and Chapter 4 for more details on raw material supply.

2.3.4 Other Potential Business Opportunities

While our initial business development efforts are squarely focused on the sawmill, wood wool cement, and possibly biomass power, there is more space available than KRFP's current plans require. With that in mind, we plan to take an opportunistic approach to future possibilities. In addition to sharing space with community and public service needs such as a firefighting operations base, we have discussed other options, which are listed below. However, none of these options are currently included in the financial performance analysis:

- Constructing vacation rentals made from wood wool cement
- Residential homes made from wood wool cement (for sale or possibly rental income)
- Other potential biomass campus expansions (dry kilns, planer mill, etc.)

2.4 BRIEF HISTORY OF HAPPY CAMP COMMUNITY ACTION

Happy Camp, California is a rural community of just under 1000 residents, situated along the Klamath River in Siskiyou County. Its name dates back to the prosperity of the early mining days. It experiences dry summers with highs up to 115° F and snowy winters that can drop to -2° F. Those hot, dry summers can produce wildfires that have already done the town serious damage in recent memory, and could threaten the entire community's very existence.

The 2014 Happy Camp Complex Fire burned over 134,000 acres in the local area, but spared the town itself. It is possible that the fire could have been less devastating had forest restoration treatments been more prevalent. The Slater and Devil fires of 2020 destroyed 157,000 acres, killed two residents, and destroyed 440 structures including a portion of Happy Camp itself.

Knowing that cost-effective forest health restoration treatments depend upon forest products industry partners to create markets for thinned material, and unwilling to simply wait for the next big fire, Happy Camp Community Action's leadership sponsored the Slater Fire Long Term Recovery Group to resurrect the town's historic forest products industry and help take safety into their own hands. KRFP, a for-profit entity, will operate this diversified industrial facility.

As planned, promoting thinning treatments in the region around Happy Camp attacks the wildfire danger problem from two points of approach: wildfire danger reduction and structures that can resist fire.

2.4.1 Effect on Wildfire

The West's National Forest system has been a victim of reduced treatment attention for several decades. Overcrowded forests lead to trees competing for light, water, and nutrients; this leads to weaker trees with greater vulnerability to insects and diseases. The end result is forests full of standing or fallen dead timber that have plenty of time to dry out during increasingly hot summers. They are tinderboxes, and the advancing climate change process has made a bad situation worse.

While one can never completely prevent human error or irresponsibility from igniting wildfire—and in any case, we have no way to prevent lightning strikes—not all wildfire is created equal. In forests with proper and timely management, trees have less competition and can better reach mature heights in healthy form. When wildfires come through, they do not spread as rapidly nor do they tend to destroy the mature trees, as the fire tends not to reach the crowns. This makes the fires slower and less intense, thus easier and less dangerous for firefighters to handle.

From Happy Camp's perspective the current situation is literally disastrous by comparison. Overgrown forests full of dead biomass burn readily, spread quickly, and have intensity great enough to kill mature trees and even damage the underlying soil. Firefighters battle them less effectively and at great risk.

The good news is that the U.S. Forest Service understands the problem and is eager for partners who will purchase forest treatment timber. This saves the Federal government money by allowing the treatments to pay for themselves, helps rural economies, and saves the government money again by reducing firefighting costs. Everyone wins.

2.4.2 Fire-resistant Construction

This refers specifically to the WWC-LWE plans. It is fair to say that Happy Camp has justified concerns about wildfire encroaching upon the townsite—a dispassionate term for "destroying people's homes and businesses, perhaps their lives." WWC is a construction material that has proven highly resistant to fire, insulative with regard to energy usage, and quite likely attractive to those seeking lower carbon footprints for commercial construction.

If the entire town were able to be constructed of this material, it would be far safer. That won't happen immediately, but as a construction option for new and replacement buildings, KRFP believes it will be an appealing option.

This appeal will grow once we provide the materials for the first WWC-LWE structures, thus giving KRFP results to display. In the long term, KRFP hopes that other western communities in similar straits will see this as an example to emulate. It might even be that KRFP can derive financial benefits there—in addition to the fact that reduced wildfire danger in other areas places less stress on the finite firefighting resource pool, thus helping us all be safer.

2.4.3 Highlights

The primary highlight of KRFP's operations will be the combination of peace of mind, service to the community, rural jobs, partnership with the U.S. Forest Service (USFS), and innovation as a small town unites to better its prospects. It is possible that KRFP's operations could offer a model for other small western communities confronting similar dangers.

Once all capital return requirements and other outstanding obligations are satisfied, KRFP will have a positive cash flow that will be reinvested in the business to add equipment such as:

- Planing mill
- Dry kilns
- Log bucking and debarking equipment to introduce more automation to the wood wool cement manufacturing process

2.5 PROJECT DEVELOPMENT PHASES AND SCHEDULE

The development of Klamath River Forest Products (KRFP) is proceeding through a phased approach designed to balance speed, cost efficiency, and risk management. The project's current status is pre-construction, with initial planning, stakeholder engagement, and feasibility analysis substantially

complete. KRFP has secured early-stage grant funding to support engineering, business planning, and initial equipment evaluation. Future phases will depend on successful permitting, engineering design, and capital fundraising.

The anticipated development phases include:

Phase 1: Planning and Feasibility (Completed/Ongoing)

- Concept development and stakeholder alignment
- Preliminary site evaluation and business modeling
- Market analysis for timbers, WWC-LWE, and energy
- Grant acquisition to support engineering and business planning
- Early engagement with technical advisors and equipment suppliers

Phase 2: Engineering and Pre-Development (Underway / Late 2025-2026)

- Engage engineering firm(s) for mill and WWC-LWE facility layout
- Determine power requirements and site utility needs
- Preliminary environmental and permitting assessment
- Develop capital budget and finalize equipment specifications
- Tribal and community consultation processes

Phase 3: Site Preparation and Equipment Procurement (Target: 2026)

- Site clearing, grading, and infrastructure improvements (water, power, etc.)
- Construct open-sided mill building (~100' x 50') for shared use
- Purchase and install core mill equipment (e.g., sawmill, wood wool shredder)
- Source or fabricate initial molds for WWC-LWE

Phase 4: Commissioning and Pilot Operations (Target: 2025-2026)

- Begin limited production of timbers and WWC-LWE panels
- Test material throughput, quality, and workflow integration
- Begin deliveries to initial customers (e.g., Karuk Tribe)
- Refine operational procedures and market outreach

Phase 5: Expansion and Optimization (Target: 2026 and beyond)

- Add drying capacity for lamstock and CLT-grade lumber
- Evaluate need for additional covered areas for mold drying or storage
- Explore additional WWC-LWE markets and panel types
- Assess viability of power sales or microgrid integration

A detailed Gantt chart and critical path timeline will be developed during the engineering phase. However, the project is designed with flexibility to allow incremental implementation based on funding availability, permitting progress, and market demand. This is in keeping with maximizing the administrative agility available to a very small firm.

CHAPTER 3 – MARKET OPPORTUNITY

There is growing demand for specialty wood products and insulative, fire-resilient building materials, particularly in the western U.S. KRFP's plans leverage local wood supply and underserved niche markets to create value from low-grade and restoration-sourced logs. This chapter provides further detail about the market opportunities given these trends.

3.1 OVERVIEW OF KEY TARGET MARKETS

KRFP is positioned to serve three distinct but interconnected markets: 1) structural wall panels made from Wood Wool Cement Large Wall Elements; 2) large dimension sawn timbers and other specialty lumber products such as CLT stock and lamstock; and 3) distributed on-site renewable energy derived from biomass combustion. Each market has been selected based on a combination of local resource availability, unmet regional demand, and alignment with State and Federal policy priorities related to forest restoration, wildfire resilience, and rural economic development.

The WWC-LWE product targets the growing need for affordable, fire-resistant, and low-carbon housing solutions, particularly in wildfire-prone rural communities and Tribal lands. The specialty timber products market, primarily focused on long-length and oversized beams, addresses a structural gap in the regional wood products industry where few facilities remain that can process large diameter logs or supply custom structural timbers. Lastly, the modest but strategic power output from the air-curtain burner responds to increasing interest in community-scale resilience infrastructure and microgrids in remote areas like Happy Camp. Each of these markets offers a promising opportunity to create value from underutilized forest resources while supporting local job creation and climate-smart development.

3.1.1 Wood Wool Cement

KRFP's pilot-scale production of WWC-LWE is aimed at durable, fire-resistant, and energy-efficient panelized wall systems, an emerging segment of the U.S. construction materials market. Used for decades in Europe (especially Scandinavia) but largely absent in North America, WWC-LWE combines shredded wood fiber with Portland cement to produce rigid structural wall panels with exceptional thermal and acoustic performance, high fire and pest resistance, and strong compatibility with both low-carbon and natural building methods. Additionally, a contractor with a small crew and small crane can typically erect the whole wall structure in just a few days. These characteristics make WWC-LWE well suited to address the unique challenges of building in rural, fire-prone areas where labor availability is limited and material resilience is critical. **Figure 3.1** shows a closeup of WWC-LWE material and the mix of wood and cement. **Figure 3.2** provides an illustration of a home being constructed from WWC-LWE materials.

Figure 3.1—Close Up View of Wood Wool Cement Material

Source: Eltomation

Figure 3.1—Home Under Construction Using WWC-LWE for Walls

Source: Eltomation

KRFP's initial market focus is on supplying WWC-LWE panels for housing development in partnership with the Karuk Tribe, whose headquarters is located in Happy Camp. The Tribe has expressed strong interest in using locally sourced, fire-resilient building materials for new housing and community infrastructure. Their role as a project partner provides a key early-use case and the ability to accelerate code acceptance on Tribal lands, where sovereign authority allows for customized building code adoption. This partnership de-risks market entry by creating a defined channel for initial production and performance validation, while also supporting broader community development and housing security goals.

Over time, KRFP anticipates that demand for WWC-LWE could expand beyond tribal housing into broader applications including accessory dwelling units (ADUs), small-scale infill housing, public-use structures, and fire-resilient homes in the wildland-urban interface (WUI). As California and other western states continue to invest in wildfire resilience, affordable housing, and decarbonized construction, WWC-LWE has the potential to establish itself as a differentiated and regionally appropriate alternative to conventional wood framing, SIPs (structural insulated panels), or ICFs (insulated concrete forms).

Underlying our belief in the market growth opportunity is the analysis presented in **Table 3.1**. It demonstrates that buildings constructed with WWC-LWE panels not only offer a wide range of performance advantages including fire resistance, thermal efficiency, and pest resistance, but also result in a lower wall system cost compared to conventional stick-built construction. As previously noted, the goal of the pilot-scale WWC-LWE facility is to produce sufficient material to support the construction of

up to 20 homes per year, each approximately 1,500 square feet in size. Key assumptions in the analysis are that WWC-LWE material will sell for $22.50 per cubic foot (FOB the plant in Happy Camp) and that a home package is charged the gross cubic footage of WWC-LWE panel—in other words, the starting cubic footage before cut-outs for windows, doors, etc. See Chapter 5 for more details about KRFP's projected financial performance.

Table 3.1—Comparison of Home Construction with WWC-LWE to Conventional Stick-Built

Metric	WWC-LWE	Stick-Built
Wall Volume 1,500 Square Foot Home	1,590 cubic feet	700 to 1,050 cubic feet
Material Cost per Home (USD)	$36,000	$50,000 to $80,000
Estimated Installation Time	2 to 4 days (panelized install)	7 to 11 days (multiple trades)
Fire Resistance	High (non-combustible)	Moderate (dependent on cladding)
Thermal Performance (Insulation + Mass)	High (integrated)	Variable (depends on assembly)
Labor Intensity (On-site)	Low (pre-fab panels)	High (framing, insulation, cladding all separate)
Pest Resistance	Excellent	Moderate
Construction Waste	Low	Moderate to High
Carbon Footprint (Embodied)	Moderate (cement content offset by wood fiber)	High (more materials + waste)
Ease of Permitting / Code Acceptance	Emerging—easier on Tribal lands	Standard—universally accepted

3.1.2 Large Dimension Timbers

KRFP's sawmill will focus on producing large dimension timbers from regionally harvested large diameter logs. The timbers will target a market segment that is increasingly underserved along the U.S. West Coast. These products include solid-sawn beams and posts ranging in size from 4" × 4" up to 8" × 12" and larger, with an emphasis on lengths exceeding 20'—a capability that many existing mills lack, as most are limited to 20' or shorter lengths. As described in Chapter 5, the sawmill is projected to produce approximately 3 million board feet per year, with an estimated 1.4 million board feet consisting of large-dimension timbers. **Figure 3.3** illustrates typical Douglas-fir timber.

A key market for these products is the custom home sector—particularly homes built using timber frame construction, which typically requires oversized, long-length members. While custom home designs vary widely, the National Association of Home Builders estimates that 15% to 20% of U.S. single-family home starts are custom-built. Within that segment, timber frame construction represents a small but distinct niche, accounting for roughly 2% of custom homes, or about 3,000 timber frame homes built annually nationwide. Applying those percentages to California's annual housing starts suggests that 150–400 timber frame homes are constructed each year in-state, with an additional 150–300 homes likely built in neighboring Oregon, Nevada, and Arizona. This implies a regional market of 300–700 timber frame homes per year.

Figure 3.3—Large Dimension Timbers

Source: Nova Building Products

Table 3.2 provides a high-low estimate of timber volume per home, ranging from 5,000 to 20,000 board feet depending on design complexity and use of hybrid systems. When compared to KRFP's projected annual output of 1.4 million board feet of timbers, the data indicate that KRFP could supply material for 70 to 700 homes annually, aligned with the estimated size of the regional timber frame market. This positions KRFP to serve a high-value, design-driven customer base that is often underserved by commodity-oriented mills, while also meeting demand from other buyers seeking custom, long-length, or oversized timbers for specialty architectural and structural applications.

Table 3.2—Estimated Number of Homes Supported by KRFP's Annual Timber Output, by Construction Type

Metric	Decorative Use	Hybrid Use	Full Timber Frame
Estimated Average Board Feet of Timbers Used per Home	2,000	5,000	20,000
Estimated Annual KRFP Sawmill Timbers Output (board feet)	1,400,000	1,400,000	1,400,000
Number of Homes Needed to Meet KRFP Sawmill Output	700	280	70

In addition to large-dimension timbers, KRFP's sawmill is expected to produce approximately 1.1 million board feet of dimension lumber annually. The dimension lumber is a by-product of the timber production process, resulting naturally as the logs are broken down. Given the mill's small scale, limited automation, and emphasis on specialty products, selling this material into the commodity dimension lumber market is

unlikely to be economically sustainable. Instead, KRFP will focus on producing value-added dimension lumber, targeting niche markets such as glulam manufacturers and mass timber panel producers. These customers require high-quality stock for use in lamstock and cross-laminated timber (CLT) panels, where consistency, strength, and surface quality are critical.

Both applications require lumber that is straighter, stronger, and dried to tighter tolerances than standard framing material. While KRFP does not plan to include dry kilns in its initial configuration, the company aims to add on-site drying capacity as soon as feasible to support these higher-value applications. In the interim, KRFP can collaborate with other sawmills that have kilns, or with custom kiln operators. Another option would be for KRFP to supply producers (such as glulam and CLT plants) that maintain their own drying infrastructure. Demand for glulam and CLT continues to grow among architects and structural engineers, who increasingly specify exposed wood elements in custom residential, commercial, and institutional projects. Tribal governments, schools, and public agencies are also prioritizing regionally sourced, low-carbon building materials. KRFP's ability to supply custom-sized, high-quality, and eventually kiln-dried material will allow it to meet the needs of this design-conscious, sustainability-focused market.

The balance of the mill's lumber output will include ponderosa pine shop and board grades, which are well established and have high sales values. Additionally, 1" boards will be produced to maximize log recovery. These products will round out KRFP's range of offerings and ensure maximum fiber utilization across log grades and product segments.

In summary, KRFP's strategic focus on niche, high-value product lines positions it to operate within, and benefit from, a much larger and mature industry. In 2024, total softwood lumber consumption in North America was approximately 56 billion board feet, the vast majority of which flowed into commodity construction markets such as framing lumber for residential and multifamily development. Within this context, KRFP's total projected output of roughly 3 million board feet annually represents less than 0.01% of the total market. Rather than competing on volume or price, KRFP is intentionally oriented toward product types, customer relationships, and performance attributes that are overlooked or underserved by larger mills. This market structure allows KRFP to carve out a profitable niche without directly challenging incumbent producers, while still benefiting from the scale, innovation, and demand growth of the broader wood products sector.

3.1.3 Electrical Power

In addition to its core focus on wood products, KRFP may incorporate a small-scale biomass power system (0.1 MW) air-curtain burner with energy recovery as part of a related project being explored by the Karuk Tribe. This opportunity arose independently of KRFP's core business plan but aligns well with the facility's biomass residual streams and the Happy Camp community's interest in increased energy resilience. The burner would combust mill residuals, green waste from town residents, and possibly logging slash—thereby converting low-value and waste materials into on-site electricity through a high-efficiency combustion and heat recovery system.

Markets for the power generated include KRFP's own operations. The sawmill and WWC-LWE manufacturing facility will have continuous electricity needs for equipment, lighting, and material handling. Depending on actual generation and load, surplus electricity could also support nearby facilities or form the nucleus of a microgrid in coordination with community partners. Given Happy Camp's remote location and vulnerability to wildfire-related power outages, there is strong interest in local energy solutions that improve resilience and reduce dependency on the regional grid. The Karuk Tribe and other local stakeholders have expressed early interest in exploring shared infrastructure or microgrid applications, though no feasibility study has yet been completed.

The potential value of the generated electricity depends on both avoided utility costs and possible backup/resilience benefits. Typical commercial electricity rates in rural Northern California range from $0.16 to $0.22 per kilowatt hour, suggesting that 0.1 megawatts of generation operating 8 hours per day could offset $125 to $175 in daily electricity costs; more if operated during peak demand periods. While small in scale, this power system may contribute meaningfully to KRFP's cost structure, support marketing and funding narratives around full-fiber utilization and sustainability, and enable future partnerships with public and Tribal energy initiatives. Its implementation will depend on future feasibility analysis, permitting, and capital availability.

3.2 DEMAND DRIVERS IN KEY TARGET MARKETS

Each of KRFP's primary product lines serves a distinct market segment with unique performance requirements and growth drivers. While the business is focused on niche, high-value applications rather than commodity production, all three markets are influenced by broader trends in housing, fire resilience, sustainable construction, and regional supply chain limitations. The following subsections outline the key factors driving current and future demand for KRFP's offerings, with a focus on how the company is positioned to serve unmet needs across public, private, and Tribal markets.

3.2.1 Wood Wool Cement

Demand for WWC-LWE products is driven by the growing need for fire-resilient, energy-efficient, and affordable housing, particularly in rural and wildfire-prone communities across the western U.S. WWC-LWE panels combine structural performance with excellent fire, thermal, and acoustic characteristics, making them well suited for single-family homes, Alternative Dwelling Units (ADUs), and small institutional buildings. These characteristics are increasingly sought after by architects and builders in the wildland-urban interface (WUI), where traditional wood-framed construction is vulnerable to fire damage and higher insurance costs.

Policy and funding trends further support this demand. The State of California and Federal agencies continue to direct significant investment toward resilient housing and fire-adapted community development, creating new opportunities for alternative wall systems. Additionally, Tribal housing authorities like the Karuk Tribe are actively seeking culturally appropriate, locally sourced materials to support housing construction on sovereign land. These key partners provide an early anchor market for KRFP's WWC-LWE panels. Finally, as the cost comparisons in the preceding section illustrated, WWC-LWE appears to be cost-competitive with stick-built wall systems. Thus, perhaps more strongly than all other factors, WWC-LWE's economic structure may drive further product validation and demonstration, and ultimately sustained robust market growth.

3.2.2 Large Dimension Timbers

Demand for large dimension timbers is driven by a mix of design preferences, supply chain constraints, and market gaps left by modern high-throughput mills. Architects and builders continue to incorporate exposed structural wood elements into residential, commercial, and institutional projects. This is true not only for structural function but also for aesthetic and environmental appeal. In particular, timber frame construction requires large-section, long-length timbers that many commodity mills can no longer produce.

At the same time, regional demand for custom home construction, especially in rural and mountain communities in California, Oregon, Nevada, and Arizona, supports steady use of these products in both hybrid and full timber-frame applications. As noted earlier, an estimated 300 to 700 timber-frame homes are built annually across these states, requiring significant volumes of large timbers. KRFP's ability to supply this market with oversized, regionally sourced, and custom-sawn timbers fills a critical niche left by larger sawmills optimized for small-diameter logs and dimension lumber. As wildfire-resilient and

locally sourced materials continue to gain traction, demand for KRFP's large-dimension timber products is expected to grow steadily.

3.2.3 Electrical Power

Demand for distributed locally generated electricity continues to grow in remote, wildfire-prone communities like Happy Camp. While KRFP's planned power system (a 0.1 MW air-curtain burner with energy recovery) is not a core business line, it aligns with regional demand for resilient, low-emission energy sources that can support mill operations and potentially contribute to a microgrid or community backup power system. As utility reliability becomes increasingly strained and interest in local energy grows, if implemented, this bolt-on system could offer both cost savings and community value, particularly in partnership with the Karuk Tribe or other local institutions.

3.3 ANALYSIS OF COMPETING PRODUCTS/COMPANIES

KRFP will be operating in a differentiated space relative to more traditional forest products manufacturers. For KRFP, competition is shaped less by direct head-to-head competition on cost-related factors such as access to low cost raw materials and economies of scale. Rather, KRFP faces structural limitations in existing supply chains and operating in small, specialty markets.

Most mills in California and the surrounding region are optimized for high-speed production of commodity dimension lumber, and few are capable of or interested in producing long-length, large dimension timbers or supplying specialty 2" lamstock for glulam and mass timber products. This gives KRFP a natural advantage in serving custom builders, timber framers, and mass timber producers who require flexible production, small-batch orders, and fiber characteristics often unavailable from large-scale operations.

In the WWC-LWE segment, KRFP is entering a market with virtually no domestic producers. While wood wool cement products are widely manufactured in Europe (e.g., by companies like CEWOOD and Troldtekt), the U.S. market remains largely untapped. There are, however, similar startups such as Single Widget, Troy Acoustics, and WoodSyn which are currently planning North American WWC-LWE manufacturing capacity. Like KRFP, all these companies are in the early planning stages and none have started manufacturing operations.

Competing wall systems in North America include stick-built walls, SIPs (Structural Insulated Panels), ICFs (Insulated Concrete Forms), and mass timber panels like CLT. While each of these systems has established supply chains, WWC-LWE offers a unique blend of fire resistance, thermal mass, pest resistance, and local material sourcing that differentiates it—particularly in rural or wildfire-prone communities.

In the dimension lumber space, KRFP's competition is primarily indirect, coming from large mills that produce SPF or Douglas-fir framing lumber in high volumes. However, few of these mills are suited to serve the lamstock and CLT raw material markets, where straightness, grade, and consistency are more important than speed and scale. By focusing on small-batch, high-grade output and forming relationships with downstream engineered wood manufacturers, KRFP can position itself not as a commodity competitor, but as a specialty supplier serving design-driven and performance-sensitive applications.

Overall, KRFP's strategic focus on niche markets that are underserved by high-throughput competitors minimizes the risk of direct competition and supports long-term positioning based on quality, service, and regional value alignment.

3.4 MARKETING AND SALES STRATEGY

With production volumes intentionally sized to serve niche, high-value segments, KRFP's success will depend not just on product quality, but on targeted, relationship-based marketing. The following section outlines the initial go-to-market strategies for each of the primary lumber product lines.

3.4.1 Large Dimension Timbers

KRFP's strategy for marketing large dimension timbers centers on targeting custom homebuilders, timber frame contractors, architects, and engineers who design and build with exposed structural wood. These buyers typically require flexibility in sizes and lengths, as well as a willingness to mill to specification in relatively small volumes—all of which are capabilities that KRFP is uniquely positioned to offer.

The company will develop direct relationships with:

- Custom timber frame design/build firms operating in California, Oregon, Nevada, and Arizona
- Architectural and structural design firms specializing in lodge-style or exposed-structure public buildings
- Distributors and resellers focused on reclaimed or oversized timbers
- Institutional buyers such as parks departments, school districts, and Tribal housing authorities

KRFP will promote its offerings via:

- Direct outreach to design/build firms (via mailers, samples, and project tours)
- A small-scale digital presence, including a website and Instagram showcasing projects and inventory
- Participation in regional builder expos or timber frame trade gatherings
- Strategic partnerships with timber frame companies as a preferred supplier

Initially, the sales approach will focus on build-to-order projects, ensuring flexibility while developing a reputation for quality, reliability, and unique timber sizes.

3.4.2 Lamstock and CLT-Grade Stock

KRFP will target a short list of glulam and CLT panel producers operating in Northern California, Oregon, and Washington. These producers often face challenges in securing high-quality stock that meets their moisture, grade, and dimensional tolerance requirements. While KRFP will not have kiln drying capacity in early operations, it will offer:

- Green lumber supply contracts for producers with their own kilns
- Custom sorting and sizing to reduce downstream processing
- Future capability to provide kiln-dried, surfaced lamstock once drying capacity is added
- The potential to produce structurally graded lumber to thicknesses other than the 1.5" standard thickness of commodity dimension lumber, which could allow CLT and glulam manufacturers to more efficiently use fiber to achieve the required strength specifications.

Marketing to these buyers will focus on direct relationships and technical alignment, including:

- Site visits and sample shipments to showcase quality
- Tailored specifications to match each buyer's lamstock/CLT line inputs
- Exploration of long-term off-take or supply agreements to support capital investment in kilns

KRFP may also collaborate with universities, technical wood programs, or public R&D efforts (e.g., TallWood Institute, OSU, etc.) to pilot the use of local lamstock in innovative mass timber systems.

3.4.3 Electrical Power

KRFP's air-curtain burner system is expected to generate up to 100 kilowatts of renewable power, offering a modest but valuable source of electricity for on-site use and potentially for community benefit. The

initial go-to-market strategy for this power focuses on self-consumption, offsetting the facility's electrical load, including sawmill operations, lighting, and WWC-LWE manufacturing. Reducing reliance on grid power will help lower operating costs and improve resilience in a wildfire-prone, remote community where utility outages are increasingly common.

In parallel, KRFP will collaborate with the Karuk Tribe, Happy Camp Community Action, and potential technical partners to evaluate options for integrating the burner's power output into a local microgrid or community energy resilience project. This may include formal participation in California's Community Energy Resilience programs, and/or working with third-party providers to explore power purchase agreements (PPAs) or grid interconnection.

While electricity generation is not a primary revenue stream, the ability to convert waste biomass into value-added energy strengthens KRFP's position as a circular, place-based business. Over time, the system may be expanded or replicated in coordination with tribal or public energy initiatives, especially if grant funding supports additional microgrid infrastructure.

CHAPTER 4 – OPERATIONS PLAN

KRFP's operations are designed to maximize the value of local forest resources through an integrated, small-scale manufacturing model. Each component supports a closed-loop approach that emphasizes efficiency, minimal waste, and alignment with regional forest restoration goals. This chapter outlines the facility layout, production processes, raw material sourcing strategies, workforce needs, and key operational partnerships that will support successful implementation. This chapter further elaborates on these plans.

4.1 OVERVIEW OF MILL AND MANUFACTURING PROCESSES

KRFP's operations will consist of three primary production systems operating on a shared site: a small-scale specialty sawmill, a pilot-scale WWC-LWE manufacturing facility, and a biomass-fired power generation unit. Together, these systems are designed to utilize locally sourced logs and woody residues with minimal waste, low emissions, and high community value.

Sawmill—The sawmill will be the first operational component and will focus on producing large dimension timbers along with select dimension lumber recovered during timber processing. Total annual output is expected to be in the range of 3.0 to 3.2 million board feet, depending on log size and product mix. While detailed engineering and equipment procurement are still pending, the primary breakdown system is expected to be an industrial-grade band mill, such as Wood-Mizer's WM2500 or Wravor's WRC 1250 unit. Both are capable of handling large-diameter logs and long-length cuts. The mill will be configured with supporting edgers and resaws to maximize flexibility and yield. Lumber will initially be air-dried on site and sold rough green, with drying capacity anticipated in later phases.

WWC-LWE—The pilot-scale WWC-LWE facility will primarily focus on converting small diameter roundwood, generated from forest restoration and fuels reduction projects, into shredded wood fiber (wood wool) that is then mixed with Portland cement and cast into structural wall panels. A key piece of equipment in this process is the wood wool shredder, which will likely be sourced from manufacturers in India or China, where machines of the appropriate scale for KRFP are commonly used. The system will also retain flexibility to utilize mill downfall and other sawmill residuals, including lumber trim ends, slabs, and edgings, as supplementary feedstock. Rather than rely on automated processing, the pilot-scale plant will use manual batching, hand-loaded molds, and a covered curing area to reduce capital investment and create local employment opportunities. Once cured, panels will be cut to size and staged for shipment. At full pilot capacity, the plant is expected to produce enough panel material to supply up to 20 homes annually, each approximately 1,500 square feet in size. This translates into 30,000 to 35,000 cubic feet of WWC-LWE panels produced per year.

Power Generation—The air-curtain burner and generator system, if implemented, will process mill residuals and green waste to generate up to 100 kW of power. While the primary goal is on-site energy use, the modular system will also serve as a platform for piloting distributed energy models, potentially contributing to grid resilience or microgrid applications in partnership with the Karuk Tribe and other stakeholders.

Each of these components is modular and phased, allowing for staged implementation and scaling as markets develop and technical capabilities expand.

4.2 FACILITY LAYOUT AND PROCESS FLOW

The KRFP facility will be located on a previously developed industrial site on the north side of the town of Happy Camp, adjacent to Highway 96 and the Klamath River. While detailed engineering and site design

are still to be completed, a preliminary conceptual layout has been developed to guide early planning and engagement (see **Figure 4.1**).

At the heart of the facility will be a 50’ x 100’ open-sided building, tentatively referred to as the KRFP Building, which will house the core production functions for both the sawmill and WWC-LWE operations. The building will include:

- A primary breakdown area for the sawmill, including a portable or semi-portable band mill (e.g., Wood-Mizer or Wravor) and supporting equipment
- A wood wool shredding machine located in a separate bay or adjacent corner
- A manual batching and mold-filling station for casting WWC-LWE panels

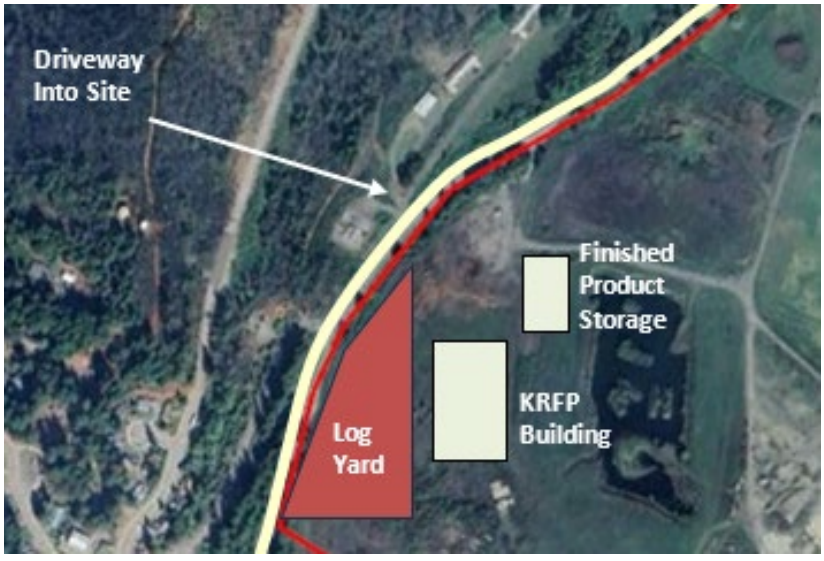
Logs will be delivered and stored in the log yard, located adjacent to the building near the main site driveway. Once scaled and sorted, logs will be fed into the breakdown saw, with sawn timbers and boards sorted and staged in the finished product storage area to the north of the KRFP Building. Trim ends, edgings, and other residuals not used in WWC production will be stockpiled for biomass combustion or other secondary use.

The WWC-LWE production flow will move from shredding to batching and molding under cover in the main building. After molds are filled, they will be moved—likely via forklift—to a separate, covered curing area, which has not yet been sited but may be developed adjacent to the KRFP building or along the northern perimeter of the finished product yard. Once cured, panels will be trimmed, packaged, and stored with other finished goods pending shipment.

The air-curtain burner and generator system will likely be located downwind of production areas and near the primary accumulation point for wood residuals. Final siting will depend on air permitting requirements, utility access, and safety clearances.

All material and vehicle flows will use the existing driveway off Highway 96, minimizing the need for new infrastructure. The layout is designed for maximum flexibility and low capital intensity, allowing KRFP to adapt operations over time as market demand and processing volumes increase. KRFP was recently awarded a grant to begin engaging engineers, which will support more detailed design work, feasibility assessment of equipment siting, and refinement of traffic, material, and utility flows across the site.

Figure 4.1—KRFP Conceptual Site Layout



4.3 RAW MATERIAL INPUT SOURCING

The viability of KRFP's operations depends on access to a consistent, regionally available supply of wood raw materials. These inputs include large diameter logs for sawmilling, small diameter roundwood for wood wool cement production, and woody biomass residuals for power generation. Fortunately, the Happy Camp area is situated near vast public and Tribal forestlands where restoration, fire risk reduction, and stewardship activities generate more than adequate volumes of underutilized wood fiber. This section outlines the primary sources of feedstock for each operational component and the partnerships that will be essential for securing supply.

4.3.1 Forest Restoration Timber

The rural West has a dire situation for forest treatment, as many local timber industries were gone before the millennium. Many people moved to areas with more opportunity, and most of the skills from that era faded as people changed careers. Happy Camp is among the towns in this situation, so all nearby timberland stakeholders are likely to be very glad to see KRFP rise from the ashes and dust to provide a market, jobs, and partnership opportunities.

One of the primary sources of raw material for KRFP's operations will be timber generated from forest restoration projects in the Klamath National Forest and surrounding landscapes. These projects are often designed to reduce wildfire risk, improve ecological resilience, and restore forest health, all of which involve the selective removal of small-diameter trees, overstocked stands, and ladder fuels. Although this material is often considered non-merchantable by traditional sawmills, it is well suited for WWC-LWE panel production.

Restoration-based supply offers several advantages: It supports forest health objectives, enjoys broad public support, and often comes with pre-existing environmental review under NEPA. Additionally, some of this material may be made available through stewardship contracts or Good Neighbor Authority (GNA) agreements, which allow for greater flexibility in timber sale design and enable closer collaboration between the U.S. Forest Service and local partners. These projects also tend to be relatively close to the KRFP site, minimizing haul distances and transportation costs.

Although no formal supply agreements are currently in place, KRFP has received strong support from the Klamath National Forest Supervisor, who recognizes the project's alignment with regional forest restoration goals. This support creates a strong foundation for future procurement partnerships as KRFP moves into operations. The facility's ability to process both larger sawlogs and small diameter roundwood provides flexibility to match the species and size distribution typically encountered in these projects, helping improve the economics and feasibility of large-scale treatments.

4.3.2 Hazard Removal Timber

The area of Siskiyou County centered on Happy Camp has a great deal of topography. Rural roads are therefore often cut into slopes, which can lead to hazard trees at risk of falling onto and blocking some of the limited number of ways to move about the region. Some of these trees are large diameter and would have excellent potential for a specialty sawmill producing long-length lumber. Therefore, another important source of feedstock for KRFP is hazard removal timber, which is material generated during roadside hazard tree abatement, post-fire cleanup, and defensible space creation around infrastructure and communities. These activities are increasingly common in the Happy Camp area due to escalating wildfire risks and recent large-scale fires such as the Slater and McKinney Fires.

The removal of hazard trees typically results in irregularly sized, fire-affected, or dead standing timber, which might not meet specifications for commodity mills but remains usable for WWC-LWE feedstock, biomass energy, and even specialty timbers when char and structural integrity allow. KRFP's flexible

processing approach positions it well to receive and utilize this type of material. Depending on condition and size, logs may be sawn into value-added products or shredded into wood wool. Unsuitable residues and decay-heavy portions can be routed to the air-curtain burner for energy recovery. This adaptability provides local land managers with an environmentally responsible, logistically convenient outlet for difficult-to-place material.

4.3.3 Tribal Timber

The Karuk Tribe is a key partner in the development of KRFP, and its interest in supporting local wood utilization and fire-resilient construction aligns closely with the business model. While the Tribe owns only a small amount of forested land, these parcels may still contribute modest volumes of timber to KRFP's raw material supply, particularly from forest health treatments, prescribed burning, or selective thinning efforts.

More importantly, the Karuk Tribe is actively pursuing co-management and master stewardship agreements on nearby national forest lands, including under the Good Neighbor Authority and other landscape-scale restoration frameworks. If implemented, these initiatives could expand Tribal influence over forest treatments and facilitate long-term, sustainable wood supply partnerships with KRFP. The resulting "Tribal timber" could be used for both large diameter sawlogs and small diameter WWC-LWE feedstock, depending on forest conditions and treatment prescriptions. Although no formal timber agreements exist yet, the Karuk Tribe has expressed a strong commitment to working with KRFP and sees the project as a pathway to meet tribal housing needs, promote local economic development, and advance its broader goals of land stewardship and cultural revitalization.

4.3.4 USFS Stewardship

The U.S. Forest Service (USFS) is the largest land manager in the region, and its stewardship of the Klamath National Forest will be central to KRFP's long-term raw material strategy. Through a combination of stewardship contracts, timber sales, and Good Neighbor Authority (GNA) agreements, the USFS can provide a diverse and ongoing supply of logs, particularly from projects focused on wildfire risk reduction, fuels management, and ecological restoration.

Many of the logs expected from these projects are well suited to KRFP's operational needs. Large-diameter sawlogs can be directed to the specialty sawmill for processing into beams and timbers, while small diameter material, which is often viewed by conventional mills as uneconomical, can serve as feedstock for the WWC-LWE plant. Additionally, woody biomass from USFS projects could help fuel the air-curtain burner and support on-site power generation.

While no formal supply agreements have been signed to date, KRFP has received strong encouragement from the Klamath National Forest Supervisor and has engaged in productive early-stage discussions with USFS staff. The USFS recognizes that the lack of nearby processing infrastructure has limited the pace and scale of forest restoration treatments in the region, and sees KRFP as a promising partner to help build capacity. As the project moves forward, KRFP intends to work closely with the USFS to secure material through both direct contracts and collaborative mechanisms that align with shared landscape goals.

4.4 WORKFORCE NEEDS AND TRAINING PLANS

KRFP's operations will generate meaningful employment opportunities in Happy Camp, with positions spanning wood handling, milling, fabrication, sales, and materials management. The initial staffing plan calls for approximately nine full-time equivalent positions. To support workforce development, KRFP plans to partner with Happy Camp Community Action, the Karuk Tribe, local school districts, and regional employment programs to deliver job readiness training, safety orientation, and hands-on instruction for new hires. As additional capacity (e.g., drying systems or finishing equipment) is added in future phases,

staffing levels might increase. The project aims to provide stable, year-round employment in a region with limited job opportunities, and will seek grant support to offer training stipends, onboarding support, and workforce incentives to recruit and retain a committed local team.

4.5 PARTNERSHIPS

KRFP cannot and will not operate in a vacuum. It is essential to the firm's business progress to cultivate and build strong relationships with regional stakeholders and suppliers. We all share this region; to be a good corporate citizen of Siskiyou County, KRFP must and will treat its partners with respect and consideration. Key partners include the Karuk Tribe, the U.S. Forest Service, and local environmental and community-based organizations.

4.5.1 Karuk Tribe

The Karuk people are the ancestral stakeholders in KRFP's region. They have no large contiguous reservation, but multiple separate holdings throughout the area. Their Tribal headquarters are in Happy Camp, and they are both a customer and vendor to KRFP—making them a cornerstone partner in KRFP's development. Headquartered in Happy Camp, the Tribe has a vested interest in improving housing access, economic opportunity, and forest resilience. The Tribe's potential role as a primary customer for WWC-LWE wall systems creates an immediate, ready market for one of KRFP's core products. In addition, the Tribe has pursued complementary initiatives—such as siting an air-curtain burner system and seeking expanded co-management of nearby forestlands—that directly align with KRFP's operational needs and values.

The Tribe's status as a sovereign entity also offers strategic advantages. For example, Tribal building codes can be modified or adopted independently, which may accelerate the adoption of innovative construction materials like WWC-LWE.

KRFP gains multiple advantages from this partnership, which means that it is essential to our success to assure that the Karuk also gain. Specifically for KRFP:

- Access to Karuk sawtimber. Simply put, the Tribe owns resources KRFP is willing to purchase and harvest.
- Energy market. The Tribe is the primary customer envisioned for the electricity generated by the air-curtain burner, which in essence will convert the mill's waste to something useful.
- WWC acceptance. While this material has not yet worked its way into most US building codes, Tribal sovereignty enables the Karuk to approve of the material and be one of its first customers, giving this innovative and nearly fireproof construction material a toehold that should lead to wider acceptance.
- Local harmony. Not all Tribal relationships with local non-Tribal communities around the West are as comfortable and healthy as that of Happy Camp's white and Native populations. We live, work, and play together. This relationship will contribute to KRFP's success if both sides do their part, as we have every reason to anticipate.

4.5.2 USFS

The United States Forest Service (USFS), a subsidiary office of the United States Department of Agriculture (USDA), owns the vast majority of local sawtimber. Put bluntly, KRFP could not contemplate operations without Federal timber from restoration treatments. This makes that partnership pivotal for KRFP.

To be the best possible partners for the USFS, KRFP must be prepared to buy and harvest a steady diet of restoration treatment timber as the USFS makes it available. The relationship is thus synergistic; as with the Karuk, we need the USFS just as they need us. KRFP will reap the following benefits:

- Access to as much raw material as KRFP could desire. This appears to be on a policy upswing.
- Greater safety for Happy Camp, where KRFP's people and neighbors live and often work. As the original motivator for Happy Camp Community Action, this urgency is in KRFP's DNA.
- Strong relationships with Federal representatives at the local level. While there will always be turnover in the Federal service, a positive relationship with our local representatives should make their jobs easier and lead to inherited respect—the outgoing able to show the incoming that KRFP is a cooperative and helpful partner.

One risk that must be mentioned is that local USFS representatives must answer to the USDA, a cabinet-level office led by a political appointee who serves at the pleasure of the President of the United States. When that position has a stable policy toward the USDA, it is easy to predict what the USFS will do. When that position produces unpredictable or capricious decisions, this could have major or even devastating impact on local partners.

The logical way to view this is as we view wildfire: It can happen; we must be prepared for it; we can mitigate its impacts but we cannot control it. Happy Camp's people and KRFP take the position that all business ventures entail some risk and that we must create a culture of sensible planning, development of alternatives, and looking as much at the potential rewards (a town made safe and resilient with better economic prospects) as at the risks.

4.5.3 Local ENGOs

KRFP's development is being spearheaded by Happy Camp Community Action, a local nonprofit focused on economic revitalization and fire-adapted community development. This group plays a lead role in community engagement, stakeholder coordination, and grant development. In addition, KRFP anticipates ongoing collaboration with two key local organizations: the Western Klamath Restoration Partnership (WKRP) and the Mid Klamath Watershed Council (MKWC). Both groups have deep experience in forest and watershed stewardship, community resilience planning, and cross-boundary landscape restoration. Their involvement can help ensure that KRFP's sourcing strategies and business practices remain aligned with environmental objectives, and that the business is fully integrated into broader efforts to build a fire-resilient, ecologically healthy, and economically vibrant Klamath region.

CHAPTER 5 – MANAGEMENT AND ORGANIZATIONAL STRUCTURE

Klamath River Forest Products (KRFP) will operate as a mission-aligned, for-profit enterprise supported by a strong network of community, Tribal, and technical partners. While the legal entity for the business is still being finalized, the venture is being incubated by Happy Camp Community Action, which has led early-stage planning, grant development, and stakeholder engagement. As KRFP moves into implementation, a lean but experienced management team will guide the business through startup, operations, and strategic growth. This chapter outlines the proposed organizational structure, leadership team, and the advisory and technical partners supporting KRFP's development.

5.1 ORGANIZATIONAL STRUCTURE & MANAGEMENT TEAM MEMBERS

KRFP is currently being developed under the guidance of Happy Camp Community Action (HCCA), a 501(c)(3) nonprofit organization committed to improving economic resilience and community well-being in the Happy Camp area. HCCA has led the project through its concept phase, secured grant funding, and engaged key partners and stakeholders.

As the business advances into implementation and early operations, KRFP is expected to be structured as a for-profit subsidiary or affiliated LLC under HCCA, allowing it to participate in commercial markets while still aligning with the nonprofit's mission and values. The proposed organizational structure for KRFP during its early operational phase is lean, with a flat management hierarchy and clear functional roles. Key leadership roles include:

- *General Manager*—overall leadership of the enterprise, with responsibility for strategy, compliance, and community engagement. The general manager will also be initially responsible for developing and building markets for timbers, lamstock, CLT stock and WWC-LWE buildings. Some time in years 3 to 5, after full production is achieved, it is possible that a sales/technical manager will also be hired. The cost for the person (if needed) has not been included in the financial analysis.
- *Finance & Marketing Manager*—handling financial controls, reporting, procurement, and external communications.
- *Operations Manager*—oversight of day-to-day activities across both the sawmill and the wood wool cement large wall element (WWC-LWE) production lines.
- Sawmill Crew (4 workers)—responsible for log breakdown, lumber sorting, equipment operation, and maintenance.
- WWC-LWE Fabrication Crew (3 workers)—producing wood wool, preparing molds, filling forms, and handling finished panels.

This lean workforce model reflects KRFP's focus on manual, small-scale manufacturing systems and a preference for employing local residents. While some positions will benefit from prior experience in sawmilling or construction, many duties are expected to be trainable and accessible to workers without a background in wood products. That said, both the operations manager and sales/technical manager roles will require individuals with significant experience, education, and technical fluency. In particular, the operations manager will need a deep understanding of small-scale milling operations, equipment integration, and workforce supervision.

Encouragingly, KRFP has already identified a potential candidate with decades of sawmill industry experience and personal ties to the Happy Camp community. While no formal commitments have been made, early discussions suggest a strong mutual interest in their involvement. This structure will enable

the business to remain nimble in its pilot phase while ensuring that key areas such as operations, sales, and compliance are professionally managed. As KRFP scales or adds new capabilities (e.g., drying, finishing, or panel assembly), the structure can evolve to include specialized supervisors or technical roles.

- Jasmine Borgatti will serve as the general manager
- Abigail Yeager will service as the finance and marketing manager
- Eric Hokanson will serve as the operations manager (tentatively identified)

Résumés for Jasmine Borgatti and Abigail Yeager are included in **Appendix 2**. Individuals to fill all other remaining roles have not yet been identified.

5.2 ADVISORY BOARD & TECHNICAL PARTNERS

In addition to its core management team, KRFP is supported by a growing network of advisors and technical experts who contribute specialized knowledge in areas such as forest products manufacturing, tribal housing, forest restoration, construction innovation, and market development. These partners are essential to the project's success, helping ensure that KRFP's business model remains rooted in local values while achieving technical, financial, and environmental viability.

5.2.1 Advisory Board

KRFP will be guided by an Advisory Board, providing governance, oversight, and strategic direction to ensure that management decisions align with both business goals and community values. KRFP is in the process of establishing an advisory board to provide strategic guidance, credibility, and oversight during its formative years. The board is expected to include individuals with experience in:

- Sawmill operations and equipment procurement
- Wood wool cement products and innovative construction materials
- Tribal housing and community development
- Forest restoration, stewardship contracting, and biomass utilization
- Market development and business strategy for forest-based enterprises

While no formal board appointments have been made, several individuals with relevant backgrounds have expressed interest in supporting the project. HCCA and KRFP will continue to engage these advisors and formalize the board structure as the business transitions into startup operations.

5.2.2 Technical Partners

KRFP is actively working with a range of technical partners, including:

- The Beck Group, a forest products consulting firm supporting feasibility analysis, capital planning, and business modeling
- Karuk Tribe Department of Natural Resources, providing insight on forest restoration priorities, tribal housing needs, and potential feedstock sourcing
- Western Klamath Restoration Partnership (WKRP) and Mid Klamath Watershed Council (MKWC), offering landscape-scale context and restoration alignment
- Engineers and equipment specialists (to be formally engaged via grant funding) who will guide facility layout, mill design, and compliance planning

These technical relationships ensure that KRFP is well-grounded in industry best practices, is regionally attuned, and is capable of adapting its operational model as new information, funding, or opportunities arise.

CHAPTER 6 – ENVIRONMENTAL & REGULATORY CONSIDERATIONS

The KRFP project is committed to aligning its operations with the highest standards of environmental stewardship and regulatory compliance. Given its location in a forested rural community with significant Tribal, Federal, and local oversight, the project will proactively address permitting requirements, environmental impact mitigation, and community engagement from the outset. This chapter outlines the key environmental considerations and regulatory pathways associated with the development and operation of the biomass campus, including air emissions, water use, waste management, and permitting under local, State, and Federal jurisdictions.

6.1 CEQA/NEPA STATUS AND PERMITTING STRATEGY

The KRFP facility will be developed on a privately owned former sawmill site in Siskiyou County, California. As such, it will require environmental review under the California Environmental Quality Act (CEQA), but it is not expected to trigger National Environmental Policy Act (NEPA) review unless direct Federal involvement arises. For example, NEPA might be triggered through funding, permitting, or land use approvals tied to the facility itself.

A CEQA lead agency, most likely Siskiyou County, will be identified early in the development process. The project team will work closely with County staff to determine the appropriate level of environmental review, with the goal of streamlining permitting and incorporating project features that minimize environmental impacts. It is anticipated that a Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR) may be required, depending on the scale and scope of proposed activities.

Although NEPA is not expected to apply to the facility's construction or operations, it might be relevant to upstream feedstock sourcing—particularly if the project uses forest residues or small diameter material from U.S. Forest Service restoration projects. In such cases, NEPA compliance would be the responsibility of the land management agency (e.g., USFS), not KRFP.

Key elements of the permitting strategy include:

- Early coordination with the CEQA lead agency to determine the scope of review and integrate permitting with the project schedule.
- Tracking potential Federal involvement that could trigger NEPA, particularly related to grant funding or technical assistance.
- Staying aligned with NEPA-cleared restoration projects to ensure a reliable, compliant feedstock supply from public lands.
- Reassessing permitting requirements as engineering details are finalized, especially for components that may carry additional regulatory obligations such as the air-curtain burner and the potential lumber dry kilns.

6.2 AIR & WATER PERMITTING

The KRFP facility is expected to require a range of permits related to air emissions and water management, depending on the final configuration of its equipment and operations. The project team will coordinate closely with the Siskiyou County Air Pollution Control District (SCAPCD) and the North Coast Regional Water Quality Control Board (NCRWQCB – Region 1) to ensure timely and comprehensive compliance with all applicable regulations.

6.2.1 Air Permitting

Potential sources of air emissions at the facility include diesel-powered equipment, a biomass-fired dry kiln, and the on-site combustion of woody residuals in an air curtain burner or similar system. Based on current plans, the air curtain burner will be operated as a controlled disposal method for low-value residues, with the potential for energy capture and electricity generation.

SCAPCD will likely require an Authority to Construct (ATC) and Permit to Operate (PTO) for the burner and any other regulated stationary sources. Emissions will need to comply with district thresholds for criteria pollutants such as particulate matter (PM), nitrogen oxides (NOx), and volatile organic compounds (VOCs). The project team will explore emissions control technologies and best management practices to ensure compliance and minimize local air quality impacts.

6.2.2 Water Permitting

Water-related permits will focus on stormwater management, water use, and potential process water discharges. Construction and operational activities will require compliance with the General Industrial Stormwater Permit under the National Pollutant Discharge Elimination System (NPDES), administered by the NCRWQCB. A Stormwater Pollution Prevention Plan (SWPPP) will be developed and implemented accordingly.

Although overall water use at the facility is expected to be modest, any withdrawals from surface or groundwater sources—particularly for kiln operations, fire suppression, or equipment cooling—will be evaluated for regulatory implications. If process water is used and discharged, the facility may require a separate Waste Discharge Requirement (WDR) or a notice of non-discharge.

As facility engineering progresses, especially with respect to thermal systems and potential water reuse strategies, a detailed air and water permitting matrix will be developed to guide agency engagement, permit sequencing, and compliance documentation.

6.3 COMMUNITY AND TRIBAL CONSULTATION EFFORTS

From its inception, the KRFP project has recognized that long-term success depends on strong relationships with the local community and the Karuk Tribe. Given the facility's location in Happy Camp, within the Karuk Tribe's aboriginal territory and a historically significant part of the Klamath River corridor, early, ongoing, and respectful engagement with Tribal and community stakeholders is central to the project's development philosophy.

The Karuk Tribe has played an active role in forest and fire management throughout the region and is a key partner in advancing both economic development and cultural landscape restoration. The KRFP team has engaged with Tribal leaders and staff to align the project with Karuk priorities, including workforce development, wildfire risk reduction, and value-added use of restoration by-products. The Tribe's involvement is expected to expand as the project enters permitting, hiring, and operational phases.

In addition to tribal consultation, outreach to local residents and organizations such as the Mid Klamath Watershed Council and Western Klamath Restoration Partnership has helped shape the project's vision. Future community engagement efforts will include:

- Public informational meetings and site tours
- Transparent communication around environmental permitting and construction activities
- Coordination with local schools and job training programs to build a pipeline of skilled workers
- Incorporation of community feedback into facility design and operations where feasible

By maintaining open lines of communication, honoring Tribal sovereignty, and fostering local participation, KRFP aims to serve as a trusted and beneficial presence in the Happy Camp community.

6.4 WILDFIRE RISK REDUCTION & CLIMATE CO-BENEFITS

The KRFP project is rooted in the dual goals of restoring forest health and reducing the climate impact of wildfire-prone landscapes. By creating market demand for low-value woody material generated through fuels reduction and ecological thinning projects, the facility will play a vital role in helping to make wildfire mitigation economically feasible at scale. In doing so, KRFP also generates important climate co-benefits by reducing greenhouse gas emissions associated with high-severity wildfire and open-pile burning, while contributing to rural economic resilience and a more circular forest-based economy.

6.4.1 Wildfire Risk Reduction

Wildfire will exist for as long as forests and lightning exist. The harvesting of restoration treatment timber (thinning, not clear-cutting) has the following effects:

- Fire-resistant timber stands. With less deadfall and overcrowding, the remaining timber has less competition for minerals, light, and water. Fires spread less quickly, with less intensity, and do less damage to the forest and soils.
- Disease/insect-resistant timber stands. The more crowded a forest becomes, the more vulnerable it is to mortality due to tree diseases and insect intrusions—putting even the healthiest trees at risk.

As a result, the local environment improves—and with KRFP paying for the timber, the landowners gain this benefit with some revenue to show for it.

6.4.2 Climate Co-Benefits

KRFP's activities will be great for the environment not just on the micro level, but in the grand scheme. This should generate positive perception in the court of public opinion, which is helpful to any going concern. Here are some specific ways in which our business will help make the state, country, and planet better places:

- Less wildfire smoke. The combustion in the air curtain burner will be far cleaner than an uncontrolled wildfire.
- Carbon sequestration. Lumber will sequester trees' carbon for its lifecycle; WWC will sequester carbon for what will likely be a protracted lifecycle.
- Healthier trees. Long-lived trees take on more carbon and help the atmosphere by drawing in carbon dioxide.
- Support for climate-adaptive forest management that improves water retention, biodiversity, and landscape-scale carbon stability.

The project also aligns with the State of California's climate goals related to biomass utilization, wildfire resilience, and rural economic development, which offers a scalable, place-based model for integrating forest management and climate action.

CHAPTER 7 – FUNDING STRATEGY

Launching Klamath River Forest Products (KRFP) in Happy Camp will require approximately $5 million in startup capital. The funding strategy is designed to balance government and philanthropic support with private capital, ensuring both financial feasibility and alignment with the project's mission of wildfire-risk reduction, rural economic development, and sustainable wood products manufacturing. Each of the following subsections describes specific funding sources.

7.1 GOVERNMENT GRANTS

Government support is a critical foundation for the project, particularly given the strong policy focus on wildfire risk reduction, renewable energy, and rural development. KRFP will pursue the following opportunities:

- *State of California – CAL FIRE:* CAL FIRE administers Wood Products and Bioenergy Business Development grants designed to expand markets for small diameter timber, reduce wildfire risk, and create rural jobs. These programs are a natural fit with KRFP's objectives. KRFP applied during the most recent cycle, but was not awarded funds because a complete business plan is required as part of the submission package. We are confident that this document will greatly increase our chances of securing a CAL FIRE grant in the next application cycle.
- *Federal – U.S. Forest Service (USFS):* The USFS Wood Innovations Program, Community Wood Energy and Wood Innovations Program, and Hazardous Fuels reduction initiatives can provide direct capital support or cost-share funding. KRFP's alignment with Federal priorities such as forest restoration, wildfire resilience, and rural development positions it well to pursue these opportunities. Happy Camp Community Action has received a $300,000 Wood Innovation Grant from the USFS and a $100,000 grant from the Ford Family Foundation, which will be used to complete further planning and development tasks.

Government grants are expected to provide a base of $1.5 to $2.0 million in early-stage funding, reducing the up-front capital required from private sources.

7.2 PHILANTHROPIC CONTRIBUTIONS

Private foundations are increasingly directing funds toward climate resilience, wildfire mitigation, and rural community development. KRFP will seek support from philanthropic partners such as:

- *Ford Family Foundation*—with a focus on social and economic justice in rural communities. HCCA has strong connections with this organization and we are confident they will provide funding as our plans develop further.
- *McConnell Foundation*—which has a track record of investing in Northern California community resilience.
- *US Endowment for Communities and Forestry*—the endowment's impact investing program provides mission-aligned capital (in the form of program related investments, loans, and equity) to sustainable forest and rural community enterprises.
- *Richard King Mellon Foundation*—whose climate, conservation, and community development initiatives align closely with KRFP's wildfire-risk reduction and sustainability goals.

Philanthropic contributions are expected to provide as much as $1.5 to $2.0 million, bringing the total from non-dilutive funding sources to $3.0 to $4.0 million. If grant and philanthropic funding is secured at the expected levels, these funds significantly reduce overall risk for private investors while signaling broad community and institutional support.

7.3 PRIVATE INVESTMENT

Private equity or mission-aligned investors represent a second tier of the funding structure. Potential sources include:

- Impact investors seeking returns tied to environmental and social outcomes.
- Regional timber and forest-product investors looking to diversify into new markets.
- Strategic partners (such as mass timber builders, distributors, or renewable energy developers) who may benefit from KRFP's product portfolio.

Equity investment provides flexibility and aligns incentives for long-term growth. However, it requires careful structuring to balance investor expectations for return with KRFP's community- and mission-driven goals.

7.4 DEBT FINANCING

Debt financing remains a viable option for filling the remaining capital needs. Commercial lenders and community development financial institutions (CDFIs) may provide favorable terms, particularly with Federal or State loan guarantees tied to rural development and renewable energy.

Advantages of debt financing include avoiding dilution of ownership and maintaining mission control. Risks include debt service obligations, which must be structured around the ramp-up of revenues from the pilot-scale operation. If selected, debt will be paired with robust cash flow management to ensure financial resilience.

7.5 FUNDING STRUCTURE AND TIMELINE

The target funding structure is as follows:

- Government and Philanthropic Grants/Donations: $3.0 to $4.0 million
- Private Investment and/or Debt Financing: $1.0 to $2.0 million
- Total Capital Requirement: $5.0 million

Grant and philanthropic applications will be prioritized in the early project phases, both to secure non-dilutive funding and to provide leverage when negotiating with investors or lenders. Private capital, whether equity or debt, will be finalized once a critical mass of grant commitments is in place.

7.6 SUMMARY

KRFP's funding strategy blends public support, philanthropic partnerships, and private capital into a diversified financing approach. This strategy lowers financial risk, strengthens alignment with wildfire mitigation and community development goals, and ensures the capital base needed to successfully launch operations in Happy Camp. By securing as much as $3.0 to $4.0 million in grants and donations and combining these with $1.0 to $2.0 million in private investment or debt, KRFP will be well-positioned to finance its facilities, equipment, and early operations.

CHAPTER 8 – FINANCIAL PERFORMANCE

KRFP's financial performance is central to demonstrating the project's viability and long-term contribution to the Happy Camp community. This chapter presents the projected revenues, costs, profitability, and key financial indicators for the business, based on detailed pro forma modeling. The analysis draws upon industry benchmarks, well-grounded assumptions, and a careful review of both market opportunities and operating costs.

KRFP's business model is designed to balance community economic development goals with financial sustainability. By leveraging a diversified revenue base including specialty large-timber lumber products and innovative wood wool cement panels, KRFP reduces dependence on any single market. At the same time, the co-location of multiple operations on a former sawmill site generates cost efficiencies in equipment utilization, labor, utilities, and raw material handling. Not included in the analysis is the financial impact of revenues and costs that would arise from implementing the biomass power option.

The following sections provide a comprehensive narrative describing KRFP's expected financial trajectory over its first ten years of operation, with attention to revenue growth, margin development, cash flow, and key financial ratios. Financial statements accompanying the narrative are included in **Appendix 1**. Projections are presented in a range of scenarios to account for variability in feedstock costs, product pricing, and market adoption. Together, these financial projections demonstrate that KRFP can achieve sustainable profitability while delivering lasting social, economic, and environmental benefits to the Klamath River region.

8.1 REVENUE PROJECTIONS

KRFP's initial revenue model is based on two primary product streams: 1) specialty lumber products produced at the sawmill, and 2) large wall elements manufactured from wood wool cement. A smaller revenue contribution may also arise from biomass power generation, but it is not included in the financial modeling.

The first year of operation will be a ramp-up period, with initial sales totaling approximately $2.0 million across both the sawmill and WWC-LWE lines. As operations stabilize, production volumes will increase, and average sales realization is expected to grow at a rate of 3% per year. By the end of the 10-year projection period, total revenues are forecast to reach approximately $4.3 million annually, more than doubling the initial year.

Revenue is weighted heavily toward the sawmill, which is projected to account for roughly 75% of total sales. This reflects both the strong regional demand for large dimension specialty lumber products and the comparative scale advantage of sawmilling relative to the pilot-scale WWC-LWE line. The WWC-LWE business is projected to contribute about 25% of revenues, with potential for long-term growth if market adoption of innovative cement-wood panels accelerates and the scale of the operation increases.

This balanced mix of traditional lumber and innovative building materials provides KRFP with diversification across product markets, while maintaining a core reliance on proven sawmill operations. The revenue outlook demonstrates steady, sustainable growth that underpins the company's ability to cover operating costs, service debt, and reinvest in future expansion.

8.2 OPERATING COST ESTIMATES

The cost structure for KRFP is driven primarily by raw material procurement and labor, which together account for the majority of ongoing operating expenses. In the first two years, costs are lower due to the

phased ramp-up of both the sawmill and the WWC-LWE line. By Year 3, the first year of full-scale operation for both product lines, total annual operating costs are projected to stabilize at a representative level.

The single largest cost category is raw materials, including log purchases for the sawmill and cement and additives for WWC-LWE production. These inputs are projected at approximately $1.33 million annually in Year 3, and will scale in line with production volumes and modest inflationary increases over the projection period. Given KRFP's location in a timber-rich region, the company benefits from proximity to supply sources, but delivered log costs will remain a significant portion of total expenses.

The second largest expense category is labor, including both hourly production staff and salaried management. Fully loaded labor costs including wages, benefits, and payroll taxes are projected at approximately $950,000 in Year 3, representing the backbone of KRFP's commitment to providing stable, well-paying jobs in the Happy Camp community. Labor costs are expected to rise gradually over time with inflation and as additional skilled workers are added to support growth.

Other cost categories include utilities, equipment maintenance, insurance, site lease costs, and administrative overhead. While meaningful, these expenses are comparatively modest relative to raw materials and labor. Together, the cost structure reflects a lean but resilient operating model, with a focus on efficient procurement, workforce development, and careful management of overhead.

8.3 GROSS MARGINS & OPERATING MARGINS

KRFP's gross margin reflects the balance between revenues from lumber and WWC-LWE sales and the costs of raw materials and labor, the two largest expense categories. By Year 3, the first year of full operation across both business lines, revenues are projected at approximately $3.4 million, with raw material costs of about $1.33 million and labor costs of about $950,000. Other operating expenses, including utilities, maintenance, insurance, and administration, add a smaller but significant layer of cost.

On this basis, KRFP is projected to achieve a gross margin of roughly 35-40% in steady-state operations. This reflects both the premium value of specialty lumber products and the efficiency gains from co-locating the sawmill and WWC-LWE lines on a single site. Over time, the gross margin is expected to strengthen modestly as sales volumes grow, fixed costs are spread over larger output, and production efficiencies are realized.

Operating margin, which accounts for overhead and administrative expenses, is projected at 15-20% by Year 3, rising gradually over the 10-year forecast period. This progression highlights the company's ability not only to cover its operating costs, but also to generate positive earnings before interest, taxes, depreciation, and amortization (EBITDA) that can support reinvestment, debt service, and community benefit commitments.

Together, these margin projections demonstrate that KRFP is positioned to be a financially sustainable enterprise. The balance of specialty lumber revenues, innovative WWC-LWE products, and careful cost control provide a solid financial foundation for long-term success.

8.4 CAPITAL EXPENDITURES & FINANCING COSTS

The total startup cost for KRFP is estimated at $5.0 million, which includes both the acquisition and installation of critical equipment and the provision of adequate working capital to sustain the business through the ramp-up period. The capital program is broken into three main components:

1. *Initial Equipment, Freight, Buildings, and Supplies – $1.3 million*

This covers the purchase and installation of the sawmill and WWC-LWE production lines, along with necessary building improvements, site preparation, freight, and ancillary equipment. These investments form the foundation for KRFP's operational capacity.

2. *Additional Site and Equipment Costs – $2.7 million*

   Based on experience with similar projects, a significant portion of costs are expected to be refined upward following detailed engineering and procurement analysis. This allocation provides for contingencies related to site development, utility interconnections, additional handling systems, and installation costs that typically become clearer during the final engineering phase.

3. *Working Capital – $1.0 million*

   Startup operations require cash reserves to fund raw material purchases, initial payroll, insurance, and other early operating costs before revenues are sufficient to cover expenses. This allocation ensures that KRFP can manage cash flow effectively during the first year of ramp-up.

The $5.0 million in startup capital will be funded through a combination of government grants (Federal and State), philanthropic contributions, private investment, and debt financing. While grant and philanthropic funding are expected to cover as much as $3.0 to $4.0 million, for the financial projections included here it was conservatively assumed that the total was $1 million. The remaining $4.0 million are to be secured through debt. Thus, the financial projections assume $4.0 million is obtained through debt financing with an interest rate of 7%, which is consistent with current lending conditions for early-stage manufacturing businesses. Loan repayment schedules have been incorporated into the pro forma financial model, with adequate cash flow coverage projected to maintain healthy debt service ratios.

Together, this capital structure balances non-dilutive funding sources (grants and philanthropy) with private investment and commercial financing. This conservative approach to financial performance projections shows that the businesses are viable if debt financing is needed. To the extent that grant and philanthropic funds are secured, financial performance will improve. Regardless of the final financing package, this blended approach lowers financial risk, ensures alignment with community economic development goals, and positions KRFP for long-term financial sustainability.

8.5 PROFITABILITY OUTLOOK

KRFP's path to profitability is shaped by its phased ramp-up, diversification of revenue streams, and disciplined cost structure. In Years 1 and 2, operations will be in startup mode, with modest revenues of roughly $2.0 million in Year 2 and a negative bottom line as fixed costs outweigh early sales. However, as production stabilizes and both the sawmill and WWC-LWE lines operate at full capacity, the company is projected to achieve positive earnings by Year 3.

At steady state, annual revenues of approximately $3.4 million in Year 3 are expected to generate a gross margin of 35-40%, translating to a positive EBITDA margin in the range of 15-20%. This level of performance is sufficient to cover debt service, maintain working capital reserves, and support modest reinvestment in equipment and facilities.

Over the 10-year forecast period, revenues are projected to grow at an average annual rate of 3%, reaching approximately $4.3 million in Year 10. Net profitability is expected to strengthen as fixed costs are spread over larger production volumes and operational efficiencies are realized. By the midpoint of the projection period, KRFP is forecast to generate consistent positive net income, with the potential to return value to investors while also reinvesting in business expansion and community priorities.

Break-even analysis indicates that KRFP will cover its fixed and variable costs at a sales volume achievable within the first three years of operation. From that point forward, the company is positioned to operate on a self-sustaining basis, with sensitivity analysis showing resilience to moderate fluctuations in raw material costs or sales prices.

In summary, the profitability outlook for KRFP demonstrates a credible pathway from early ramp-up losses to stable, positive net income. This progression underscores the long-term viability of the enterprise and its ability to deliver both financial returns and social benefits to the Happy Camp community.

8.6 CASH FLOW ANALYSIS

KRFP's cash flow projections highlight the significance of both start-up capital expenditures and working capital requirements. In Year 0, the project secures $4 million in long-term borrowings and $1 million in deferred grant revenue. In addition to funding equipment purchases and site development, the model allocates $1 million to establish working capital, ensuring the business has sufficient liquidity to cover inventory, receivables, and other current obligations during the critical ramp-up phase.

In Year 1, cash flows remain negative as the facility begins operations. Net operating losses of about $500,000, combined with quarterly CAPEX installments totaling more than $1.2 million, continue to draw down cash. The pre-funded working capital helps buffer these outflows and provides the necessary liquidity to keep operations running smoothly.

By Year 2, positive contributions from operations begin to appear, supported by higher revenues and more efficient cost absorption. While modest CAPEX and debt service persist, the early infusion of working capital continues to reduce risk by stabilizing cash availability.

From Year 3 onward, the business generates increasingly strong operating cash flows—growing from under $200,000 per quarter in the early years to more than $1.3 million annually by Year 10. The initial working capital allocation, combined with long-term debt and grant funding, allows KRFP to bridge the early negative cash flow period and position the company for consistent profitability and financial sustainability.

In summary, KRFP's cash flow profile demonstrates a well-managed ramp-up period followed by sustainable, positive generation of operating and free cash flow. This financial resilience ensures the company can meet its obligations, fund expansion, and deliver on its mission to support economic development in the Happy Camp region.

8.7 BALANCE SHEET HIGHLIGHTS

KRFP's balance sheet reflects the capital-intensive nature of a manufacturing start-up, underpinned by a carefully structured mix of debt financing and non-dilutive grant support. At inception (Year 0), the balance sheet shows approximately $5.0 million in total assets, held entirely in cash from the initial capital package. These funds are deployed in Year 1 toward equipment, buildings, and site improvements, with property, plant, and equipment balances reaching roughly $4.0 million after installation and engineering contingencies. In addition, approximately $1.0 million is maintained as working capital reserves, providing liquidity to support procurement, payroll, and early operating costs during the ramp-up phase.

On the liabilities side, the structure is anchored by $4.0 million in long-term debt and $1.0 million in deferred grant revenue, which is recognized as the company earns against project milestones. Debt service gradually reduces outstanding borrowings over the 10-year forecast period, steadily improving the company's leverage profile.

Equity is initially limited because the model assumes grant funding is booked as a liability rather than contributed capital, and retained earnings are negative in the early years as the company incurs start-up

losses. However, by Year 3–4 retained earnings turn positive, and by Year 5 onward equity builds steadily as operating profitability is achieved.

Overall, the balance sheet demonstrates a sound structure for a start-up manufacturing enterprise: a strong fixed-asset base, adequate working capital to support operations, manageable levels of debt, and a growing equity position as the business matures. This trajectory provides both investors and lenders with confidence in KRFP's financial stability and long-term viability.

8.8 KEY FINANCIAL METRICS

To evaluate the overall attractiveness of the KRFP business model, several financial performance indicators were developed from the 10-year pro forma. These metrics provide insight into the company's return potential, risk profile, and ability to meet obligations to investors and lenders.

- *Internal Rate of Return (IRR):* The project yields an IRR of approximately 15.3% based on projected operating cash flows. This performance is competitive with typical hurdle rates for early-stage manufacturing ventures in the forest products sector.
- *Net Present Value (NPV):* Using a conservative 10% discount rate, the project produces a positive NPV of roughly $1.209 million, confirming that projected future cash flows exceed the $5.0 million initial investment.
- *Payback Period:* The projected payback period for KRFP is approximately six years, meaning the initial capital investment is fully recovered by Year 6 of operations. This timeframe is consistent with expectations for capital-intensive manufacturing ventures and aligns well with the project's forecasted 15% IRR. The combination of a reasonable payback period and strong return profile highlights the project's potential to deliver both timely capital recovery and long-term profitability.

Taken together, these financial metrics demonstrate that KRFP is a financially robust project with the capacity to generate competitive returns, cover its financing obligations, and provide long-term benefits to both investors and the Happy Camp community.

8.9 RISK FACTORS & MITIGATION

Like all manufacturing startups, KRFP faces financial and operational risks that could affect performance. Recognizing these risks and proactively developing mitigation strategies is an important part of the company's financial planning. See additional discussion of risks in Chapter 10.

Market Risks

- Lumber Price Volatility: Specialty lumber prices can fluctuate with housing markets and broader economic cycles.
    - Mitigation: Focus on niche, high-margin products less tied to commodity markets; diversify sales into multiple geographic regions.
- WWC-LWE Market Adoption: As an innovative product, WWC-LWE panels depend on market education, code acceptance, and customer adoption.
    - Mitigation: Pursue demonstration projects, partnerships with architects/engineers, and pilot sales to build credibility and demand.

Supply Risks

- Log and Raw Material Supply: Delivered log costs and availability, as well as cement input costs, represent the largest expense category.
    - Mitigation: Secure long-term supply agreements with local landowners, Tribes, and agencies; diversify procurement sources; maintain working capital reserves to manage short-term cost spikes.

Operational Risks

- Ramp-Up Execution: New operations can face startup inefficiencies, leading to lower productivity or higher costs in early years.
    - Mitigation: Employ experienced mill operators and engineers; implement phased commissioning; include budget contingencies in working capital.
- Equipment Reliability: Mechanical breakdowns or delays in replacement parts could disrupt production.
    - Mitigation: Maintain proactive maintenance programs; secure vendor service agreements; maintain spare parts inventories for critical systems.

Financial Risks

- Debt Service Obligations: With $3.5–$4.0 million in debt financing, the company must maintain adequate cash flows to meet repayment schedules.
    - Mitigation: Conservative financial modeling; target DSCR >1.5x; blend equity and grant funding to reduce leverage.
- Working Capital Constraints: Delays in customer payments or unexpected costs could tighten cash flow.
    - Mitigation: Maintain adequate reserves; establish customer payment terms that align with procurement cycles; explore lines of credit for short-term liquidity.

External Risks

- Regulatory and Environmental Compliance: Permitting, environmental standards, or building code changes could add costs or delay operations.
    - Mitigation: Work closely with regulators and permitting agencies; design facilities to meet or exceed compliance standards; leverage partnerships with local and Tribal governments.
- Wildfire and Natural Disasters: The Happy Camp region is highly fire-prone, posing potential threats to supply, operations, and facilities.
    - Mitigation: Implement site fire-hardening measures; maintain insurance coverage; seek diversification of fiber sources; develop contingency supply plans.

8.10 FINANCIAL ANALYSIS CONCLUSION

The financial projections for KRFP demonstrate a clear pathway from startup to long-term sustainability. While the first year of operations will involve a ramp-up period and modest revenues, by Year 3 the sawmill and WWC-LWE production lines are expected to reach full operating capacity, generating positive earnings and cash flow. Over the 10-year forecast horizon, revenues grow at a steady 3% annual rate, reaching more than $4.3 million by Year 10.

Key financial metrics underscore the project's viability: a positive net present value of approximately $0.76 million, an internal rate of return of 11%, and a stable debt service coverage ratio above 1.5x once operations stabilize. Although the payback period extends beyond the 10-year modeled period, the project provides consistent positive cash flow after ramp-up, supporting reinvestment, debt service, and potential returns to investors.

Importantly, KRFP's financial model is designed with resilience in mind. Diversified revenue streams, disciplined cost management, and a blended funding approach (grants, philanthropy, equity, and debt) reduce exposure to single-market risks and enhance long-term stability. This financial foundation supports KRFP's broader mission: creating durable jobs, strengthening local economic development, and advancing sustainable forest management in the Happy Camp region.

In summary, KRFP presents a financially sound investment opportunity that balances profitability with community and environmental impact, positioning the enterprise as a cornerstone of regional forest-based economic renewal.

CHAPTER 9 – IMPACT ASSESSMENT

The project will create quality local jobs, reduce wildfire risk, and support Tribal economic development. Environmental benefits include improved forest health, reduced biomass waste, and low-carbon building material production. This chapter provides further details supporting the preceding statements.

9.1 LOCAL EMPLOYMENT & WORKFORCE DEVELOPMENT ASSESSMENT

9.1.1 Karuk Tribe

The Karuk have their Tribal headquarters in Happy Camp, and have been involved in the planning from the start. With 30% of the community being Native American, their support is critical to any community project. The Tribe also has access to funding options that are not available to HCCA on its own, is prepared to purchase power from the cogeneration system (a generalized timber industry term applicable to the air-curtain burner), and has the sovereignty to approve innovative construction materials such as WWC-LWE. They are important citizens of Happy Camp and are represented on the HCCA Board.

9.1.2 USFS

National Forests surrounding Happy Camp are by far the largest source of raw materials for KRFP. Supplies are sustainable because there will always be hazard trees that must come down to avoid blocking roadways (or have already fallen and must be removed), and the scale of KRFP's annual offtake is lower than the need for restoration treatments (and the associated material harvested) near Happy Camp. Nonetheless, it will be critical for KRFP to reach a Master Stewardship Agreement (MSA) with the regional USFS managers. By treating them as key stakeholders, KRFP hopes to develop solid relationships that benefit the Federal government as well as our community.

9.2 SUCCESS METRICS

In all cases, KRFP intends to maintain the same methodology over time. This will enable us to compare results from different timeframes and absorb key lessons management can use to take next steps, course correct, and otherwise take advantage of the administrative nimbleness available to a very small company that does not have six decision-making levels to explore a new product or order a new set of safety PPE.

9.2.1 Economic

KRFP will measure its economic effectiveness by reviewing job creation, sales relative to costs, and overall profit.

9.2.2 Environmental

We consider that the best measurement of environmental benefit involves total acres treated, percentage of those that are in high-risk zones, and biomass utilization rates. USFS managers should be a very reliable source of treatment acreages. For cost as well as environmental reasons, KRFP would prefer the treatments to begin closest to Happy Camp. As they reach farther out, transportation costs will increase; management must forecast and prepare for this slight but consequential change.

9.2.3 Social

KRFP will measure its social success through stakeholder feedback, survey distribution and evaluation, establishment and use of WWC-LWE as a building material, and team building that brings all involved groups together to cooperate for our group benefit.

9.3 FOREST & WATERSHED HEALTH BENEFITS

9.3.1 Forest Health Benefits

KRFP's operations will deliver significant improvements to the health and resilience of forests in the Klamath River watershed. By creating a reliable market for small diameter trees and other by-products of fuels reduction projects, the enterprise directly supports active forest management that addresses the challenges of overstocking, drought stress, and high wildfire risk.

A key forest health benefit is the reduction of stand density, which lowers competition among trees for limited water and nutrients. Thinned stands are less prone to insect outbreaks, disease, and drought-related mortality. As a result, residual trees grow stronger and more resilient, improving overall stand structure and vitality. This healthier condition makes forests better able to withstand the stresses of climate change, including hotter, drier summers.

KRFP also contributes to reduced wildfire risk and severity. Overstocked forests with high fuel loads are at high risk of catastrophic fire, which can destroy entire stands, impair soils, and set back ecosystems for decades. By removing excess biomass and creating defensible space around communities, KRFP helps shift fire behavior from high-intensity crown fires to lower-severity surface fires that are more ecologically appropriate and less destructive.

Another important outcome is improved biodiversity and habitat quality. Thinning dense stands creates space for a diversity of native understory plants, which in turn supports wildlife populations. More open forest structure benefits species such as deer and elk while improving habitat for birds and pollinators. Restoring forest heterogeneity also enhances landscape connectivity, which is important for long-term ecosystem resilience.

Finally, KRFP's model supports long-term carbon stability in regional forests. While thinning removes some biomass in the short term, it reduces the likelihood of large-scale carbon loss from stand-replacing wildfires. By storing wood in durable products such as lumber and WWC-LWE panels, the project also extends carbon benefits beyond the forest and into the built environment.

Taken together, these impacts demonstrate that KRFP is not simply a business enterprise, but also a catalyst for restoring the ecological health of Klamath Basin forests. Healthier, more resilient forests provide lasting benefits for wildlife, water, climate, and the communities that depend on them.

9.3.2 Watershed Health Benefits

In addition to creating jobs and supporting local economic development, KRFP will deliver meaningful benefits to the health and resilience of watersheds in the Klamath River region. By utilizing small diameter material and other by-products of fuels reduction projects, the enterprise directly contributes to improved forest conditions that safeguard water quality, aquatic habitat, and long-term watershed function.

One of the most immediate benefits is the reduction of sedimentation and erosion. Catastrophic wildfires are among the largest sources of soil loss and sediment delivery to streams in Northern California. By helping to lower wildfire risk, KRFP indirectly reduces the volume of sediment and ash that can impair water quality and clog fish-bearing streams. Cleaner water and lower sediment loads translate into healthier aquatic habitats, improved drinking water supplies, and reduced costs for downstream communities.

Thinning and restoration activities also enhance hydrological function. Healthier forests with less overcrowding allow more snow to reach the forest floor and improve infiltration, leading to more stable stream flows. This improves late-season water availability and reduces the frequency of flash floods or

debris flows after heavy rain events. For the Klamath River system, this stability is particularly important for salmonids and other cold-water fish species that depend on cool, consistent stream flows.

By maintaining riparian health and reducing the likelihood of high-severity fire, KRFP contributes to improved aquatic habitat. Cooler stream temperatures, higher dissolved oxygen levels, and intact riparian cover all support fish populations, including culturally and economically important salmon species. At the same time, by preventing the worst impacts of post-fire watershed damage (such as debris flows and channel scouring) the enterprise helps avoid costly, large-scale restoration efforts.

Finally, these watershed benefits also carry climate co-benefits. Reducing the frequency and intensity of stand-replacing fires preserves long-term carbon storage in forests and enhances the overall resilience of regional ecosystems. Taken together, these outcomes represent a powerful suite of ecosystem services that extend far beyond the direct financial performance of KRFP, reinforcing the project's value to both the community and the environment.

9.4 TRIBAL & CULTURAL RESOURCE BENEFITS

KRFP's development in Happy Camp carries important cultural significance for the Karuk Tribe and other Indigenous communities in the Klamath River basin. For generations, these communities have maintained deep connections to the forest and river, relying on them for food, cultural practices, and spiritual well-being. Catastrophic wildfires, declining salmon runs, and degraded forest conditions have placed these resources at risk. By supporting forest restoration and creating local jobs, KRFP helps to safeguard cultural resources while strengthening Tribal sovereignty and self-determination.

One of the most direct benefits is the protection of salmon and other fisheries that are central to Tribal diets, ceremonies, and cultural identity. By reducing wildfire severity and improving watershed health, KRFP contributes to cooler, cleaner water conditions essential for salmonid survival. Healthier fisheries support both traditional harvesting practices and the cultural continuity of ceremonies tied to salmon cycles.

KRFP also creates meaningful employment opportunities for Tribal members in forestry, milling, and innovative wood products manufacturing. These jobs allow community members to remain in the region, pass knowledge to younger generations, and participate in managing the land in alignment with traditional ecological values. Employment in land stewardship and forest restoration strengthens intergenerational ties and helps restore the balance between people and the natural environment.

In addition, the enterprise helps protect sacred and cultural sites by reducing the risk of catastrophic fire and post-fire erosion. Many cultural sites are located within forested areas that are vulnerable to high-severity wildfire. By promoting proactive fuels reduction and sustainable forest management, KRFP plays a role in protecting these irreplaceable resources for future generations.

Finally, KRFP supports Tribal leadership in regional forest management by demonstrating a business model that aligns economic development with cultural and ecological priorities. This visibility can help attract additional funding and partnerships to support Tribally led restoration and cultural resource protection projects across the region.

Together, these benefits highlight how KRFP's planning extends beyond economic returns to create tangible cultural and spiritual value. The enterprise strengthens Tribal sovereignty, protects cultural lifeways, and supports the restoration of both forests and the cultural resources they sustain.

CHAPTER 10 – RISK ASSESSMENT & MITIGATION

Risks related to raw material supply, permitting, and market development are mitigated through strong stakeholder partnerships, phased project design, and conservative financial planning. Ongoing monitoring will enable adaptive management as the project evolves. This chapter provides detailed information about our risk mitigation strategies.

10.1 MARKET RISKS

10.1.1 Market Glut

It is possible that forest products markets could see greatly increased production, which in turn could lower the prices available to KRFP for lumber—a key product line.

Strategy: Take advantage of our size and the administrative agility it allows. Review market trends every quarter, especially with an eye toward new forest product lines that would satisfy underserved markets. KRFP will adjust with greater alacrity than its larger competitors because it doesn't have as many levels of authority to intrude into planning.

10.1.2 Competitive Intrusion

Success can make a company an attractive target. What if a nearby town copies the KRFP business model, and thus increases competition for raw materials and markets? What if one of the major competitors decides that KRFP's situation is so promising that it launches a competing mill to eat our lunch and get a start on our dinner?

Strategy: Expect competitive intrusion, if not sooner then surely later. KRFP expects to operate profitably, and that will likely inspire others to seek pieces of the pie. One habit of the military services is to develop contingency plans for conflicts that could theoretically occur, a habit that leads to better understanding of different environments and opponents.

KRFP will assess the likelihood of competitive intrusion from neighboring communities (a possibility with some positive side effects for the region's safety, and perhaps not to be dreaded), regional industries, and major players with the resources to buy the whole town and auction it all off several times over—and develop the best probable contingency plans to prepare for survival.

10.2 SUPPLY/LOGISTICS RISKS

10.2.1 Federal Policy Shifts

The nature of representative government means that the US political climate can at times take drastic shifts in any direction, including that of forest management. This actually occurred in the 1990s when logging moratoria damaged the rural timber industry almost beyond recovery. By the time the Federal government came to realize that this was costing the taxpayer much more to fight fire than reduce its risk, the companies and skillsets that had once participated in the rural timber industry had moved on.

Strategy: Have contingency supply plans. Ask the question: If Federal restoration timber ceased to be available, what would be the other sourcing? How would it affect the overall business model? We must plan for continuity even in the event of draconian change. Paranoia is the quality of being afraid without evident reason; in the case of company's basic supply lifeblood, we consider that a little paranoia is a healthy thing.

10.3 CONSTRUCTION/ENGINEERING RISKS

10.3.1 Inadequate Planning

KRFP believes that it will foresee the proper capacity to handle all aspects of its operations, and to assure that this capacity is constructed/installed. It is possible we could find that, for example, ultimate demand is high enough that we wish in hindsight we had scaled upward.

Strategy: We are building flexibility into the facility layout to allow for future expansion and for the potential addition of dry kilns and a planer. Even if these elements are not part of the initial buildout, we will plan for their possible integration based on market signals and operational needs.

10.3.2 Design Oversights

While we believe that the designers and advisors we rely upon are among the best available, there is always the possibility that every set of eyes involved in the process could miss some important fact or aspect relating to production, resulting in a facility that needs modification very early in its life. Some teething issues are always to be expected, but the concern here is something so major that waiting around to address it is simply not a realistic response.

Strategy: Multiple sets of eyes that see the process from different perspectives. Foresters and engineers will see a plant design from slightly different perspectives, and this should allow KRFP to identify all such issues before they cost us a lot more money.

10.3.3 Pricing Variations

While SRFP has done and will do its best to get accurate pricing for planned equipment, markets fluctuate and a given type of used equipment is not always available at the originally hoped-for price.

Strategy: KRFP will continue to track equipment pricing and availability throughout the planning process to ensure timely procurement. By maintaining flexibility in our equipment specifications and vendor relationships, we will minimize exposure to short-term pricing spikes or supply constraints.

10.4 PERMITTING/REGULATORY RISKS

10.4.1 Permitting Holdups

It is possible that facility construction, logging, or product deployment could encounter delays in obtaining the suitable legal approvals. The greatest currently known risk here would be continuing to make WWC-LWE past the local market's saturation point without having developed external markets due to slow acceptance, but others could be guessed at. For example, it might be necessary to have a certified operator for some portion of the manufacturing activity, and that certification could take time.

Strategy: Get in front of permitting matters by researching them well ahead of the need, so that KRFP can have some sense of when permission can be obtained and how difficult or costly it might be. In construction and operation, surprises are rarely pleasant. KRFP management must be well educated on all permit-related matters at all applicable government levels.

10.4.2 Regulatory Concerns

Local, State, or Federal authorities could at any time implement new regulations that could range from burdensome to ruinous. History has shown that governmental authorities do not always act in ways that consider small rural businesses. Not all regulations cause harm, however, and we must also be prepared to take advantage of regulations that work to KRFP's advantage.

Strategy: Anticipate the long-term trends as best we can and seek to get out in front of them. For example, there might be a growing trend toward battling climate change. By contributing to environmental health,

KRFP will be well positioned there. If harvest methods become more tightly regulated, KRFP should be prepared to compete in a market with increased harvesting costs.

10.5 DISASTER RISKS

10.5.1 Wildfire Too Soon

We do not exaggerate when we say that wildfire season could at any time devastate Happy Camp. As difficult as this is to contemplate, KRFP believes it prudent to confront difficult truths. Such a wildfire could include damage or complete destruction of the facility under construction, after its construction, or even the entire town—meaning, from a pure business perspective, full displacement of the KRFP workforce. In the long term, we plan for KRFP's business activities to avert such disasters; if one came sooner, that would be nature's nuclear option.

Strategy: There is no silver bullet to prevent this in the short term. However, the following are the best actions in our power to plan for the firm's survival:

- Move without delay: Get this funded, built, operational, and using restoration treatment products.
- Stay in touch with landowners, especially USFS: Know which areas are most vulnerable to wildfire, and prioritize harvesting activities.
- Develop contingency plans for KRFP's property: During a disaster, the KRFP leasehold might be an excellent area for the staging of firefighting activity, and even perhaps temporary shelter for evacuees. We should know exactly how much space (and of what kind) would be most helpful to firefighting crews, how to make that space available on short notice, and be ready to volunteer every facility at KRFP in their support. Likewise, if there is room to shelter evacuees, KRFP will envision how that would work and how to keep a sudden massive influx of people and fire crews/equipment sharing the space in the best possible harmony.
- Set aside a contingency fund for disaster recovery: While operating capital should generally be deployed, KRFP's location means that there should be at least some funding reserved for the worst case scenarios. Some institutions maintain a "rainy day" fund; we might call this a "fiery day" fund.

10.5.2 Flooding

The Klamath River runs directly through Happy Camp and right past the KRFP leasehold site, making part of it vulnerable to flooding.

Strategy: Analyze the site prior to construction and seek to locate as much equipment and merchandise storage as possible in the least vulnerable areas. Develop contingency plans for flood conditions so that the impact can be as minimal as possible, and be prepared to do our part as community members to help our neighbors.

10.5.3 Dam Removal

While some have recently been breached for environmental purposes, the Klamath River is controlled by dams. The process of removal could be continued, or a dam could fail. Either could have a significant impact on the site given that one could literally drop a fishing line into the river from the edge of the KRFP leasehold.

Strategy: It is not in KRFP's power to control the conditions of damming, so the only viable strategy is to keep our finger on the pulse of the dams' status.

10.5.4 Extreme Heat or Cold

While Happy Camp generally has a mild climate, it is vulnerable to climatic extremes. It snows frequently, and in very adverse conditions can experience temporary isolation from external resources.

Strategy: Equipment should be rated for reliable operation at the edges of historic temperature extremes, and perhaps above the higher extremes. Make plans for employee safety and comfort in all conditions.

CHAPTER 11 – APPENDICES

This chapter provides supporting documents—including site plans, letters of support, technical specs, and financial worksheets—to substantiate the business case and demonstrate project readiness.

11.1 APPENDIX 1: FINANCIAL STATEMENTS

The following appendix provides KRFP's complete 10-year financial projections, including pro forma income statements, cash flow statements, and balance sheets. These statements reflect conservative assumptions, phased ramp-up of operations, and the blended funding strategy described in the business plan. Together, they provide a transparent view of KRFP's expected financial trajectory, capital requirements, and long-term sustainability.

A number of key assumptions underlie the financial statements. They are conservative in nature and reflect current market conditions and industry benchmarks. Key assumptions include:

- *Product Sales Values*: Average lumber sales price of $719 per MBM in Year 1, and wood wool cement panel sales averaging $22.50 per cubic foot.
- *Recovery Factor*: Log scale (Scribner) to lumber recovery factor of 1.1, reflecting efficient conversion of larger-size logs from roundwood to finished products.
- *Financing & Depreciation*: Commercial debt modeled at an interest rate of 7%, with equipment and facilities depreciated on a 10-year schedule.
- *Labor Costs*: Fully loaded hourly production labor cost of $38.50, and management staff salaries of $140,000 annually (fully loaded).
- *By-products*: Sawmill by-products will total about 4,000 bone dry tons per year and will be sold at $5 per bone dry ton FOB the sawmill. Note that if the air-curtain burner is added, the by-products will be consumed in the burner rather than being sold.
- *Escalation Factors*: Revenues from the sawmill and WWC-LWE product sales are assumed to escalate at 3% annually. Log costs are assumed to escalate at 1% annually.
- *Variable Manufacturing Costs*: Include labor; supplies; utilities; fuel, oil, and lubricants; repairs and outside maintenance; mobile equipment (log and lumber handling).

These assumptions provide the foundation for the pro forma income statements, cash flow statements, and balance sheets that follow. They are intended to be conservative, ensuring that KRFP's business plan reflects realistic financial expectations while demonstrating the potential for long-term sustainability and profitability.

Consolidated Income Statement (in US$ Thousands Except Shares and Per Share Amounts; Period Ending December 31)

	Year 1 - Q1	Year 1 - Q2	Year 1 - Q3	Year 1 - Q4	Year 1	Year 2 - Q1	Year 2 - Q2	Year 2 - Q3	Year 2 - Q4	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue																		
Sales Price per MBM – Sawmill						$719	$719	$719	$719	$719	$740	$762	$785	$809	$833	$858	$884	$910
Lumber Volume Output (MBM)						545	545	545	545	2,180	3,270	3,303	3,336	3,369	3,403	3,437	3,471	3,506
Sales Revenue – Sawmill						$392	$392	$392	$392	$1,568	$2,422	$2,519	$2,621	$2,726	$2,836	$2,951	$3,070	$3,193
Sales Price per FT3 WWC-LWE						$22.50	$22.50	$22.50	$22.50	$22.50	$23.18	$23.87	$24.59	$25.32	$26.08	$26.87	$27.67	$28.50
WWC-LWE Volume Output (FT3)						5,000	5,000	5,000	5,000	20,000	29,350	38,700	38,700	38,700	38,700	38,700	38,700	38,700
Sales Revenue – WWC-LWE						$113	$113	$113	$113	$450	$680	$924	$951	$980	$1,009	$1,040	$1,071	$1,103
Revenue By Products						$3	$3	$3	$3	$13	$20	$20	$20	$21	$21	$21	$21	$21
Total Revenue						**$508**	**$508**	**$508**	**$508**	**$2,031**	**$3,122**	**$3,463**	**$3,593**	**$3,727**	**$3,866**	**$4,012**	**$4,162**	**$4,317**
Cost of Goods Sold																		
Sawmill – Logs-Delivered Cost						$210	$210	$210	$210	$840	$1,285	$1,298	$1,311	$1,324	$1,337	$1,351	$1,364	$1,378
Log Volume (MBF)						500	500	500	500	2,000	3,000	3,030	3,060	3,091	3,122	3,153	3,185	3,216
Log Sales						$(2)	$(2)	$(2)	$(2)	$(8)	$(13)	$(13)	$(13)	$(13)	$(13)	$(14)	$(14)	$(14)
Cost of Goods Sold – Sawmill						$208	$208	$208	$208	$832	$1,272	$1,285	$1,298	$1,311	$1,324	$1,337	$1,350	$1,364
Wood Wool Raw Materials						$11	$11	$11	$11	$45	$67	$88	$88	$88	$88	$88	$88	$88
Total Cost of Goods Sold						**$219**	**$219**	**$219**	**$219**	**$877**	**$1,339**	**$1,373**	**$1,386**	**$1,399**	**$1,412**	**$1,425**	**$1,438**	**$1,452**
COGS as a % of Revenue						43%	43%	43%	43%	43%	43%	40%	39%	38%	37%	36%	35%	34%
Gross Profit						**$288**	**$288**	**$288**	**$288**	**$1,154**	**$1,784**	**$2,090**	**$2,207**	**$2,328**	**$2,454**	**$2,587**	**$2,724**	**$2,866**
Variable Manufacturing Costs						**$168**	**$168**	**$168**	**$168**	**$671**	**$698**	**$699**	**$700**	**$700**	**$702**	**$703**	**$703**	**$704**
Fixed Costs																		
Salaries & Benefits	$53	$53	$53	$53	$210	$105	$105	$105	$105	$420	$420	$420	$420	$420	$420	$420	$420	$420
Site Lease	$12	$12	$12	$12	$48	$12	$12	$12	$12	$48	$48	$48	$48	$48	$48	$48	$48	$48
Insurance	$3	$3	$3	$3	$12	$3	$3	$3	$3	$12	$12	$12	$12	$12	$12	$12	$12	$12
Taxes & Fees	$0	$0	$0	$0	$0	$15	$15	$15	$15	$60	$94	$104	$108	$112	$116	$120	$125	$130
Depreciation & Amortization	$0	$0	$0	$0	$0	$41	$41	$41	$41	$162	$162	$162	$162	$162	$162	$162	$162	$162
Other	$5	$5	$5	$5	$20	$11	$11	$11	$11	$44	$43	$43	$43	$43	$43	$43	$43	$43
Total Fixed Costs	**$73**	**$73**	**$73**	**$73**	**$290**	**$187**	**$187**	**$187**	**$187**	**$746**	**$779**	**$789**	**$793**	**$797**	**$801**	**$805**	**$810**	**$815**
Total Operating Expenses	**$74**	**$74**	**$74**	**$76**	**$297**	**$354**	**$354**	**$354**	**$354**	**$1,417**	**$1,477**	**$1,488**	**$1,493**	**$1,497**	**$1,503**	**$1,508**	**$1,513**	**$1,519**
Other income and expense																		
Interest Expense	$69	$69	$69	$69	$275	$66	$66	$66	$66	$264	$252	$239	$225	$210	$194	$177	$158	$138
Grant Revenue Earned	$74	$74	$74	$76	$297	$354	$349	$0	$0	$703	$0	$0	$0	$0	$0	$0	$0	$0
Net Other Income and Expense	**$5**	**$5**	**$5**	**$7**	**$22**	**$288**	**$283**	**$(66)**	**$(66)**	**$440**	**$(252)**	**$(239)**	**$(225)**	**$(210)**	**$(194)**	**$(177)**	**$(158)**	**$(138)**
Net Income	**$(69)**	**$(69)**	**$(69)**	**$(69)**	**$(275)**	**$223**	**$217**	**$(132)**	**$(132)**	**$176**	**$55**	**$364**	**$489**	**$621**	**$758**	**$902**	**$1,053**	**$1,208**
EBITDA	**$0**	**$0**	**$0**	**$0**	**$0**	**$344**	**$338**	**$(11)**	**$(11)**	**$662**	**$563**	**$869**	**$984**	**$1,105**	**$1,230**	**$1,361**	**$1,498**	**$1,638**
Cumulative EBITDA	**$0**	**$0**	**$0**	**$0**	**$0**	**$344**	**$683**	**$672**	**$662**	**$662**	**$1,224**	**$2,093**	**$3,077**	**$4,181**	**$5,411**	**$6,772**	**$8,270**	**$9,908**

Statement of Cash Flows (in US$ Thousands Except Shares and Per Share Amounts; Period Ending December 31)

Period Ending December 31	Year 0	Year 1 Q1	Year 1 Q2	Year 1 Q3	Year 1 Q4	Year 2 Q1	Year 2 Q2	Year 2 Q3	Year 2 Q4	Year 3	Year4	Year5	Year6	Year7	Year8	Year 9	Year 10
Cash Flows from Operating Activities																	
Net Income/(Loss)	**0**	**(69)**	**(69)**	**(69)**	**(69)**	**223**	**217**	**(132)**	**(132)**	**55**	**364**	**489**	**621**	**758**	**902**	**1,053**	**1,208**
Depreciation & Amortization	**0**	**0**	**0**	**0**	**0**	**41**	**41**	**41**	**41**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**
Deferred Income Taxes	**0**	**9**	**9**	**9**	**9**	**7**	**7**	**7**	**7**	**15**	**5**	**(3)**	**(9)**	**(12)**	**(12)**	**(12)**	**(12)**
Changes in Operating Working Capital																	
Changes in Accounts Receivable	0	0	0	0	0	(83)	0	0	0	(45)	(14)	(5)	(5)	(6)	(6)	(6)	(6)
Changes in Inventory	0	0	0	0	0	(17)	(5)	(2)	(5)	(26)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Changes in Prepaid Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Changes in Other Current Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Changes in Accounts Payable	0	0	0	0	0	72	0	0	0	38	3	1	1	1	1	1	1
Changes in Accrued Salaries & Employee Benefits	0	17	0	0	0	27	0	0	0	(25)	59	0	0	0	0	0	-
Changes in Other Current Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Net Changes in Working Capital	**0**	**17**	**0**	**0**	**0**	**(1)**	**(5)**	**(2)**	**(5)**	**(58)**	**47**	**(5)**	**(5)**	**(5)**	**(5)**	**(6)**	**(6)**
Total Cash Provided by (used for) Operating Activities	**0**	**(117)**	**(134)**	**(134)**	**(136)**	**(86)**	**(90)**	**(87)**	**(90)**	**174**	**578**	**644**	**769**	**903**	**1,047**	**1,198**	**1,352**
Cash Flows from Investing Activities																	
CAPEX [purchase of property, leasehold improvements & equipment]	0	(405)	(405)	(405)	(405)	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Sale of Property, Leasehold Improvements, & Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Business Acquisitions, Net of Cash Acquired & Intangibles/Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Sale of Business [spin-offs]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments (proceeds) in Marketable & Non-marketable Securities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deferred Grant Revenue	1,000	(74)	(74	(74)	(76)	(354)	(349)	0	0	0	0	0	0	0	0	0	0
Total Cash Provided by (used for) Investing Activities	**0**	**(479)**	**(479)**	**(479)**	**(479)**	**(354)**	**(349)**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Cash Flows from Financing Activities																	
Short-term Borrowings (repayments)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long-term Borrowings (repayments)	4,000	0	0	0	(156)	0	0	0	(168)	(180)	(193)	(207)	(222)	(238)	(255)	(273)	(293)
Proceeds from Issuance of Preferred Stock, Net of Insurance Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Issuance of Common Stock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Repurchase of Common Stock (treasury stock)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Common Dividends Paid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minority Shareholders' Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Cash Provided by (used for) Financing Activities	**4,000**	**0**	**0**	**0**	**(156)**	**0**	**0**	**0**	**(168)**	**(180)**	**(193)**	**(207)**	**(222)**	**(238)**	**(255)**	**(273)**	**(293)**
Total Change in Cash & Cash Equivalents	**5,000**	**(522)**	**(539)**	**(539)**	**(697)**	**(86)**	**(90)**	**(87)**	**(258)**	**(6)**	**385**	**437**	**547**	**665**	**792**	**925**	**1,059**
Supplemental Data:																	
Cash Flow before Debt Paydown		(522)	(539)	(539)	(541)	(86)	(90)	(87)	(90)	174	578	644	769	903	1,047	1,198	1,352

Balance Sheet (in US$ Thousands Except Shares and Per Share Amounts; Period Ending December 31)

	Year 0	Year 1 - Q1	Year 1 - Q2	Year 1 - Q3	Year 1 - Q4	Year 2 - Q1	Year 2 - Q2	Year 2 - Q3	Year 2 - Q4	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets																	
Current assets																	
Cash & Cash Equivalents	$5,000	$4,478	$3,939	$3,400	$2,702	$2,617	$2,528	$2,441	$2,183	$2,177	$2,562	$2,999	$3,546	$4,211	$5,003	$5,927	$6,987
Accounts Receivable, Net of Allowance for Doubtful Accounts	$0	$0	$0	$0	$0	$83	$83	$83	$83	$128	$142	$148	$153	$159	$165	$171	$177
Inventory, Less Allowance for Loss	$0	$0	$0	$0	$0	$17	$22	$24	$29	$55	$56	$57	$57	$58	$59	$59	$60
Prepaid Expenses	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Current Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Current Assets	**$4,000**	**$4,478**	**$3,939**	**$3,400**	**$2,702**	**$2,717**	**$2,633**	**$2,548**	**$2,295**	**$2,361**	**$2,761**	**$3,203**	**$3,756**	**$4,428**	**$5,226**	**$6,157**	**$7,224**
Property, Plant, & Equipment, Net	$0	$405	$810	$1,215	$1,620	$1,580	$1,539	$1,499	$1,458	$1,296	$1,134	$972	$810	$648	$486	$324	$162
Goodwill	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Acquired Identifiable Amortizable Intangible Assets, Net of Accumulated Amortization	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pension Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Deferred Tax Asset	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Long-term Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Assets	**$5,000**	**$4,883**	**$4,749**	**$4,615**	**$4,322**	**$4,297**	**$4,172**	**$4,047**	**$3,753**	**$3,657**	**$3,895**	**$4,175**	**$4,566**	**$5,076**	**$5,712**	**$6,481**	**$7,386**
Liabilities																	
Current Liabilities																	
Accounts Payable	$0	$0	$0	$0	$0	$72	$72	$72	$72	$110	$113	$114	$115	$116	$117	$118	$119
Accrued Salaries & Employee Benefits	$0	$17	$17	$17	$17	$44	$44	$44	$44	$20	$79	$79	$79	$79	$79	$79	$79
Short-term Debt	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Current Liabilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Current Liabilities	**$0**	**$17**	**$17**	**$17**	**$17**	**$116**	**$116**	**$116**	**$116**	**$130**	**$192**	**$193**	**$194**	**$195**	**$196**	**$197**	**$198**
Long-term Debt	$4,000	$4,000	$4,000	$4,000	$3,844	$3,844	$3,844	$3,844	$3,676	$3,496	$3,303	$3,096	$2,874	$2,636	$2,381	$2,108	$1,815
Deferred Tax Liability	$0	$9	$17	$26	$34	$41	$48	$54	$61	$76	$81	$79	$70	$58	$46	$35	$23
Pension & Benefit Obligations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unearned Grant Revenue	$1,000	$926	$853	$779	$703	$349	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Liabilities	**$5,000**	**$4,952**	**$4,887**	**$4,822**	**$4,598**	**$4,350**	**$4,008**	**$4,015**	**$3,854**	**$3,702**	**$3,576**	**$3,367**	**$3,138**	**$2,889**	**$2,623**	**$2,340**	**$2,036**
Stockholders' Equity																	
Preferred Stock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Common Stock Par Value plus Additional Paid-in Capital	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Less Stock Repurchased [treasury stock]	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accumulated Other Comprehensive Income (loss)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Retained Earnings	$0	$(69)	$(138)	$(207)	$(276)	$(53)	$164	$32	$(100)	$(45)	$319	$808	$1,429	$2,187	$3,089	$4.142	$5,350
Total Stockholders' Equity	**$0**	**$(69)**	**$(138)**	**$(207)**	**$(276)**	**$(53)**	**$164**	**$32**	**$(100)**	**$(45)**	**$319**	**$808**	**$1,429**	**$2,187**	**$3,089**	**$4.142**	**$5,350**
Total Liabilities & Stockholders' Equity	**$5,000**	**$4,883**	**$4,749**	**$4,615**	**$4,322**	**$4,297**	**$4,172**	**$4,047**	**$3,753**	**$3,657**	**$3,895**	**$4,175**	**$4,566**	**$5,076**	**$5,712**	**$6,481**	**$7,386**

11.2 APPENDIX 2: MANAGEMENT TEAM BIOS

Jasmine Borgatti—General Manager

Jasmine Borgatti

4621 Lois Lane, Mt Shasta, CA 96067 | C:530.859.0344 | jborgatti@happycampcc.org

Large-Scale Project Management

State of CA, Governor's Office of Land Use & Climate Innovation
Grant $250K, 3yrs
Resilience Planning

Cal OES Jumpstart
Grant $920K, 5yrs,
Capacity Building,
Hazard Mitigation, &
Economic
Development

Union Pacific Railroad
Contract $5M, 5yrs,
Pilot Program:
Vegetation
Management

Union Pacific Railroad
Contract $2M, 4yrs,
FRA Compliance:
Vegetation
Management

Union Pacific Railroad
Contract $3M, 3yrs,
FRA Compliance:
Vegetation
Management

Trinity Public Utility
Contract $500K, 5yrs,
Powerline Compliance:
Vegetation
Management

Experienced professional with 20+ years' business administration. Highly proficient in operational project management with a track record of driving efficient processes & optimizing performance. Adept at implementing strategies that align with organizational goals & fostering collaborative work environments. Known for adaptability & reliability in dynamic settings, ensuring seamless team operations & goal achievement.

Professional Experience

APRIL 2023-CURRENT
Chief Resilience Officer | Happy Camp Community Action, Inc
Perform highly responsible, professional level work overseeing community recovery & resilience efforts ensuring that resilience is a cornerstone of coordinating a cohesive strategy & program planning across the greater community. Demonstrate expertise & experience in the development, planning & delivery of strategy, policy & programs with success in long-term project management, collaboration, stakeholder management & community engagement. Responsible for researching & writing for new state, federal, & local funding opportunities. Responsible for community outreach; effectively engaging with governmental & non-governmental partners. Designs, markets, & is on the evaluation team for feasibility studies to support strategies identified & collaborations prioritized for community improvement. Ensure that there are clear & appropriate implementation plans for delivery of resiliency goals/tactics.

JANUARY 2022 – APRIL 2023
Project/Grant Management Coordinator | Great Northern Services
Coordinate, develop, manage, & administer state & federal loan & grant programs. Ensure compliance with all federal regulatory guidelines, requirements, & procedures including NEPA & CEQA. Read, comprehend, & carry out grant contract requirements, develop, & maintain relationships with jurisdictions, assist with the development of grant applications, assist with public hearings, attend meetings with staff, the public, elected officials, government, & non-governmental partners. Utilize highly developed interpersonal & project management skills while demonstrating creativity & innovation to ensure success.

JANUARY 2005 – JANUARY 2021
Owner/President | A Cut Above Tree Service, Inc
Co-founded a full-service vegetation management business servicing residential, commercial, municipal, & nonprofit organizations across 9 Western States. Worked directly with agencies to foster cohesive working relationships to coordinate & facilitate complex multi-agency

Jasmine Borgatti

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Key Skills

Business Administration
Project Management
Budgeting
Problem-solving
Growth development
Strategic planning
Innovation & creativity
Risk management
Forecasting
Critical thinking
Time Management
QuickBooks
Microsoft Office Suite

Education

Southern Oregon University
Ashland, OR
BS in Business Administration
2000

vegetation management & fuels reduction projects to ensure contracts were completed according to specifications (PRC4291), natural resources were protected, & funds were allocated appropriately. Created, managed, & lead a team of 50+ to provide problem-solving strategies to ensure optimal solutions for daily operations & maintain that operational priorities were aligned with short & long-term strategic goals & objectives. Managed, directed, & assured a positive work environment for teams including human resource management, establishing career paths, training, hiring, organizational management, & related legal & government regulation. Designed, implemented, & managed payroll (QuickBooks), certified-payroll, accounts receivable/payable, HR, marketing/advertising, financial management & budgeting systems & standard operation procedures. Gathered data, designed, & prepared monthly, quarterly, yearly reports to ensure correct budget tracking, auditing, & implementation. Created & implemented user/employee manuals & handbooks, Standard operating procedures (SOP's) & training & refresher programs for payroll, fleet safety, heat illness, Injury & Illness Prevention (IIPP), job hazard analysis (JHA), daily briefings, equipment & vehicle inspections, Non-Commercial & commercial driver training & licensing; including defensive driving, Lockout tag out protocols, Loss control program guidelines, fleet field tracking, fleet inventory tracking, Department of Transportation (DOT) safety audits, DOT inspections, vehicle & equipment registration, licensing, & insurance requirements, employee information reporting. Worked with biologist & environmental agencies on NEPA/CEQA to ensure natural resources were protected & environmental standards were met. Sought out, researched, wrote, & managed multi-million-dollar project bids & contracts. Utilize highly developed interpersonal & project management skills while demonstrating creativity & innovation to ensure success.

JANUARY 1998 – JANUARY 2008

Fire Foresty Technician | USDA, US Forest Service, Region 5
Attained knowledge & understanding of fire suppression/prevention tactics, budgeting, report writing, community outreach & education, & enforcement of CA PRC4291. Supervised, educated, & led crew members. Designed & implemented tabled outreach, in person, & classroom programs focused on wildfire mitigation & fire prevention. Performed all aspects of wildland & prescribed fire operations including preparation, ignition, monitoring, holding, & mop up. Wrote & implemented prescribed fire burn plans to achieve specific outcomes utilizing fire across a wide range of terrain & vegetation types. Inventoried fuel beds, prepared associated reports, performed hazard fuel reduction projects, monitored burning conditions, & acted in assigned positions during fuel reduction efforts.

Abigail Yeager – Finance & Marketing Manager

Abigail Yeager

Postal Box 806, 63620 State Highway 96 | Happy Camp, CA 96039
H: 530.493.5400 C: 530.518.8721 | ayeager@happycampcc.org

SUMMARY OF QUALIFICATIONS

Growth Development

Strategic Planning & Implementation

Project Development & Management

Market Research & Analysis

Leadership & Teambuilding

Marketing Plan Development

Performance Improvement Systems

Operations Management

Staff Development & Training

TRAINING & COURSEWORK

Management Control Systems

Financial Management

Franklin Covey: 5 Choices for Extraordinary Productivity

Strategic Management Administrative Policy

Project Management

Strategic Marketing

Carnegie Sales Training

MBA graduate with ten+ years' executive level project management and marketing experience. Business management professional with over twelve years' experience working in fast-paced environments, demanding strong organizational, technical and interpersonal skills. Analytical problem-solver, continually looking for unique ways to resolve issues and concerns. Ability to translate an organization's vision into manageable goals, strategies and actions that make the vision a successful reality.

PROFESSIONAL EXPERIENCE

HAPPY CAMP COMMUNITY ACTION, INC. – Happy Camp, CA
Executive Director *(January 2017 – present)*
Responsible for overseeing the administration, programs and strategic plan of the organization. Direct all grant writing, fundraising, marketing, and community outreach efforts. Collaboratively work with HCCA Board of Directors in order to fulfill the mission of the organization. Accountable for fiscal management by operating within HCCA's approved budget, ensuring maximum resource utilization, and maintaining a positive financial position. Perform human resource functions related to hiring and retention of competent, qualified staff. Responsible for sourcing, writing and developing grant applications, ensuring contracts compliance, signing agreements, and other instruments made and entered into and on behalf of the organization.

KARUK TRIBE – Happy Camp, CA
Consultant - Contract Position *(February 2015 – August 2015)*
Developed a 5-Year Comprehensive Strategic Plan for the Karuk Judicial System and Programs. Collaborated with the Judicial Administrator to conduct and facilitate Strategic Planning Workshops with the Strategic Planning Team. Prepared final Strategic Plan and presenting to the Tribal Council for approval.

CASCADE FOAM INSULATION, LLC. – Medford, OR
Business Account Manager - Part Time *(June 2009 – January 2015)*
Maintained accounting records for partnership business with gross revenues of $200,000+ annually. Facilitated the transition from a general partnership to a Limited Liability Company in 2014. Prepared comprehensive invoices and certified payroll on prevailing wage contracts of $80,000+. Prepared business for taxes utilizing QuickBooks to generate income statements, balance sheets and other necessary documents for the business' tax accounting firm. Collaborated with Tax Accountant on complicated tax preparation for multi-state returns for one business partner (California and Oregon).

KARUK TRIBE – Happy Camp, CA
Healthcare Consultant - Contract Position *(August 2014 – January 2015)*
Developed a Business and Marketing Plan for Karuk Tribe Medical and Dental Clinics. Conducting market research and internal analysis of the clinics. Outlining a strategic plan to increase productivity and revenue of the clinics and establish pathway for growth. Providing a framework with which to implement the plan and establishing an evaluation process with a performance-based metric system.

Abigail Yeager

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H: 530.493.5400 C: 530.518.8721 | ayeager@happycampcc.org

COMPUTER SKILLS

Windows Operating Systems

SAP

QuickBooks

Marketing Engineering Software

Microsoft Office Suite
Excel, Word, Visio, PowerPoint, Project, Publisher, Outlook, Access

Lotus Notes

PROFESSIONAL EXPERIENCE CONTINUED

OWENS HEALTHCARE, INC. – Redding, CA
Project Manager for Executive Vice President/COO *(January 2009 – December 2011)*
Participated in Strategic Planning for the entire company aimed at improving operations, customer and employee satisfaction across divisions and departments. Contributed to various projects aimed at improving operations in Retail and Medical Equipment divisions. Compiled, organized and analyzed various financial reports for the Vice President/ COO in a multi-divisional healthcare organization. Facilitated and coordinated the Construction and Go Live phases of thee retail pharmacy store openings: establishing and monitoring project budget, coordinating project plan and managing strict deadlines.

IBM – GLOBAL BUSINESS SERVICES – Milpitas, CA
Supply Chain Management Consultant Intern *(June 2008 – August 2008)*
Participated, with the Testing Manager, in the realization phase of a SAP implementation for Flextronics. Monitored operational plans using various information streams during testing cycles to ensure deadlines were met. Utilized strong communication to ensure that all 40 project team members were aware of testing progress. Facilitated Project Managers with requested information through communication with various system teams. Managed scarce time and resources efficiently through scheduling and prioritization.

EDUCATION

CALIFORNIA STATE UNIVERSITY, CHICO
Master of Business Administration, with Distinction
December 2008, Cumulative GPA: 3.90

CALIFORNIA STATE UNIVERSITY, CHICO
Bachelor of Science in Business Administration
Option in Organizational Management
May 2007, Cumulative GPA: 3.56

REFERENCES

Mr. Alan Dyar
Retired Principal/HCCA Board President
alangumay12@gmail.com
530.598.6245

Mr. Steve Madsen, MBA
Executive Vice President/COO - Owens Healthcare
smadsen@owenshealthcare.com
530.244.6870

Mrs. Miley Santos
Human Resources Manager - Owens Healthcare
msantos@owenshealthcare.com
530.246.1075

Mr. Ted Kromer
Professor, CSU, Chico - College of Business
tedlkromer@sbcglobal.net
530.898.6477

ERIC HOKANSON

PO Box 367, Meadow Valley, CA 95956 530.927.9104 | ejhok69@gmail.com

TARGET POSITION

Project Supervisor for Establishing Sawmill in Happy Camp, CA
Sawmill Supervisor

SUMMARY

Seasoned sawmill professional with 35+ years of experience in lumber manufacturing, saw filing, millwright work, and operations leadership. Proven ability to supervise crews, optimize production, reduce downtime, and maintain high safety and quality standards. Background includes supervising sawmill operations, leading filing room teams, supporting mill builds, and coordinating maintenance in high-production environments. Known for strong work ethic, hands-on leadership, and deep knowledge of sawmill equipment and processes.

KEY SKILLS

- Sawmill Production Supervision
- Crew Leadership & Training
- Saw Filing & Bench Work (circular & band saws)
- Production Planning & Throughput Optimization
- Equipment Troubleshooting & Maintenance Coordination
- Safety Compliance & OSHA Awareness
- Mill Start-Up & Commissioning
- Cross-Department Communication (filing, maintenance, yard)
- Quality Control & Lumber Recovery
- Shift Management & Workflow Prioritization

PROFESSIONAL EXPERIENCE

Collins Pine – Chester, CA
Head Saw Filer | 2025–Present

- Lead filing room operations to support continuous, safe sawmill production.
- Collaborate with mill supervisors to align saw performance with production goals, recovery targets, and quality requirements.
- Coordinate with maintenance and operations staff to minimize downtime and resolve equipment issues quickly.
- Provide guidance and direction to filing personnel, reinforcing safety and productivity.

Tahoe Forest Products – Carson City, NV
Project Supervisor, Mill Build / Head Saw Filer | 2023–2025

- Supervised key aspects of a new mill build, coordinating contractors, vendors, and internal teams to bring equipment online.
- Helped plan layout and startup of sawmill and filing room equipment to support efficient production flow.

- Led filing room operations as Head Saw Filer, establishing procedures, maintenance schedules, and quality standards.
- Trained and mentored staff, emphasizing safe work practices, proper saw handling, and communication with production crews.

Sierra Pacific Industries (SPI) – Quincy, CA
Head Saw Filer / Saw Filer | 2002–2023

- Managed filing room operations in a high-volume sawmill, supporting daily production and recovery targets.
- Coordinated saw changes, repairs, and preventive maintenance to limit unplanned downtime.
- Worked closely with sawmill supervisors, maintenance, and quality control to resolve issues affecting throughput and lumber quality.
- Provided direction and training to filing staff, promoting teamwork, safety, and consistent performance.

Sawmill Supervisor | 1996–2002

- Supervised sawmill production crews, ensuring safe, efficient, and consistent operation of the mill.
- Assigned daily tasks, monitored production metrics, and adjusted workflows to meet targets.
- Worked with maintenance, filing, and yard operations to maintain steady log flow and minimize bottlenecks.
- Conducted safety checks, reinforced company policies, and participated in safety meetings and training.

Earlier Roles – Lumber & Manufacturing | 1987–1996

Big Valley Lumber – Millwright
Thomas Welding and Machine – Machinist
Feather River Forest Products – Saw Filer
Stone Forrest Industries – Chain Puller / Saw Filer

MILITARY SERVICE

United States Army – Germany; Fort Hood, TX

Machinist | 1983–1987

EDUCATION

Happy Camp High School – Happy Camp, CA

High School Diploma | 1983

College of the Siskiyous (1988)

Yuba College (1989–1990)

Manufacturing Courses

REFERENCES

Available upon request.