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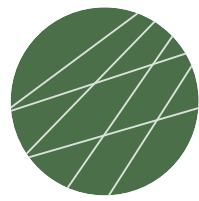
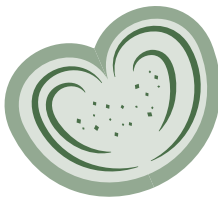
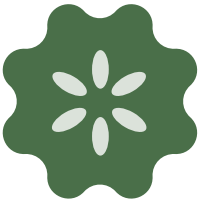
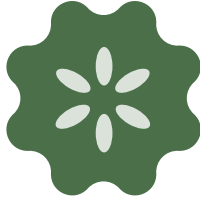
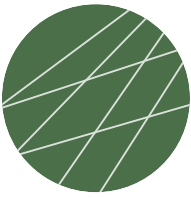
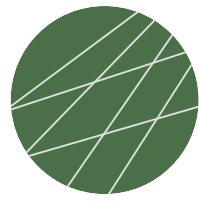
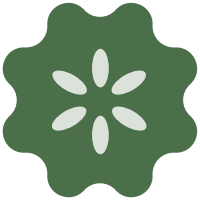
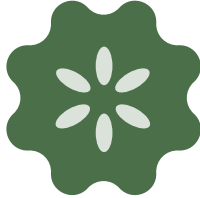
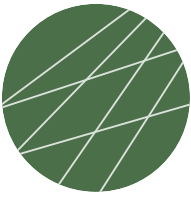
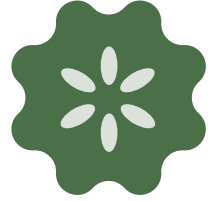
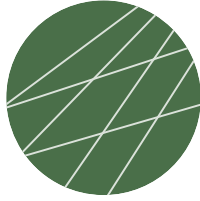
HOUSE OF BREAD



CALIFORNIA POLYTECHNIC STATE UNIVERSITY  
TECHNICAL ASSOCIATION OF THE GRAPHIC ARTS

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ARTICLE 2



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HOUSE OF BREAD





## HOUSE OF BREAD

### Phoenix Challenge

A woman-owned and operated bakery, House of Bread bakes breads, pastries, sweets, and beyond at its corner location off of Highway 101 in San Luis Obispo, CA. House of Bread proudly serves good taste naturally, where hearty grains and dietary-friendly options are prioritized. The storefront's cozy country atmosphere and all-natural ingredients reflect its Montana origins. The bakery's philosophy is centered around harvesting the highest quality wheat for bread, which comes from the high mountains in Montana.

With high quality and natural ingredients, House of Bread aims to bring customers the same nostalgic tastes of fresh, homemade bread, just like that of a comforting family recipe. The bakery was founded in 1996 by Sheila McCann and has remained a beloved storefront in the San Luis Obispo area ever since.

## INTRODUCTION

Founder, Sheila McCann, is a creative pioneer with a passion for sharing exceptional breads and baked goods. Upon our initial meeting, our team was inspired by her persistence and craft which has maintained House of Bread for 27 years and counting. Not only has Sheila cultivated a close-knit community of House of Bread customers, she is continuously striving to grow her business. In the upcoming year, House of Bread will be opening a second location and expanding their product range.

With a second location opening in the upcoming year, we hope to support Sheila and House of Bread through our proposed flexographic packaging solutions. Sheila's vision for House of Bread's second location is to expand their current menu offerings, tapping into specialty coffee drinks and pastries.

With this in mind, we saw potential to refine House of Bread's current branding and packaging solutions to better align with the second location's mission. Through our partnership with House of Bread, we want to highlight the quality taste and Sheila's passion for making and sharing exceptional baked goods.

## RESEARCH

### CONSUMER BEHAVIOR

As the workforce returns in-person after the COVID-19 remote work modality, people have less time to prepare meals and tend to opt for convenient and nutrient-dense foods, in essence, bread (Berry, Lisa). Rich Products explores the ways consumer behavior has shifted to save time and money, observing that cost-conscious consumers in 2022 tend to select anytime treats (pastries, rolls, baked goods). Anytime treats are essentially bakery products. They are considered grab-and-go bites that conveniently deliver quick energy to people with fast-paced lifestyles. The research explores the importance of cost-efficiency, "among shoppers who have increased their planned fresh bakery purchases, 66% plan to purchase more bread and roll to save money". An increase in baked goods purchases may take precedence over going out to eat as consumers invest in foods that last longer and require less food preparation.

Data reveals that ingredient transparency is important to the consumer, with 42% of survey respondents seeking "clean labels, healthier positioning, and high-quality ingredients."



## DEMOGRAPHIC RESEARCH

**National:** Carbohydrates are an essential part of the diet, and bread is an excellent source of these nutrients. Media Mark Simmons details the primary consumers of bread to be men and women around the age of 47 with a median household income of \$67,443 (women) and \$83,689 (men). In a study on pastry purchasing habits of Millennials as well as Gen Z students, three-quarters of the members of the survey had purchased bread in the last 2-3 days (Sherred, 2019). Purchases of breads and baked goods are expected to propel the bakery market in North America, the bakery market by a CAGR of 4.8% from the time frame of 2022 to 2027. Commercial bakeries generate 80% of total bakery profits, as convenience food culture becomes more prominent.

**Local:** The current population in the city of San Luis Obispo is around 47,545 (World Review). Downtown San Luis Obispo is 52.46% male and 47.54% female. The median age is around 36 years old for the average downtown San Luis Obispo employee. Another primary sector of the market is college-age students who make up 21.94% of San Luis Obispo, whereas those under 18 years of age make up 2.93%. The primary market segment for House of Bread are locals as well as college students. This is a sizable market for House of Bread. San Luis Obispo is a college town but also has a large number of families who are invested in buying fresh and specialty breads.

**Customer:** People who work downtown have access to fresh bread and sandwiches from House of Bread. Our team facilitated a survey to obtain demographic data on a sample of House of Bread customers in which we observed 79% of respondents to be between the ages of 19-21. While most customers were local to San Luis Obispo, a few were from out of state, which may indicate visiting families of college students or tourists purchasing baked goods from House of Bread. These findings align with Sheila's observations of her patrons as families, women who shop for their families, and those employed in downtown San Luis Obispo.

## INDUSTRY RESEARCH

From 2023 to 2027, the Global Bread Market is expected to grow by \$118.37 billion, accelerated by a CAGR growth rate of 7.27% (GlobeNewswire). This trend is propelled by the rise in convenience food purchases, which is projected to grow annually by 6.03%. The United States has one of the highest shares in the Bread Improver Market (Digital Journal), hence, bread as convenience food is positioned to grow in trends



of purchase and revenue. In light of the post-pandemic inflation driving up food prices, 46% of consumers have been buying less from restaurants and spending more on baked goods, which allows profitable opportunities for dedicated bakeries, with Baking Business reporting.

## TARGET MARKET RESEARCH

Sheila, the owner of House of Bread, observes that the majority of customers are students, middle-aged women, and male and female workers of downtown San Luis Obispo. One of our goals is to increase brand awareness as well as increase the customer base at the second House of Bread location, which may consist of a new demographic: travelers. This location is close to the airport, and may cater to students returning from travels, tourists visiting San Luis Obispo, those with a connecting flight, and more. This widens the market for House of Bread.

## CUSTOMER INSIGHT AND BEHAVIOR

A primary segment of bread and baked goods, Millennials and Gen Z provide valuable insights into consumer behavior. Through evaluation of this demographic it was determined that food waste, sustainability, and nutrition are major factors that influence this demographic and their purchasing decisions. Many young consumers, especially Gen Z, are concerned about food waste when it comes to purchasing baked goods. According to the American Bakers Association, around 75% of consumers are bothered by wasting bread, and more than 1 in 5 consumers often or always skip buying bread after having thrown away bread from their previous purchase.



## SWOT ANALYSIS

<p><b>Strengths</b></p> <ul style="list-style-type: none"><li>Baked goods fresh and packaged</li><li>Established bakery with regular customers, holiday shoppers</li><li>Location draws a lot of foot traffic, travelers</li><li>Variety of gluten-free options and foods</li><li>New location: by airport, happy hour, late hours, coffee</li></ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"><li>Digital assets</li><li>Signage: hierarchy, font size, legibility</li><li>Price compared to grocery stores</li><li>Cookie packaging</li></ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"><li>Brand redesign</li><li>Appropriate Packaging for products</li><li>Cohesive labels and branding</li><li>Expand target market</li><li>Explore pastry packaging and bread packaging</li><li>Heat sealing on BOPP for aesthetics and usability</li></ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"><li>Local bakeries of lower cost/decent quality bread</li><li>Bakeries with more of an online and social media presence</li><li>Bakeries with online ordering</li></ul>

Figure 1 SWOT analysis

## COMPETITION AND POSITIONING

Seeing that there are several local bakeries specializing in bread, there are strong competitors in the area including Bread Bike and Proof & Gather. The largest source of competition would be grocery stores with less expensive prices, and the ranking of grocery stores tends to be from traditional to mass merchandise stores. House of Bread is prominent in positioning due to their large variety of breads and other baked goods as well as their cheap pricing, and location in Downtown San Luis Obispo. Though the bread may be a bit more expensive than the grocery store, the price of bread at House of Bread for specialty bakeries compared to other local bakeries are significantly cheaper. House of Bread is distinguished from other competitors because of their gluten-free option, deli options, and coffee.

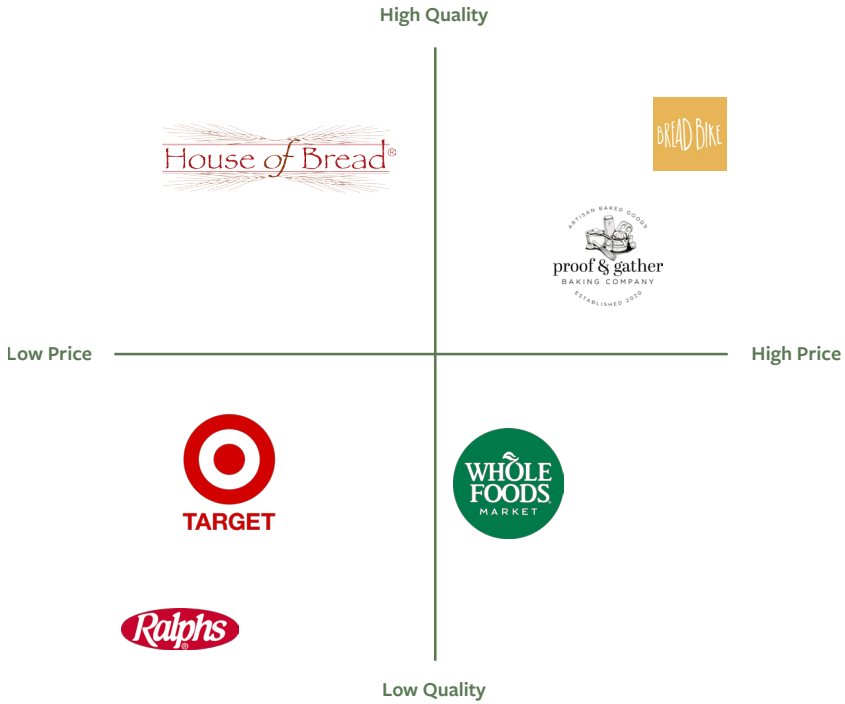


Figure 2 Perception map

## BREADTH AND DEPTH OF RESEARCH

This year, the Phoenix Challenge gathered research and supporting evidence through digital databases including the Cal Poly Kennedy Library, the Media Mark Simmons database, and various articles on bread and baked goods. Our team evaluated feedback through surveys that were sent to our Graphic Communication department and offered to House of Bread customers. Interviews with Sheila McCann informed many of our decisions.

## FDA NUTRITIONAL LABELING

The Federal Food, Drug, and Cosmetic Act mandates that all packaged foods are appropriately and accurately labeled with nutrition facts. Section 136.110 details the requirements of bakery product labeling, instructing “Each of the foods enriched bread, enriched rolls, and enriched buns conforms to the definition and standard of identity and is subject to the requirements for label statement of ingredients

prescribed for bread, rolls, or buns by § 136.110” (U.S Food & Drug Administration). While exemptions excuse low-volume products from businesses that employ fewer than an average of 100 full-time employees, House of Bread surpasses this minimum employee count and therefore requires nutrition labels as seen on the existing packaging labels.

## INDUSTRY RESOURCES AND CONSULTS

**Dina Vees** | Phoenix Challenge Advisor

*Professor, Graphic Communication Cal Poly*

Dina Vees earned a Bachelor of Science in Graphic Communication from Carroll University and a Master of Fine Arts in Media Design from Full Sail University. Her favorite part about teaching is seeing the ‘light bulb’ turn on when a student grasps a concept. Her teaching and research interests are prepress, workflow automation, variable data, marketing, and HTML/CSS/JavaScript. Dina worked at Harley-Davidson MotorClothes and used her skills in the textile industry. Her specialty is prepress and the highlight of her career has been working at Cal Poly.

**Nick Cooper** | Press

*Lecturer, Graphic Communication Cal Poly*

Nick Cooper graduated from California Polytechnic State University, San Luis Obispo with a Bachelor of Science in Graphic Communication concentrating in Graphics for Packaging. After graduation, he worked as the Prepress Manager for Custom Label & Decal, LLC, where he created proofs for customers, set up press-ready files for both flexo and digitally printed narrow web labels, and was heavily involved in flexo platemaking. He has returned to Cal Poly as a Graphic Communication lecturer and Equipment Technician for the department. Nick was an integral part of the prepress and printing process, assisting our team in preparing files for plate making using the Esko software.

**Mike Ferrari** | Sustainability

*Consortium For Waste Circularity President | Key Largo, FL*

Mike Ferrari is president of Consortium For Waste Circularity, a 501(c)(3) nonprofit focusing on science-based solutions to return waste into an endless loop of circularity. Mike was recruited to The Procter & Gamble Co in Cincinnati, OH and completed a successful 32-year career as a global R&D director including 6.5 years as an international manager living in Germany. He delivered initiatives to the marketplace for leading billion-dollar brands. He holds several patents and is the winner of the

2009/2010 DuPont Global Packaging Innovation Award and also served on the FTA board. Upon retirement, Mike founded Ferrari Innovation Solutions, coaching consumer product companies to delight consumers. Mike is a guest lecturer at the University of Florida to the Packaging Engineering program, teaching “Consumer Driven Innovation Methodology.”

**Lorraine Donegan** | Design

*Professor, Graphic Communication Cal Poly*

Lorraine Donegan is a professor at the California Polytechnic State University with more than 20 years of experience in the graphic design and production industries. In her teaching, she links design with technology in an effort to prepare students to understand the language and role of the graphic designer, the print provider, and the final product. The design team was fortunate to speak with Lorraine about design considerations for packaging and labels. She provided advice on how to streamline the prototyping process by working backwards from existing samples. Additionally, she gave valuable insight on how to properly communicate our client’s existing brand while developing new solutions for their packaging.

**Malcolm Keif** | Press

*Professor, Graphic Communication Cal Poly*

Dr. Malcolm Keif, a Graphic Communication California Polytechnic State alumnus, has taught at the university level since 1990. He primarily taught a flexographic printing course where he went over FIRST specifications and certain characteristics of flexo printing. He previously served as the Phoenix Challenge advisor for multiple years. His experience was valuable during our press run as he guided us throughout the printing process. He helped to explain why we came across certain issues and how to navigate them. Over the years, Malcolm has shifted his passion, as new technologies and methodologies are developed. Recently, he is interested in how data is used and managed in GrC, which includes digital marketing, managing assets, analytics, visualization, and various other applications. He has also been involved in the Flexo packaging area and is interested in marking and coding, particularly for tracking, brand-security, and anti-counterfeiting.

**Javier de la Fuente** | Packaging Structure

*Lecturer & Researcher, Industrial Technology & Packaging Cal Poly*

Dr. Javier de la Fuente serves as the Chair of the Industrial Technology and Packaging Area in the Orfalea College of Business at California Polytechnic State University. He

is an Associate Professor who teaches undergraduate and graduate courses on design thinking, product and packaging design and development, and healthcare packaging. Dr. de la Fuente also serves as Adjunct Faculty at Universidad de Monterrey, where he teaches product usability and innovation at the graduate level. Dr. de la Fuente's background includes industrial design, graphic design, packaging, and scientific research. He is particularly interested in design-driven innovation, the role of affordances in usability, and inclusive design. His research group develops novel methods for using mobile eye-tracking technology in usability testing of physical products.

## CONCEPT

### ORIGINAL PACKAGING ISSUES

Based on our evaluation of House of Bread's current state, we identified opportunities for growth and refinement of their current packaging solutions. The first touchpoint that our team identified as a potential growth opportunity was inconsistent branding and unappealing design. The current House of Bread labels feature a low-resolution image, derived from an in-store mural. However, due to poor-quality printing and graphics, the image is blurry and difficult to identify. As a result, the poor quality labels reflect negatively on customers and fail to showcase the natural, homemade origins of the business. Additionally, the current typography featured on the labels is hard to read upon first glance, making it difficult to identify key information like pricing and ingredients from both a customer and employee standpoint. To address these issues, our team worked to enhance current branding by establishing a clear and consistent branding standard that speaks to House of Bread's country farmhouse origins. By refining the company's branding and developing a series of label designs, the packaging will be able to reflect the high-quality standards of House of Bread.

Another main component of the bakery's packaging that we aimed to reimagine was the use of Ziploc bags to package the bakery's cookies and brownies. When speaking with Sheila, she felt that this solution gave customers an easy way to reseal the packaging. However, the sandwich bags display an inconsistent message to customers, poorly reflecting the quality and standards of the company as a whole. The sandwich bag packaging solution failed to reflect the high-quality ingredients that make House of Bread a well-loved company across the San Luis Obispo community. Additionally, this packaging solution offered little to no protection of the product itself. By aligning with Sheila's priority of resealability, we decided it was important to execute a packaging concept that cultivates a higher quality image for the company.

## COST CONSIDERATIONS



**Figure 3** Current House of Bread packaging

To label baked goods, Sheila used Avery labels printed by inkjet which amounted to approximately \$0.1690 per piece. While the individual cost of our flexographic label is difficult to pinpoint as our team has just completed short runs, it is holistically more advantageous to pivot towards flexographic printing as opposed to other forms of printing, in this case, inkjet. Primarily because it is more cost-effective to print flexo in bulk and for House of Bread which is the desired outcome for the many pastries they produce. As more labels are printed, the click charge is reduced, and therefore printing with flexo is more advantageous in the long run. Additionally, with the two spot colors we use, the print quality will be higher than having the inkjet reproduce the colors through the 4-color process.

## TECHNICAL AND ENVIRONMENTAL CONSIDERATIONS

Flexographic ink has been historically associated with high amounts of volatile organic compounds, resulting in toxic byproducts that harm the environment. If there are changes that need to be made in the design, it requires an entirely new flexographic plate to be created, which adds up in financial, material, and environmental costs.

## INITIAL SURVEY RESULTS

As a part of our initial research, our team released a survey to Cal Poly students and House of Bread customers to compare our new branding efforts with House of Bread's original logo design. Based on our survey, we asked respondents to assess which of our logos best emphasized the country origins and natural aspect of House of Bread. The survey found that 85.7% of respondents felt that the new logos better reflected House of Bread as a brand and bakery. Additionally, 89.3% of respondents felt that our label designs better aligned with their expectations of the bakery and its brand. Respondents shared feedback on which of our logo iterations best represented the bakery as a whole, which we continued to refine and finalize based on our survey feedback. The survey helped inform our design decisions moving forward, shaping our typography, logo, and label designs to align with our target market preferences.



**Figure 4.1-4.3** Evolution of our pastry box designs, from initial concept stages to adding graphics and 3D rendering

## PACKAGING REVISIONS

While creating the structure of the pastry takeout box, our team wanted to develop a structure that did not have any glue. Upon further research and meeting with Industrial Technology and Packaging professor Javier de la Fuente, we decided to switch our zero glue package to an auto-bottom, self-erecting package. The new dieline also was more appropriate for the uses of House of Bread, increasing efficiency.

A minimal amount of water-based glue would still make the structure sustainable and does not impact the recyclability of the package. The glue for the structure allowed for the packages to ship flat and allow for easier storage. The auto-bottom allows for a quicker assembly to keep up with the fast-paced environment of



packing pastries. Finally, we decided to add life to House of Bread’s pastry box by integrating our branding elements into our dieline. In addition to the pastry box, the dieline we created for the coffee sleeve did not use any glue. Our team felt that the coffee sleeve that fastened without glue would be unique, sustainable, and easy to implement into their business.

## DESIGN

### ORIGINAL BRANDING

Since the founding of House of Bread in 1996, House of Bread’s logo has undergone minimal changes, despite the company’s evolution and success over time. With the opening of a second location tapping into a new San Luis Obispo market base, the storefront was in need of a modernized brand identity that still stays true to its home-made origins. House of Bread harvests wheat from the same Montana fields where owner, Sheila McCann, draws inspiration for her passion. Wheat is an integral aspect of House of Bread and Sheila uses the symbolic bundles of wheat in her logo today.

The current logo uses deep red and brown tones and the Papyrus typeface to communicate the natural, organic roots of House of Bread. The logo is also frequently paired with a bread house graphic, which takes away from the business’s cohesive brand identity. The wordmark emphasizes House of Bread’s country origins while the simplistic bread house fails to properly reflect the quality of their products and the company as a whole. In hopes of expanding House of Bread’s customer reach, we chose to rebrand the logo while maintaining the company’s current color palette to cultivate a more cohesive brand identity.

## BRANDING SOLUTIONS

### BRANDING ELEMENTS

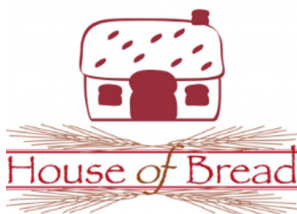


Figure 5 Current logo



Figure 6 House of Bread current website



Figure 7.1-7.4 Pastry labels

### Modern Love

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo  
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz

### Classico URW

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo  
Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz



#### Raspberry Swirl

Pantone 1807 Coated



#### Prairie

Pantone 1817 Coated

Figure 8 Style guide



## FIRST SPECIFICATIONS

When designing our branding for House of Bread we went through several iterations to ensure that the typeface would follow FIRST specifications as well as ensure high-quality press runs. For the first of three press-runs, we printed the labels for the pastry and cookie bag we later created. We decided to make our point size 24 for the type of baked good on the label, and 9 for the ingredients. Though we used more of a script font we ended up enlarging the typeface from our original design in order for it to print more effectively on the coffee sleeve labels. All text and graphic elements were trapped, and barrer marks were used to prevent misregistration and press-run errors. After consulting professor Dina Veas about our prepress files, we integrated her feedback and added more of a stroke and enlarged the type in order for the script font to print legibly, and effectively.

On the third press run, the translucent substrate, registration marks, and regulations were imperative for a successful outcome of the run, especially with the detail in the sheaths of wheat on the packaging we printed with flexo. We used overprint by first printing with the white ink, and then printing the PMS 1807 over the white ink which allowed for the quality of print on the clear substrate. By following design guidelines and proper protocols, we were able to have efficient and successful press runs for each element of our design.

## EXECUTION

### SUSTAINABILITY EFFORTS

With sustainability as a primary focus of our project goals, we consulted with Michael Ferrari, President of Consortium For Waste Circularity. Ferrari built a refined professional background in packaging and print, working to identify solutions to reduce waste and promote a circular economy within the packaging industry. After reviewing our selected materials and substrates used for our project, we wanted to ensure that our products could be recycled or repurposed in a way that could reduce House of Bread's contribution to excess packaging waste. Ferrari's advocacy for ending landfill practices and incineration inspired us to investigate alternative recycling methods that could be potentially used by companies like House of Bread. Based on our conversation with Ferrari, we learned about Regenerative Robust Gasification that is able to downcycle all waste without exception to produce Syngas. According to Ferrari's research, "Syngas is a clean chemical feedstock for subsequent production of many products—fuels, fertilizers, pharmaceuticals and other chemical feedstocks



such as methanol, useful for production of plastics” (Ferrari 2023). Based on this robust recycling solution, our BOPP film pastry bags, product labels, Avery Dennison polyethylene coated labels, kraft paperboard coffee sleeves and pastry boxes are all capable of being downcycled and transformed into Syngas. Ferrari’s solution to the landfill crisis introduces exceptional possibilities for the food packaging and flexographic industry, promoting a circular waste economy.

Aside from investigating sustainable efforts that can be integrated after a package’s life, we made several decisions during our prepress operations to promote sustainable flexographic printing practices. We chose to make our coffee sleeves require no glue for assembly. Not only does this promote easy assembly for House of Bread employees but it acts as a more sustainable way to reduce waste processing and recycling costs. Most traditional glues and adhesives used in the packaging industry contain plastics which optimize bonding properties but in turn, are not biodegradable (Davis 2020). Knowing the impact plastic glue has on the packaging industry, we decided to manufacture a no-glue solution for our coffee sleeves.

## PREPRESS

We established clear guidelines to achieve a successful press run that aligns with FIRST specifications. Most notably, we ensured that our plates were “flexo-friendly” and our lines were within necessary specifications. Based on our feedback from design expert, Lorraine Donegan, we limited our frequent usage of thin lines to improve registration during our press run. Additionally, we made sure to compare our small type with FIRST specifications to ensure the best final outcome for our products. For our prepress procedures, we decided to impose our product labels one up due to the size limitations of our press. While we were limited in size for our product labels, we chose to create a single plate for both our brownie and cookie labels, optimizing space and efficiency for our press runs.

Additionally, we were able to impose our coffee sleeve plates two up, further encouraging waste reduction. When setting up our plate finals, we made sure to integrate i-cut registration marks into our files. After the digital files were completed, our group was ready to begin the platemaking process.

The first step was creating the plate’s back exposure to create the base for the plate. Next, we placed our plate into the ESKO Cyrel Digital Imager or CDI. During this process, the CDI’s laser etches the plate design into the flexible material while also

receiving a UV exposure. Finally, the development stage allows the image areas to rise before finishing the plate with UV ray and UVC light, producing the final plate.

To achieve an efficient press run, we decided to utilize a two-color process for our product labels and integrate the creme-colored substrate as a part of our design. By selecting a colored substrate, this minimizes the set-up costs and production time. We separated our press runs into two separate days, ensuring that the first run utilized our Pantone 1817 and 1807 colors and the second day was solely dedicated to our 1807 and Spot White color runs. Overall, this helps reduce plate and ink changes during operation.

## PRODUCTION FILES

### PRODUCT LABELS



Figure 9 Production files

When speaking with Sheila, she expressed her interest in reconfiguring her current labeling system. She felt that her current labels were difficult to read and identified several inconsistencies within label quality and resolution. We wanted to create a more cohesive series of labels that displayed House of Bread's reimagined brand identity. We chose to also expand the labels to products outside of the bread category, hoping to elevate the experience of enjoying any House of Bread baked good. Additionally, Sheila emphasized the importance of including necessary information like net weight onto the labels, which was lacking in her current labels. Not only do the labels achieve a clean and simplistic design that effectively communicates

the product information to customers but they serve a practical purpose as well. The labels allow customers to reseal their pastry bags easily and conveniently with our product sticker labels, elevating Sheila’s current Ziploc packaging solution with something of higher quality.

## COFFEE SLEEVE

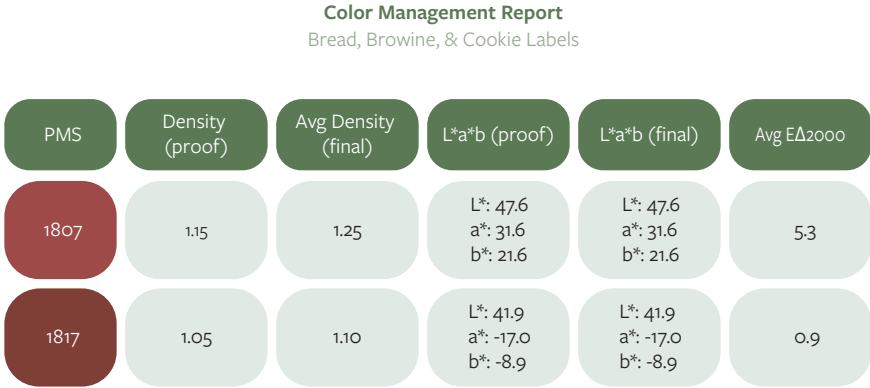


Figure 10 Label color management report

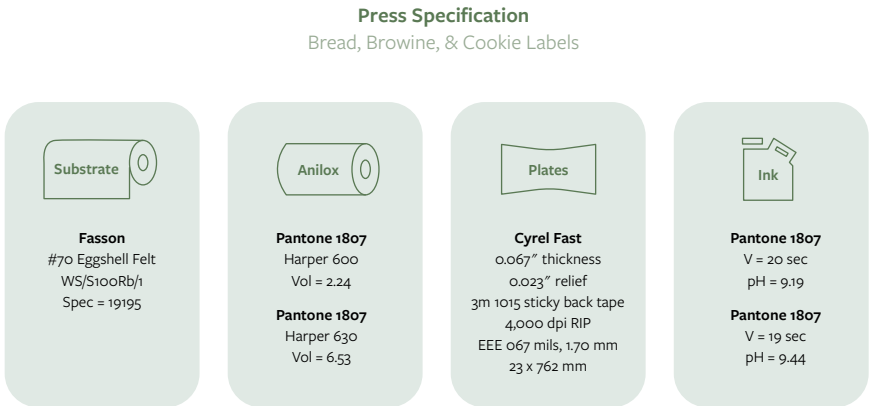
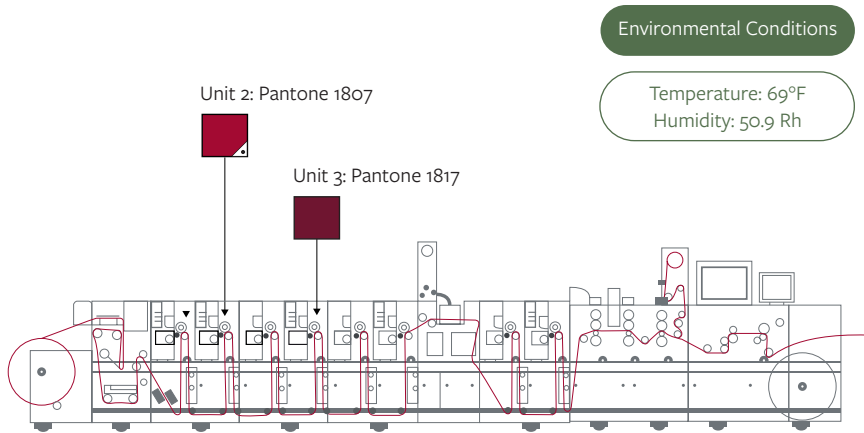


Figure 11 Label press specification



**Figure 12** Press run #1 specifications

With the emergence of a second location, House of Bread’s menu and product range is expanding significantly. The bakery is shifting to diversify their coffee and drink selection. Currently, the bakery serves coffee in standard coffee cups, which fail to showcase any branding elements. Coffee cups and sleeves are primary opportunities for generating natural advertising, which is why we decided to design a signature coffee sleeve for House of Bread. With the bakery hoping to increase their sales and serve more specialty coffee drinks and beverages, the coffee sleeve design felt like a necessary step to drive brand recognition.

Placing House of Bread’s logo primarily onto the coffee sleeve, customers are now able to establish a sense of brand familiarity between the House of Bread identity. During production, we wound the coffee sleeves to later cut using our Kongsberg machine. In our initial press run, we found that our Pantone 1807 was less visible on the kraft paper substrate. To resolve this issue, we decided to print with a spot white underneath to enhance the visibility of the House of Bread logo.

### Color Management Report

Coffee Sleeve

PMS	Density (proof)	Avg Density (final)	L*a*b (proof)	L*a*b (final)	Avg E $\Delta$ 2000
Spot White	0.15	0.16	L*: 81.9 a*: 1.2 b*: -5.1	L*: 86.6 a*: 1.4 b*: -5.4	3.3
1807	0.95	0.95	L*: 71.2 a*: 3.7 b*: 53.0	L*: 70.2 a*: 4.2 b*: 54.7	0.9

Figure 13 Coffee sleeve color management report

### Press Specification

Coffee Sleeve





 <p><b>Substrate</b></p> <p><b>Kraft Oaer Roll</b> Basis Weight - 30lb</p>	 <p><b>Anilox</b></p> <p><b>Spot White</b> Harper 600 Vol = 2.24</p> <p><b>Pantone 1807</b> Harper 360 Vol = 6.53</p>	 <p><b>Plates</b></p> <p><b>Cyrel Fast</b> 0.067" thickness 0.023" relief 3m 1015 sticky back tape 4,000 dpi RIP EEE 067 mils, 1.70 mm 25 x 30 in 23 x 762 mm</p>	 <p><b>Ink</b></p> <p><b>Spot White</b> V = 18 sec pH = 9.37</p> <p><b>Pantone 1807</b> V = 15 sec pH = 9.15</p>
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Figure 14 Coffee sleeve press specifications





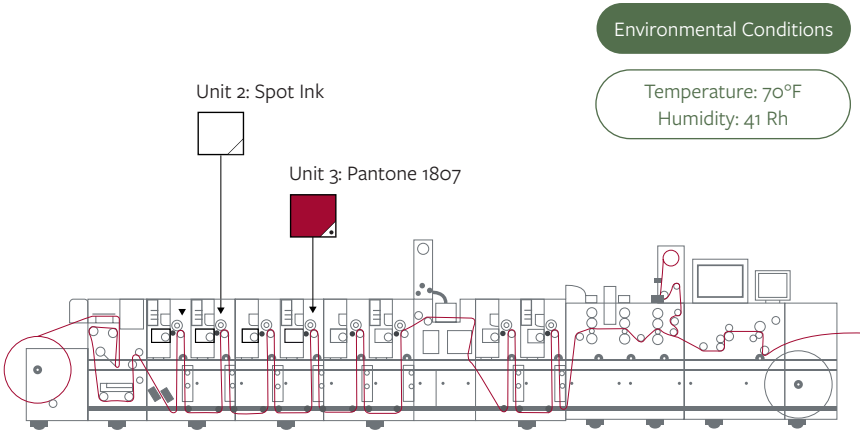


Figure 15 Press run #2 specifications

## PASTRY BAG

When developing our pastry box design, we wanted to integrate the House of Bread logo and symbolic elements into the box itself. As a group, we decided to develop a pastry bag with our wheat pattern to create a more cohesive branding identity across all product categories. Sheila's current packaging system to sell her pastries are Ziploc bags. We identified this as a strong opportunity for growth and refinement and felt that our high-quality, delicious pastries deserved a more high-quality packaging solution. We found it important to integrate House of Bread's symbolic wheat pattern on the pastry bags, serving as a consistent reminder of the brand and its natural, homemade core values.

Using Biaxially oriented polypropylene film (BOPP), we experimented with different color jobs on the press to produce a series of pastry bags. After winding the film into a roll, we cut the film into sheets to heat seal and make into pastry bags. BOPP is a common film utilized in the food industry due to its strength, ability to improve product longevity, and protect the product from environmental and physical abuses (Kingchaun Packaging 2022). This shift away from traditional Ziploc bags to higher quality BOPP pastry bags with our signature wheat pattern truly helps to enhance customers' perceptions of House of Bread's pastries.



Figure 16 Pastry bags

**Color Management Report**  
Pastry Bag

PMS	Density (proof)	Avg Density (final)	L*a*b (proof)	L*a*b (final)	Avg E $\Delta$ 2000
Spot White	0.15	0.16	L*: 81.9 a*: 1.2 b*: -5.1	L*: 86.4 a*: 1.4 b*: -5.4	3.3
1807	1.05	1.07	L*: 41.9 a*: -17.0 b*: -8.9	L*: 43.0 a*: -17.1 b*: -8.8	1.0

Figure 17 Color management report



## Press Specification

Pastry Bags



Figure 18 Pastry bag press specifications

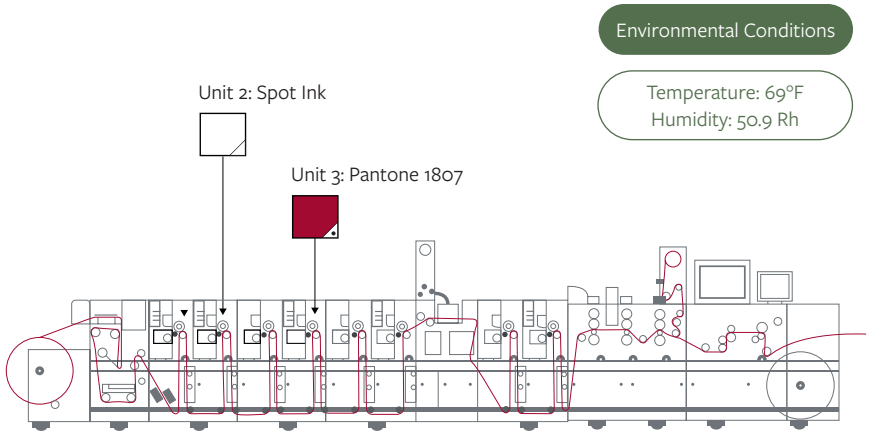


Figure 19 Press run #3 specifications



**Figure 20** Process photo from press run #3

## PRESS LIMITATIONS AND ISSUES

Throughout our project, we encountered several limitations as a result of supply chain issues and press limitations that forced us to adapt our expectations and product outcomes. When printing on the BOPP film, we had to navigate some challenges in the tension and alignment of the material. When shifting from the kraft paperboard to the BOPP film, there were some difficulties achieving proper web tension. This caused the film to overstretch to the point of potential breakage. However, we were able to identify this web tension issue immediately and halted production, giving us time to consult our FIRST specification guide.

After adjusting several segments on the press, the web tension was able to achieve an ideal tension control, allowing the film to align properly on the press. Additionally, due to budget limitations, we chose readily available materials like kraft paperboard and BOPP film, which were supplied by our department. Additionally, being cognizant of House of Bread's current materials and packaging applications, we developed products that would be easily integrated into the bakery's production workflow and supply stock. However, if we were to have access to a more expansive budget, our team would have liked to explore alternative materials that allowed for a more

sustainable, eco-friendly solution for our products. Based on our extensive research, we discovered Polylactic Acid which is a renewable, biodegradable source made from primarily sugar cane and starch (McCauley 2018). This PLA material has been transformed into biodegradable bread packaging that offers an environmentally-friendly alternative to traditional petroleum-based bakery packaging that House of Bread uses today (BioPak 2023).

The PLA material has received certifications from the British Retail Consortium and International Organization for Standardization, therefore meeting industry standards for food packaging regulations (360 Packaging 2018). With the flexibility this material offers, we would plan to integrate this biodegradable packaging material to replace our BOPP film and House of Bread's current plastic packaging if given a wider budget.

## MIXING OUR OWN INK

Due to some supply chain issues, our team was not able to get the inks that we wanted. We resolved this issue by hand mixing our own inks to use on the press. The ink colors that we used were PMS 1807 and PMS 1817. We already had PMS 1807, the brighter red color, in stock but could not get PMS 1817, the darker brown color. To mix PMS 1817, the team started with 1,600 ml of PMS 1807. PMS 1807 is one part black and sixteen parts Pantone Red 032, while PMS 1817 is 6 parts black and sixteen parts Pantone Red 032.

Since PMS 1807 is already one part process black our team needed to add an additional five parts of black. We measured 100 ml of process black ink and weighed it for consistency. The process black was added into the measured out 1,600 ml of PMS 1807 and mixed. As small amounts of black ink were added, the team used an ink brayer to swatch the colors on paper. However, while swatching the ink on the paper, consistency was hard to obtain. There were challenges in creating a clean swatch and managing the amount of ink applied to the paper. The final proportions of the mixed PMS 1817 are six parts black and sixteen parts Pantone Red 032, or five parts black and sixteen parts PMS 1807.



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## ABOUT THE AUTHOR

Rayna Farkas

Rayna Farkas is a fourth-year student studying Graphic Communication with a Packaging minor at Cal Poly, San Luis Obispo. When she was the design lead for the 2022-2023 Phoenix Challenge Team, they received an Excellence in Research award at the annual Phoenix Challenge College Competition. This experience has been so transformative, and she feels fortunate to have been able to meet such talented students and professionals who are all making an impact in the flexographic industry.

