

PBG

Poly Build Group



Etowah Ridge

California Polytechnic State University, San Luis Obispo
Four-Year Program – Custom/Small Build, 2024 NAHB Student Competition

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Who We Are



Company Overview

Poly Build Group (PBG) is a local general contracting company with over 100 years of history in crafting communities in the greater Atlanta area. Our mission is to build innovative homes that create lasting value for our clients and communities. Our team is built on a foundation of collaboration, dedication, and a passion for construction excellence. By merging our expertise with a forward-thinking vision, PBG continues to shape the future of home construction.

In-House Design

PBG's in-house design team allows for a synchronized communication style for consultants and trade partners alike throughout all phases of design and construction in an otherwise fragmented process. Graphic communication and 3-dimensional visualization software such as Revit provide a collaborative platform for communicating efficiently with our architectural, consultant, and trade partners.

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Self-Perform Work

PBG takes pride in our specialized and committed self-perform teams for both concrete and drywall. These teams allow us to facilitate an expedited construction timeline, reduce expenses, and guarantee our work is of the highest quality.

History In Area

Established in 1901 by Calvin "Cal" Poly, Poly Construction, Inc. proudly served the greater Atlanta area as a local, family-owned business. Originating in Acworth, the company swiftly earned a reputation as one of the region's premier builders. With the completion of the Allatoona Reservoir in 1949, Poly Construction, Inc. constructed its first lakeside home on Lake Allatoona in 1953, securing the 12th shoreline use permit issued. Since then, the company has built 23 exquisite lake front residences, each showcasing unparalleled craftsmanship. Over the years, Poly Construction Inc. dynamically evolved, transforming into Poly Build Group in 1970.

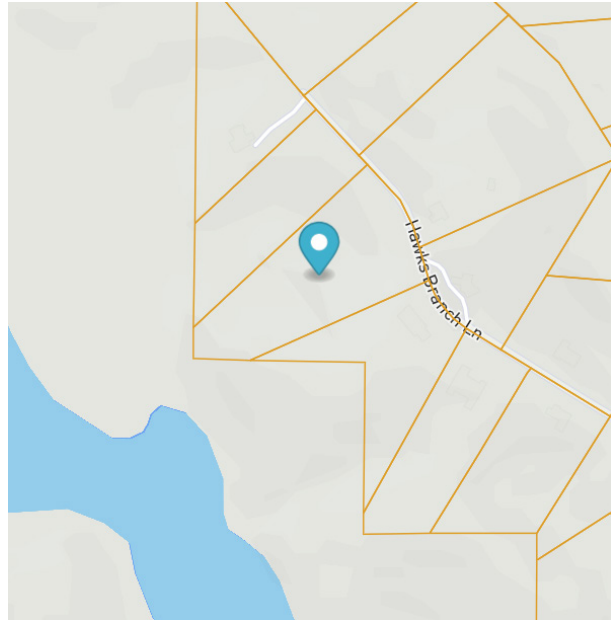
Check out our website to learn more about PBG:



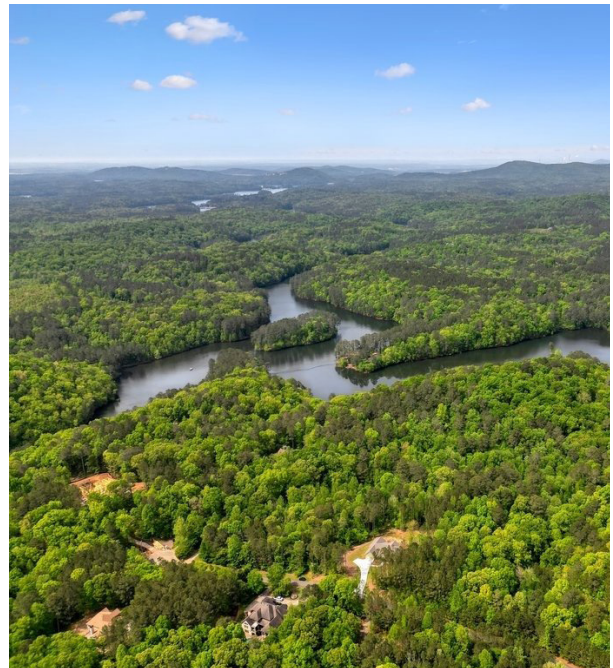
Executive Summary

Poly Build Group intends to build Etowah Ridge, a luxurious 5 bedroom, 4 bathroom, 4,440 SF home tucked away in the serene northern side of Lake Allatoona, Georgia. This project caters to established couples and high-income professionals seeking an escape from city life while indulging in the breathtaking scenery of the valley and lake. To bring this vision to life, PBG plans to secure a \$778,000 construction loan, backed by a \$194,500 contribution from internal equity. The chosen site located at 16 Hawks Branch Ln in Bartow County was selected for its expansive 7.21-acre lot offering panoramic views of Lake Allatoona. The lot is located in the highly sought after Hawks Farm gated community. Homes that have sold within this community have sold rather quickly, averaging 23 days on market compared to the surrounding area with 46 days on market. This location embodies the tranquility amidst nature's beauty, attracting those in search of a serene and relaxing lifestyle. With site mobilization scheduled for April 15, 2024, and completion expected by November 29, 2024, Etowah Ridge is expected to take 165 working days to complete.

This cost structure positions Etowah Ridge competitively in the luxury housing market. Targeting at a sales price of \$1,250,000, Etowah Ridge is expected to generate a gross profit of \$240,000.00, showcasing a strong margin between revenue and project costs. The resulting net profit \$211,814.18, after accounting for all additional expenses, represents a strong net profit margin of 16.97%. Its competitive profit margins and financial resilience make it an attractive proposition in the dynamic real estate landscape. This financial analysis showcases Etowah Ridge as an exclusive retreat offering both a premier living space and an appealing investment opportunity. Our comprehensive risk analysis identifies key factors that significantly impact our project's profitability. This analysis reveals that adjustments in pricing and material costs have a substantial influence on returns.



16 Hawks Branch Ln, White, GA 30184



Market Analysis

Location

The Hawks Farm neighborhood lies just beyond the reach of the fast-paced city, offering large lots filled with beautiful native scenery. The region is characterized by tight-knit communities of retirees and families relocating from Atlanta. The area offers the rural seclusion of life in the Georgia pines while not compromising accessibility to neighboring cities. The region is not only surrounded by beautiful cities such as Cartersville and Canton, it also neighbors major highways 75 and 575 which enables residents to easily travel to the urban expanses of Atlanta or Chattanooga. The territory is marked by warm and humid summers (80°-90°F) perfect for backyard entertainment, coupled with cool, largely mild winters with daily highs around the low 50°s.



Target Market

Our design is perfectly suited for established couples seeking an escape from the fast-paced lifestyle, looking to find peace in the scenic countryside and breathtaking sunsets that Northern Allatoona has to offer. The region has become attractive as a haven for those escaping

the congestion of large cities. The population density of Bartow County puts one person in every 2.5 acres of land. As a result, the average commute hovers at 29 minutes, which is well attainable from our location adjacent to the Knox Bridge Highway. The mean age in Bartow County is currently hovering at 38 and approximately 63% of the county's homeowners are wedded. Many homes in the more rural stretches of Bartow County enjoy safe and gated streets, the county ranks in the 90th percentile in safety. The mean selling price for homes in Bartow County has risen 3.4% since last year.

Competition

The majority of nearby developments are by local contractors such as Elevation Building Company which constructs homes of similar cost, square footage, and quality in Acworth, Georgia. These homes range from 3,524 to 5,083 square feet and are being sold for \$1,215,900 to \$1,448,600, which equates to \$197 to \$324 per square foot. Despite similar sizes and sales price, these homes do not offer the same privacy and lot size that Etowah Ridge has to offer. To highlight the value that the Hawks Farm neighborhood can bring to a home, look no further than 28 Crolley Ln which was sold on March 30, 2023, for \$815,000 and went under contract 9 days after being listed. This home, built in 2006, sits on 5 acres of land with 3,050 square feet and sold for \$270 per square foot.



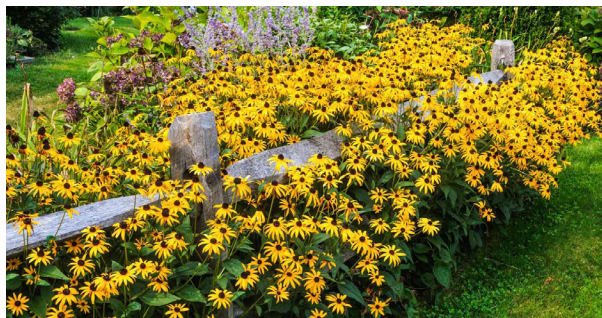
Preconstruction Management

Product Selection & Sustainability

Our preconstruction process sets the tone for sustainability on the project long before construction takes place, as the products and materials we select will determine the energy and resource consumption over the life cycle of the home. To optimize our MEP systems, we have selected R-60 cellulose insulation for the attic and R-19 for the walls. Additionally, high-efficiency appliances, low-flow water fixtures, and LED lights throughout the home all come standard in PBG builds.

To satisfy HOA guidelines, we plan to remove as little native landscape as possible and we have strategically selected a range of native plants for the landscaping which include Creep Lily turf, Black-Eyed Susans, and Georgia Aster. To save homeowners time and money on their landscape, we plan on installing the Moen Smart Sprinkler Controller and Moen Smart Wireless Soil Sensor, which gives them the power to customize their water schedule from the comfort of their homes. The system automatically monitors local weather and soil conditions to adjust watering, saving an average of 30% water annually.

Lastly, we're planning to install solar panels on the home. Georgia experiences an average of 4-5 peak sun hours per day, with variance around seasons. With the signing of the Inflation Reduction Act, solar owners will receive a 30% tax credit on top of existing energy savings. The sustainability practices mentioned above will lower operating costs for the homeowner and benefit our bottom line as a builder.



Black-Eyed Susans

Permitting

Construction of this residence will require a building permit filed through Bartow County. Due to the proximity of this property to Allatoona Lake, an erosion control plan submitted by a licensed engineer is required upon application for the building permit. In addition to this plan, submission of the septic permit, and proof of ownership is required. No additional documents from the water department are necessary, as the property is serviced by a well. Throughout construction, electrical, HVAC, plumbing, and solar permits will be required and will be filed through our trade partners.

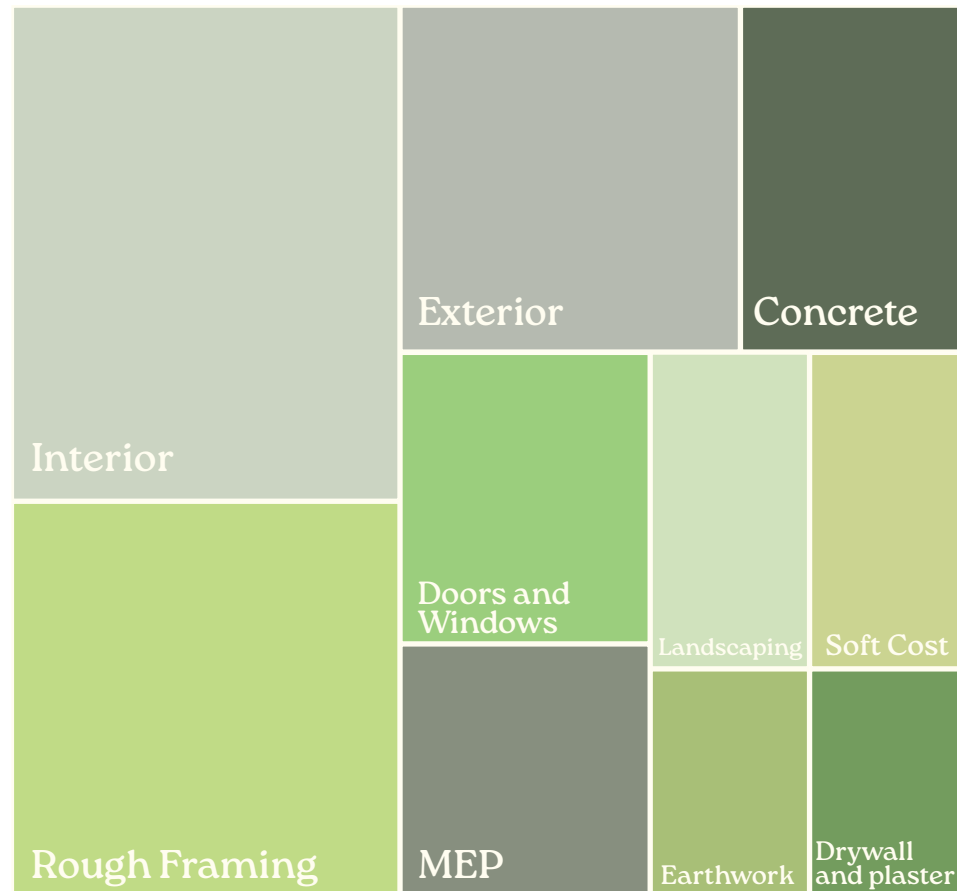


Georgia Aster

Estimate

Overview

This comprehensive estimate for our 4,440 square foot Etowah Ridge Residence highlights critical financial breakdowns crucial for the project's profitability. PBG intends to acquire the lot for \$170,000, with construction expenses totaling \$740,737.33 and an additional \$61,762.67 for overhead. This brings the total project cost to \$972,500.00, resulting in a cost of \$180.74 per square foot. Notably, expenses related to lumber, exterior finishes, and interior finishes constitute roughly 50% of our construction expenditure. Management of these costs is paramount to maintain profitability. This estimate is tailored for the development at 16 Hawks Branch Ln, set to commence construction in 2024. Considering the potential fluctuation in material prices over time, PBG recognizes this as a pivotal risk analysis metric in evaluating the project's profitability.



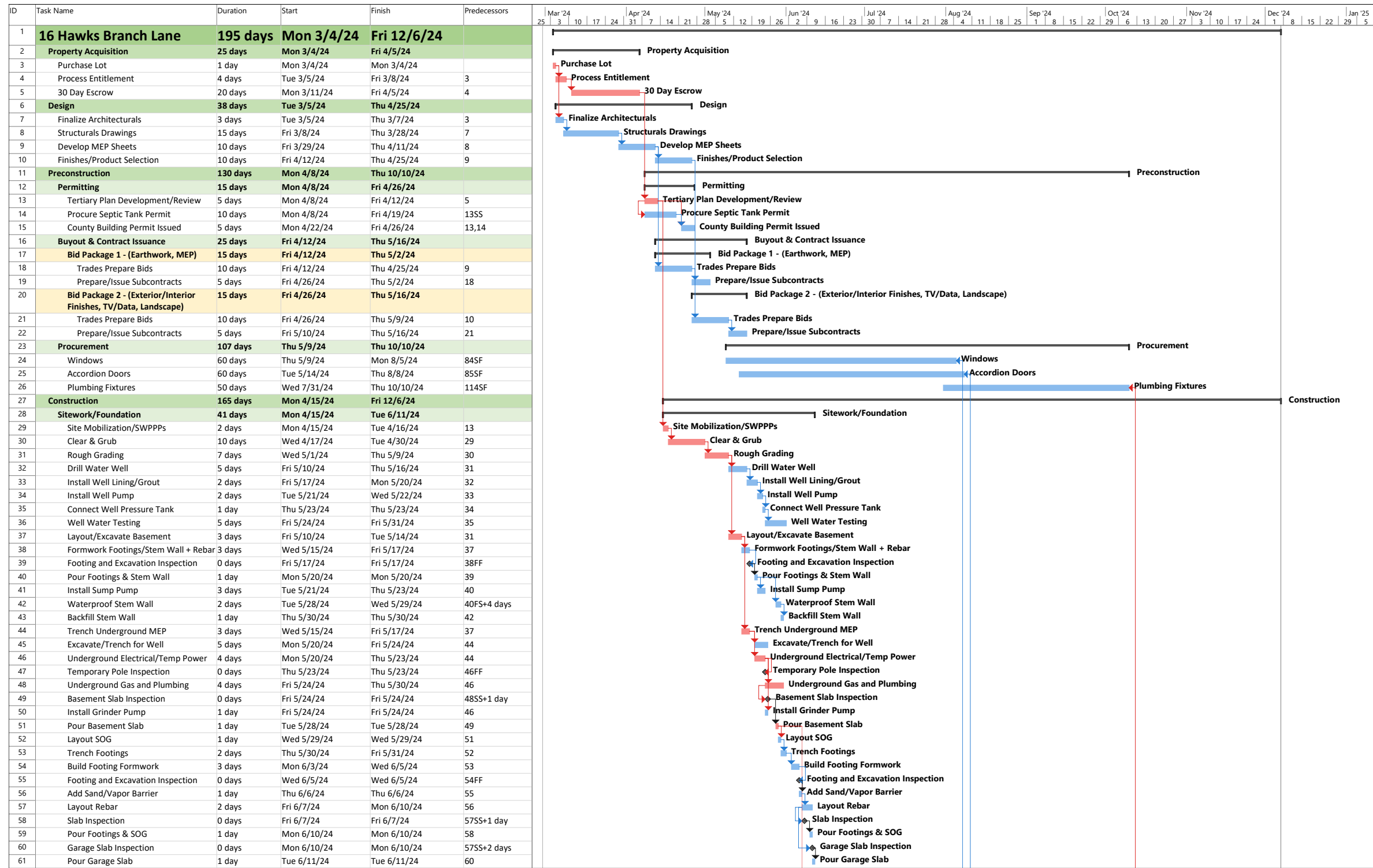
	Rate	Unit	Cost
Soft Costs			
Plans and Specifications	\$14,500.00	EA	\$14,500.00
Building Permit	\$64.02	EA	\$64.02
Septic Permit	\$35.00	EA	\$35.00
Electric Permit	\$35.00	EA	\$35.00
HOA Impact Fee	\$4,500.00	EA	\$4,500.00
Private Water Well Test	\$70.00	EA	\$70.00
Testing & Survey Work	\$1,500.00	EA	\$1,500.00
Superintendent	\$1,350.00	Week	\$37,800.00
		Total	\$58,504.02
General Requirements			
20 CY Dumpster	\$300.00	Week	\$2,700.00
General Waste	\$20.00	Week	\$380.00
Portable Toilet	\$55.00	Week	\$1,760.00
Temporary Construction Pole	\$50.00	EA	\$50.00
SWPPP Integration	\$1,250.00	EA	\$1,250.00
		Total	\$6,140.00
Earthwork			
Clear and Grub	\$10,500.00	AC	\$10,500.00
Basement Excavation	\$350.00	HR	\$3,500.00
Dirt Removal Truck	\$250.00	EA	\$4,452.50
Trenching for Utility Hookups	\$8.00	LF	\$1,000.00
French Drains	\$11.00	LF	\$4,191.00
Backfill & Compaction	\$14.60	CY	\$1,881.65
Water Well	\$7,500.00	EA	\$7,500.00
		Total	\$33,025.15
Concrete			
Slabs & Footings	\$150.00	CY	\$13,500.00
Basement Walls & Footings	\$150.00	CY	\$9,600.00
Vapor Barrier	\$0.80	SF	\$3,908.45
Asphalt Driveway	\$3.30	SF	\$19,552.50
Rebar	\$1.65	LF	\$18,222.60
		Total	\$64,783.55

	Rate	Unit	Cost
Rough Framing			
Lumber Pack	\$14.00	SF	\$72,800.00
Stairs	\$2,750.00	EA	\$2,750.00
Sheathing, Subflooring	\$1.80	SF	\$15,300.00
Roof Framing, Trusses	\$25,000.00	EA	\$25,000.00
		Total	\$115,850.00
HVAC			
Furnace/Heat Pump	\$3,400.00	EA	\$3,400.00
AC Unit	\$4,258.00	LS	\$4,258.00
Ductwork	\$11.00	LF	\$3,300.00
Radiant Heat Floors	\$13.16	SF	\$3,000.00
Finish HVAC	\$1,200.00	LS	\$1,200.00
HVAC Controls	\$250.00	EA	\$250.00
		Total	\$15,408.00
Plumbing			
Drain/Waste/Vent	\$1.00	LF	\$1,000.00
Septic Tank	\$2,700.00	EA	\$2,700.00
Grinder Pump	\$800.00	EA	\$800.00
Water Supply Piping	\$6.30	LF	\$3,150.00
Gas Piping	\$2.20	LF	\$660.00
75 Gal Water Heater	\$1,150.00	EA	\$1,150.00
Toilets	\$250.00	EA	\$1,000.00
Shower Pan	\$200.00	EA	\$400.00
Sinks	\$1050.00	LS	\$1,050.00
Faucets	\$1050.00	LS	\$1,050.00
Laundry Sink	\$400.00	EA	\$400.00
Mixing Valves	\$85.00	EA	\$340.00
Shower Heads	\$90.00	EA	\$360.00
Garbage Disposal	\$150.00	EA	\$150.00
		Total	\$14,210.00
Masonry			
Fireplace Wall	\$15.77	SF	\$3,312.50
Fireplace	\$2,100.00	EA	\$2,100.00
		Total	\$5,412.50

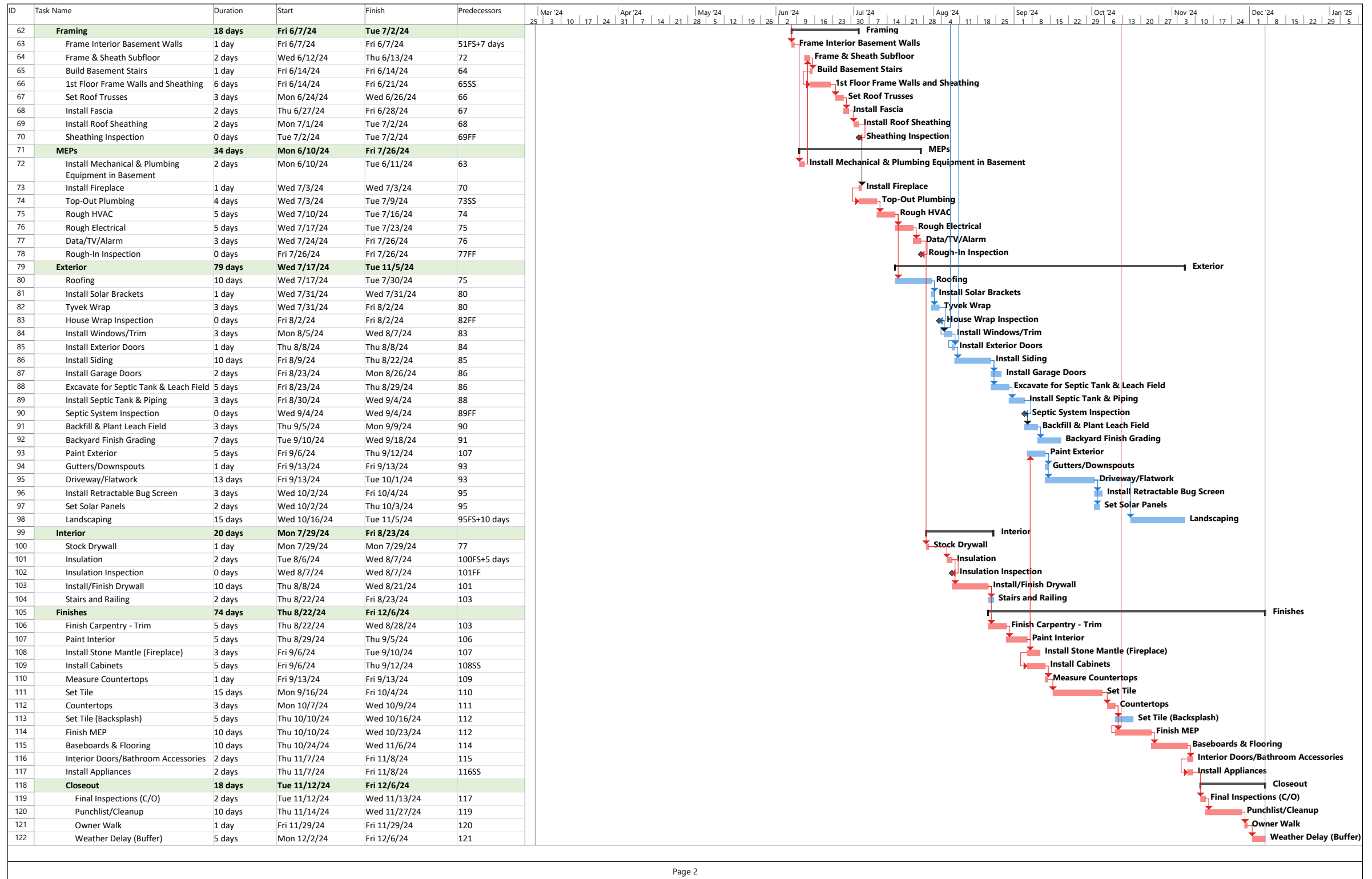
Estimate

	Rate	Unit	Cost		Rate	Unit	Cost		Rate	Unit	Cost
Electrical				Doors and Windows				Interior Finishes			
Temporary Pole Permit	\$25.00	EA	\$25.00	Entry Door	\$3,800.00	EA	\$3,800.00	Pantry Shelving	\$24.14	LF	\$2,325.00
Service, Panel, Sub-Panel	\$1,000.00	EA	\$1,000.00	Interior Doors & Frames	\$350.00	EA	\$3,850.00	Primary Suite Closet	\$7,250.00	EA	\$7,250.00
Rough Wiring	\$1.00	SF	\$4,582.00	Closet Doors	\$250.00	EA	\$750.00	Closet Shelving	\$573.00	EA	\$1,721.00
Data/Low Voltage	\$0.20	SF	\$916.40	Interior Pocket Door	\$275.00	EA	\$825.00	Storage Closet	\$185.00	EA	\$370.00
Interior Lighting	\$1.30	SF	\$5,956.60	Door knobs, hardware	\$25.00	EA	\$400.00	Laundry Cabinets	\$75.00	LF	\$1,350.00
Exterior Lighting	\$3,500.00	LS	\$3,500.00	Exterior Doors	\$450.00	EA	\$900.00	Railings	\$10.50	LF	\$446.25
Chandelier	\$725.00	EA	\$725.00	Fire rated door	\$500.00	EA	\$1,000.00	Interior Trim	\$6.75	LF	\$7,222.50
Outlets, Switches, Dimmers	\$2,080.00	LS	\$2,080.00	12' Accordion Door	\$7,500.00	EA	\$15,000.00	Interior Painting	\$3.23	SF	\$16,150.00
Doorbell	\$50.00	EA	\$50.00	Window Shutters	\$6,000.00	LS	\$6,000.00	Engineered Hardwood	\$8.31	SF	\$18,880.32
Smoke, CO2 Alarms	\$54.00	EA	\$486.00	Double Bay Garage Door	\$3,500.00	EA	\$3,500.00	Carpeting	\$12.00	SF	\$19,644.00
Solar (Includes 30% Federal Tax Credit)	\$7,750.00	LS	\$5,425.00	Single Bay Garage Door	\$1,900.00	EA	\$1,900.00				
			Total \$24,746.00	Front Door Hardware	\$150.00	EA	\$300.00				Total \$75,359.07
				Windows	\$22,200.00	LS	\$22,200.00				
Insulation				Exterior				Kitchen and Bath			
Roof R-60	\$1.50	SF	\$5,877.00	Weather Barrier	\$0.85	SF	\$3,910.00	Kitchen Cabinets	\$375.00	LF	\$27,750.00
Exterior Wall R-19	\$1.32	SF	\$6,035.04	Membrane & Flashing	\$4.55	LF	\$4,868.50	Primary Bathroom Cabinets	\$1,900.00	LS	\$1,900.00
Rigid Foam Insulation	\$6.50	LF	\$975.00	Siding (Cedar Impression)	\$4.13	SF	\$18,998.00	Bath Cabinets	\$800.00	LS	\$3,200.00
Air Sealing	\$0.15	SF	\$210.00	Fascia	\$5.50	LF	\$2,337.50	Cabinet Hardware	\$400.00	LS	\$400.00
			Total \$13,097.04	Gable Vents	\$650.00	LS	\$650.00	Kitchen Sink	\$735.00	EA	\$735.00
				Soffit	\$14.00	LF	\$4,620.00	Island Sink	\$425.00	EA	\$425.00
Drywall				Roofing	\$71.95	SQ	\$19,139.60	Countertops	\$155.00	SF	\$15,500.00
Walls	\$1.70	SF	\$20,485.00	Paint & Caulk	\$5.12	SF	\$23,552.00	Backsplash (Kitchen)	\$17.20	LF	\$1,479.20
Ceilings, Soffit	\$1.60	SF	\$9,393.60	Basement Window Well	\$1,300.00	EA	\$2,600.00	Ceramic Tile	\$14.40	SF	\$10,468.80
			Total \$29,878.60	WIC Skylight	\$250.00	EA	\$250.00	Shower Enclosure/Doors	\$900.00	EA	\$2,700.00
				Back Patio	\$19.00	SF	\$11,020.00	Shower Pan Liner	\$0.76	SF	\$41.80
Landscaping				Outdoor Grill Package	\$7,500.00	EA	\$7,500.00	Shower Pans	\$800.00	EA	\$800.00
Sprinklers	\$1.52	SF	\$14,440.00	Retractable Bug Screen	\$3,400.00	LS	\$3,400.00	Bathtub Insert	\$500.00	EA	\$500.00
Sprinkler Controls	\$180.00	EA	\$180.00					Basement Bathtub Insert	\$380.00	EA	\$380.00
Sod	\$2.63	SF	\$25,000.00					Free Standing Tub	\$750.00	EA	\$750.00
Native Plants	\$3,000.00	LS	\$3,000.00					Bathroom Mirrors	\$300.00	EA	\$1,800.00
			Total \$42,620.00					Closet Full-Height Mirror	\$250.00	EA	\$250.00
				Appliances							
				Refrigerator	\$2,200.00	EA	\$2,200.00	Bathroom Accessories	\$300.00	LS	\$300.00
				Gas Cooktop/Oven Combo	\$4,200.00	EA	\$4,200.00				Total \$69,379.80
				Microwave	\$1,200.00	EA	\$1,200.00				
				Range Hood	\$750.00	EA	\$750.00				
				Dishwasher	\$900.00	EA	\$900.00				
				Washer/Dryer	\$2,400.00	EA	\$2,400.00				
				Wine Fridge	\$800.00	EA	\$800.00				
							Total \$12,450.00				

Schedule



Schedule



Construction Management

Site Logistics

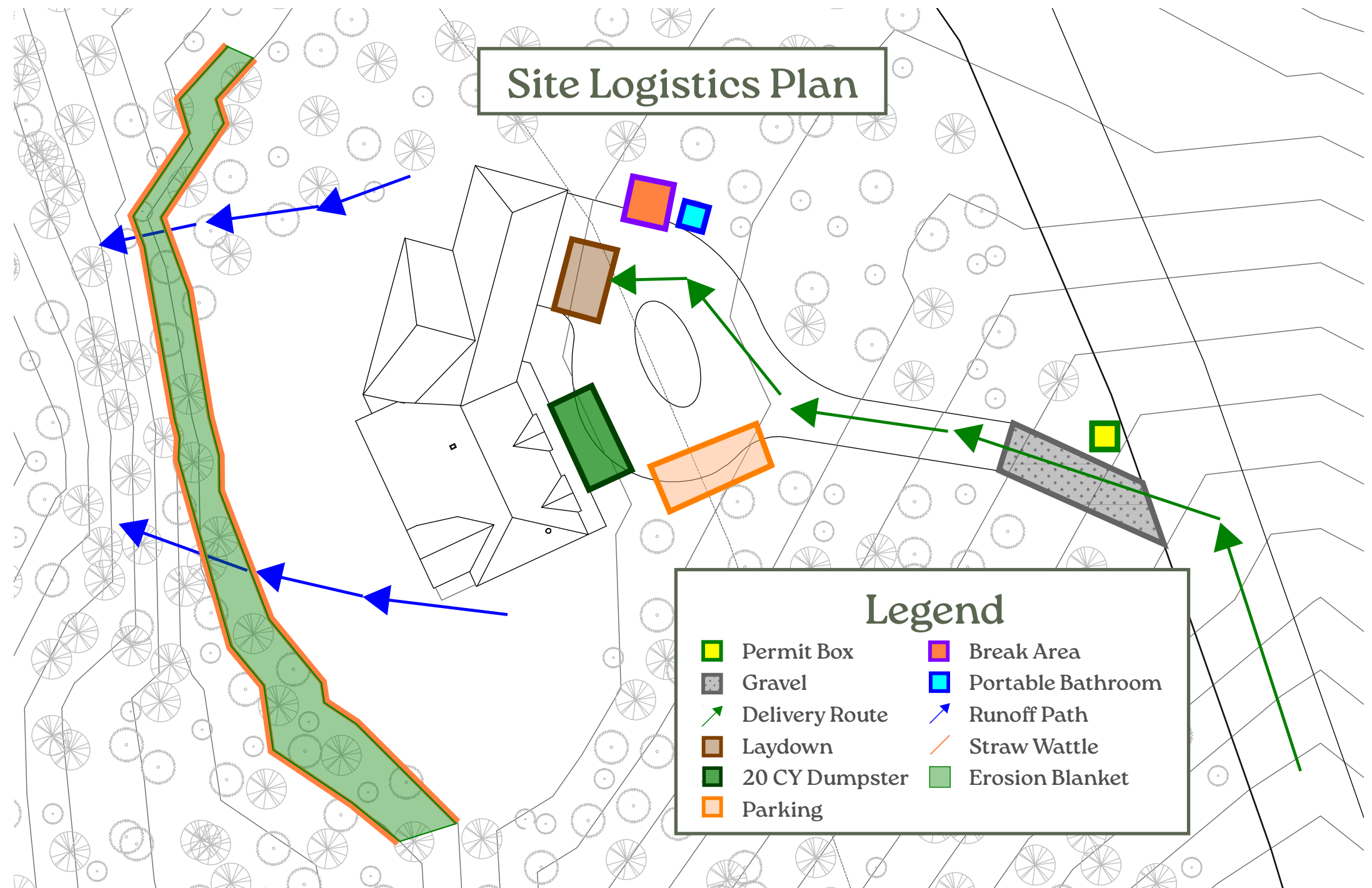
Our site logistics plan was developed with a focus on promoting efficiency in the work done on-site, showing respect for our neighbors and workers, and having sustainable best-building practices. This is a dynamic plan that will change throughout the construction process to best meet the needs of the scope at hand, but the core principles will be the same. With a dynamic plan, communication is key, and visitors and workers alike can access our permit box at the front of the site to review our permits, safety plan, and plan set.

Storm Water Pollution Prevention Plan

Our control of runoff and pollutants associated with the construction process is critical on this project given the property's proximity to Lake Allatoona. We have two priorities in crafting our SWPPP for this project: keep pollutants out of the lake and off the street away from the drains. To do this, we will pour gravel at the construction entrance and place two rows of straw wattle with an erosion blanket between them behind the building footprint on the downslope. The gravel will trap sediments from vehicle traffic within the lot while the wattle and blanket will catch runoff that wind and water might carry down towards the lake. At PBG, our SWPPP goes beyond a mere formality, it stands as a pivotal element in our commitment to environmental stewardship. This is why we conduct weekly inspections of our SWPPP, adapting it to ensure its effectiveness in safeguarding our environment.

Safety

In PBG operations, safety is a priority above all else, and our thorough and effective protocol reflects that. Before any trade partner starts work on the project, they need to submit a project-specific safety binder to the PBG project management team which details on-site safety protocol adhering to OSHA regulations, medical and insurance information, and a plan in the case of an emergency. Moreover, we will have information listed on-site with contact sheets detailing who to call for what situations as well as what the expectations are for PPE. Beyond paperwork and signage, our staff is well-trained in spotting safety hazards and reserves the ability to stop work at any time if they see risk in our operations.



Note: This site logistics plan is a snapshot of our site layout during the rough framing phase. Certain elements shown in this plan will be modified or removed in other phases of construction (20 CY Dumpster) while some elements that are not present (concrete washout) will be used during other parts of the construction process. Trade partners will be provided with the most current site logistics plan before beginning work.

Construction Management

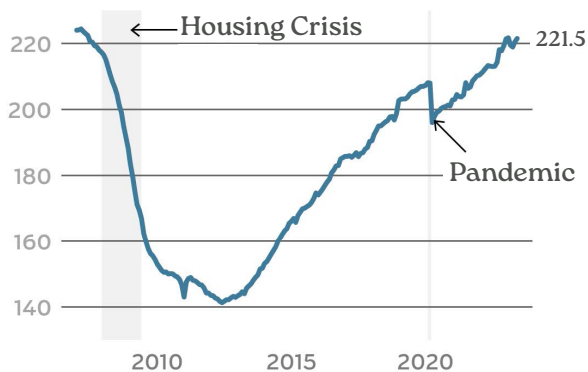
Trade Partner Procurement

As an established general contractor in the area, we utilize a familiar group of reputable trade partners who contribute to the region and its community. We will be sourcing our trade partners from either the Greater Atlanta HBA or the Gordon-Bartow HBA. All trade partners regularly operate in the Lake Allatoona region. Major subcontracts will be awarded for excavation, clearing and grubbing, framing, MEP, insulation, and specialty finishes.

In recent years, there has been an extreme labor shortage in the construction industry as a result of the pandemic, however, we are optimistic that sourcing labor will be no issue. A graph by the Bureau of Labor and Statistics highlights how construction employment has rebounded since 2019 and this region specifically experienced a 4% increase in construction labor in the last year compared to the 2.6% national increase in that same period.

Construction works in Georgia, 2017-present

The number of all employees in construction, in thousands, seasonally adjusted, in Georgia since 2017.



Material Procurement and Management

We have identified the materials that present the longest lead times and largest schedule risk with those being doors, windows, and plumbing fixtures. We begin the submittal process and order our long-lead items to provide us with cushion and reserve storage capacity in the PBG facilities for them. For materials with shorter lead times, we employ just-in-time delivery to minimize clutter on the site and maximize efficiency.

To manage our material disposal, we will have a 20 CY dumpster on-site during the phases that generate the most waste such as rough framing and MEP rough-in. During the installation of the interiors, we will have multiple trash cans on-site that will be emptied weekly and taken to the Bartow County Landfill. The quantity of organic material that will need to be disposed of after we partially clear the lot presents a unique challenge but also an opportunity, as we will be taking all of that material to Green Waste Recycling LLC in Cartersville where it will be recycled and repurposed.

Inspections

Inspections are incredibly vital to the success of this project both in maintaining quality but also schedule. PBG boasts a rigid Quality Assurance and Quality Control (QA/QC) protocol including daily huddles with trades before the day's work and walks with the superintendent before the inspection is called. Our QA/QC practices give us confidence that we can pass each required inspection and keep the project on schedule at a high quality.

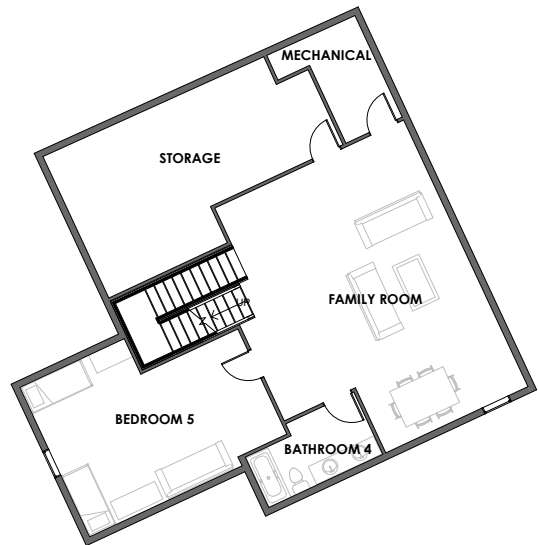
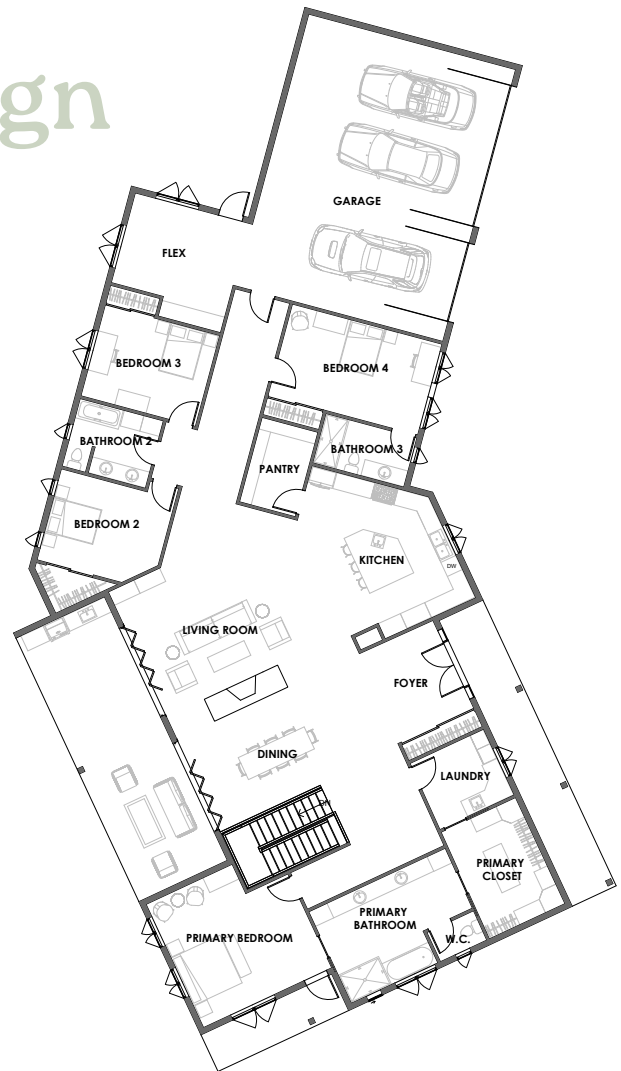
Design

Etowah Ridge boasts an impressive layout, featuring 5 bedrooms, 4 bathrooms, and spanning 4,440 square feet, designed for family living, leisure, and entertainment. The property's long roundabout driveway, paired with the spacious 26'-6" deep three-car garage, offers storage abilities for boats and jet skis. The garage also has a flex space that can be used for a workshop or extra storage.

Entering through the garage, a gallery leads to three bedrooms and two bathrooms, offering spaces for kids and guests, or convertible rooms for an office or hobby area. The open floor plan allows Etowah Ridge to showcase its entertaining potential by highlighting a generously sized kitchen island and ample counter space. Just to the side, the living room is accompanied by a warm fireplace and valley views through 12' accordion doors that seamlessly connect to the covered back patio. When the doors are open, the patio has motorized bug screens that drop, protecting indoor comfort while enjoying the outdoor environment.

At the heart of the floorplan stands the stone mantle and fireplace that faces the living room. Right behind lies an elegant dining room with its own set of 12' accordion doors, forming an ideal setting for hosting dinners and memorable holidays. The stairs lead to the open basement, offering additional square footage and featuring a bunk room, bathroom, storage space, and a flexible family area.

Returning to the main floor, on the southern side of the home, the secluded primary wing offers a private sanctuary within the home. Here, the primary bedroom hosts a walk-in closet with a skylight, a luxurious primary bathroom, and a bedroom with personal views of the valley and lake. Off the bedroom, a private porch overlooks the backyard, completing this exclusive wing.



Design

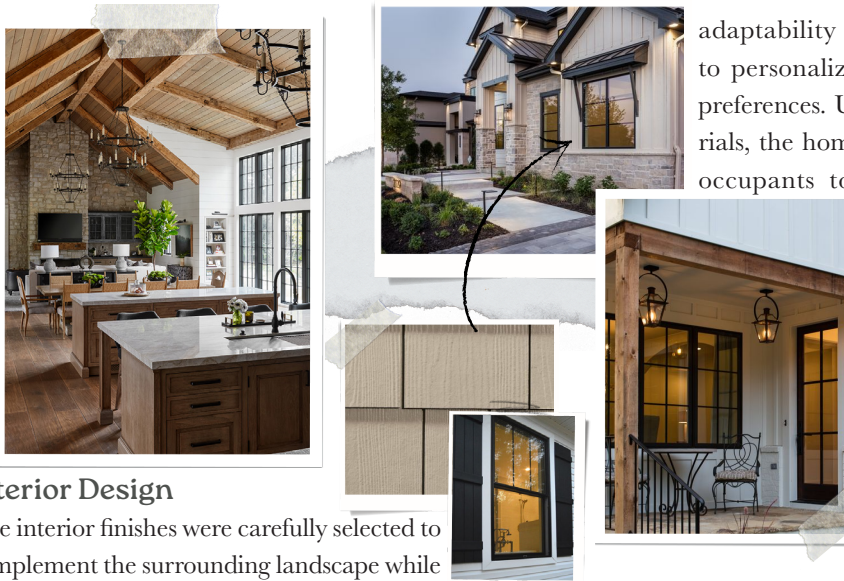


Surrounding Context

The surrounding neighborhood is full of unique homes designed to fit each owners preferred style. This allowed for flexibility when selecting exterior finishes for the site. The proposed design offers a modern take on traditional materials with the use of shingle siding complemented by black and stone accents.

Balance of wood, black tones that are accented by hints of green.

Natural textures to mimic surrounding landscape



Interior Design

The interior finishes were carefully selected to complement the surrounding landscape while simultaneously introducing a light, airy, and comfortable feeling to the home. While remaining true to southern styles in its integration of wood and stone, the design incorporates modern color combinations that allow the home to attract buyers across generations.

User Analysis

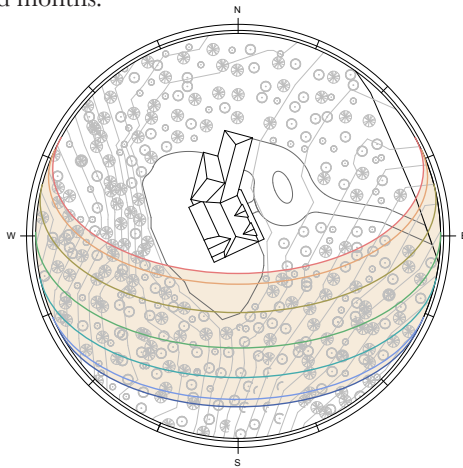
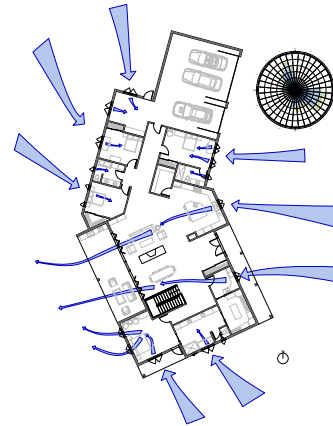
The design, inspired by the adaptability of materials, allows occupants to personalize their home according to their preferences. Utilizing neutral and natural materials, the home acts as a blank canvas, inviting occupants to customize their living space.

Location Analysis

Settled within the Georgia Pines, Etowah Ridge's design thoughtfully combines materials that mirror the natural beauty of the surrounding forest, reflecting the tones of the tranquil setting.

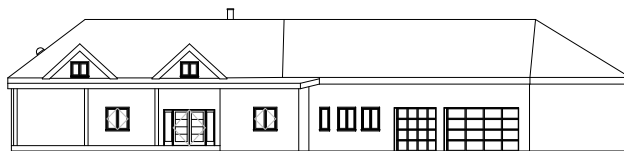
Design

On this lot, winds come primarily from the NNW and ESE. This plays into the passive design of the home, as all bedrooms were placed to receive natural ventilation from these directions. The main living spaces also benefit from this layout, as they get cross ventilation through the kitchen window and out through the accordion doors. This design allows for natural cooling and reduces the need for heavy HVAC usage in the warm, humid months.

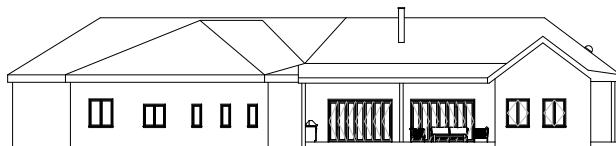


Sun Position on the 21st of Each Month

- June
- May/July
- April/August
- March/September
- February/October
- January/November
- December



Northeastern Elevation



Southwestern Elevation

Etowah Ridge's floor layout was designed with the intent to complement the natural topography of the lot and maximize the home's view of the lake and valley. For this location and layout, the Sun will provide direct sunlight in the early to mid-afternoon from the South and Southwest for most months of the year. To maintain our adherence to the natural topography and lakeside views while minimizing unwanted heat gain, we added the overhangs of the back porch and primary bedroom porch. These overhangs will provide shade and help keep the inside spaces cool.



Sun exposure in June at 6pm and 7pm

Sales and Marketing

Strategy

The median age in Bartow County, Georgia is 37.6 years old according to a population census taken in 2022 by the United States Government. Individuals aged between 30 and 39, as well as those between 50 and 59 years old, collectively represent 30% of Georgia's total population. We have decided to target our marketing towards older families with established careers. With a large lot and spacious home, our product accommodates this demographic well.

Plan

With the overall goal of reaching our final home-buyer, we have decided to leverage the expertise of our in-house licensed sales broker, Gabby Klein. Our company strongly believes this attribute uniquely positions us to leverage our deep understanding of the property and its construction, rather than relying on an external sales agent. This strategic approach allows for PBG's interest to be taken care of from within. Our house, built under our careful supervision, gives us a distinct advantage in selling it. In-depth knowledge of the construction process allows Gabby to highlight unique selling points, emphasize quality craftsmanship, and effectively communicate the home's value to potential buyers. Furthermore, we have already conducted extensive market research on this area when building the home, so why not sell it too!

The timing of our sales process will begin prior to the conclusion of construction in hopes of obtaining a buyer upon completion. Our broker will list the home at the beginning of August, just after our rough-in. It is important to note this date aims to mitigate potential client change orders as construction will still be in the final stages. When listing the home, virtual renderings of the final product will be utilized to sell potential buyers on our lovely product. Our outreach begins with Poly Build Group's broad company network which has

been developed through continuous success. To extend our reach even further, our team will also use online listing platforms and social media marketing.

Cost

An important benefit our sales team brings to PBG is financial savings. Homeowners pay around an average of 6% of the overall sales price to their selling agent, who then splits their commission with a buyer's agent as a marketing tactic to incentivize showing on the new listing. PBG will be offering a 3% buyers agency commission to an agent that brings a willing and able buyer. We save a total of \$37,500 by internalizing our sales professional. Although we do pay PBG's broker a salary, their value is in savings from external marketing expenses which gives us a great advantage.



Gabby Klein, CFO, Licensed Broker

Financial Analysis

Sales Price	\$1,250,000.00	\$281.53 - SF
Hard Costs	\$740,737.33	\$180.74 - SF
Soft Costs	\$61,762.67	
Acquisition Costs	\$170,000.00	
Sales/Marketing Costs	\$37,500.00	
Financing Costs	\$28,185.82	
Gross Profit	<hr/>	\$240,000.00
Net Profit	<hr/>	\$211,814.18

Gross Profit Margin  19.22%

Net Profit Margin  16.97%

Broad Financial Overview

Etowah Ridge presents a strong financial forecast by starting out with a sales price of \$1,250,000. This listing price was calculated after in depth analysis of current market conditions and comparable properties in the Etowah Ridge’s neighborhood. Etowah Ridge’s lot stands out amongst the rest of the community due to its 7.21 acre lot that backs up to Lake Allatoona. Careful consideration must also be given to the cost breakdown to maintain profitability. PBG projects to build this exceptional home at the price of \$180.74 per square foot. Additional expenses, including acquisition, sales, marketing, and financing costs are also integral components influencing this project’s overall financial success.

Key Metrics

With a purchase date of March 4, 2024 and a final completion date of November 29, 2024 allows for us to calculate the following metrics. The gross profit margin stands at 19.22%. This calculation reflects the percentage of revenue retained after covering the costs directly related to production and sales. With a high gross profit margin, PBG is confident in our efficiency to manage production while leveraging sales strategies. The net profit margin for Etowah Ridge is 16.97%, which reflects the profit margin after subtracting our costs associated with construction loan interest. This metric provides a more comprehensive view of overall profitability. Our high net profit margin is a key indicator of Etowah Ridge’s financial success.

Debt and Equity

Draw Schedule

Date	Amount	Debt	Interest
April 15, 2024	\$194,449.88	\$194,449.88	\$1,620.42
June 1, 2024	\$194,449.88	\$388,889.76	\$3,240.83
July 15, 2024	\$194,449.88	\$583,349.64	\$4,861.25
September 15, 2024	\$194,449.88	\$777,799.52	\$6,481.66
November 1, 2024	\$0.00	\$777,799.52	\$6,481.66

Interest Rate _____ **10.00%**

Project Funding

Poly Build Group began this build with 20% equity. With development costs totaling \$972,500.00, this meant that our team needed to fund 80% of this cost through a construction loan. Our company has been renowned for efficient communication and punctual repayment with our lenders in the past. When looking into our corporate financial history, we boast a high credit rating alongside a promising net operating profits and cash flow to debt ratio. With substantial qualifications and a 20% share of equity, PBG is forecasting an approval for a \$778,000 loan at a rate of 10% with Bank South.

Draw Strategy

In order to minimize interest expenses, our team has calculated an efficient draw schedule. While curating this schedule, we have positioned our equity in a way that works in our favor, decreasing the interest paid throughout the build. With a 20% share of our total costs, we are forecasting our equity to total \$194,449.88. At the start of the project, we plan to use these funds to purchase our lot. This initial acquisition of \$170,000 will be solely funded by PBG's equity portion. When looking at our schedule, the next plan of action is to work through the permitting process while also focusing on building material procurement. As we pay for these next items and run out of equity to contribute to the

project, our team plans to pull our first draw. This first transfer of debt from our lender will occur on April 15, 2024. The way our draw schedule is calculated focuses on a method that repays our equity through the issuance of debt. When taking out our first draw totaling \$194,449.88, we are essentially refunding the equity our company initially started the project with. The only difference is that we are now paying interest on these funds a month and half into the project. By stairstacking our draws in this fashion, we are leveraging our equity in order to minimize our interest expense. The draw schedule continues on for 3 additional requests of funds. These funds are scheduled to occur every one and a half months in order to elongate the period our team can pay for build expenditures without paying interest on the following draw. When coming to our final draw request, this debt issued will help to pay back our equity. The final month and a half of this project will then be paid by our equity repayment. Although we will still be paying interest on our construction loan, this draw schedule works to minimize this expense. PBG is forecasting construction to be done on November 29, 2024. Our construction loan debt will be paid off after completion through the sale of this property.

Risk Analysis

Price Adjustment

As we adjust our sales price in increments of \$50,000, we can see a dramatic change in our profit margin. Through market analysis, proactive marketing, and early listing PBG is confident that we can get \$1,250,000 for Etowah Ridge. That being said, the housing market may fluctuate over the time of construction. This is a factor that could either play to our advantage or disadvantage, so our team will be taking appropriate precaution for this risk.

Selling Price	Net Profit Margin
\$1,150,000.00	9.74%
\$1,200,000.00	13.51%
\$1,250,000.00	16.97%
\$1,300,000.00	20.16%
\$1,350,000.00	23.12%

Sale Date Adjustment

As construction comes to a conclusion, our team is aiming to transfer the title to a buyer as soon as possible. If the housing market slows down near the time of project completion, PBG is responsible for paying the interest on our loan until the sales transaction is finished. We have projected our change in profit each month if our sale is delayed. The sales date of our home does not impact our profit much, but it is still an important analysis to keep our eyes on.

Date Sold	Net Profit Margin
November 29, 2024	16.97%
December 29, 2024	16.45%
January 29, 2025	15.93%
February 28, 2025	15.41%
March 29, 2025	14.89%

Material Price Adjustment

Over the past few years we have seen dramatic changes in the costs of building materials. It can be seen that this adjustment has a major impact on our profit margin. For these reasons, we have decided to focus on early material procurement to minimize the risk these costs have on our profit margin.

Material Costs	Net Profit Margin
10% Decrease	22.80%
5% Decrease	19.88%
Assumed Value	16.97%
5% Increase	14.05%
10% Increase	11.13%

Interest Rate Adjustment

The final risk our team is analyzing is our interest rate. Although the rate will be locked in once we are approved for a construction loan, this will not happen until the middle of April. Rates have been high for the past year and a half, and many are speculating this to change in the coming new year. Our team has forecasted how our profit will vary if our construction loan increases or decreases. Any changes in this rate will not effect our profit margin much, but it is still important to note as this interest is an expense that we will carry until the project has been sold.

Interest Rate	Net Profit Margin
8.00%	17.33%
9.00%	17.15%
10.00%	16.97%
11.00%	16.78%
12.00%	16.60%



Student Chapters

NAHB Student Competition Production Home Builder Honor Pledge

To the best of my knowledge and belief, the information used in my team’s solution to the competition is in accordance with the rules and guidelines of the NAHB Student Competition. On my honor, I have neither given nor received unauthorized assistance in the completion of this project.

Team (School) Name: California Polytechnic State University

Team Members:

Print Name	Signature
Brendon Duran	
Cooper Strong	
Julia Stewart	
Angeline Witt	
Gabrielle Klein	
Sean Ross	

Alternate Members (Optional):

Print Name	Signature
Russell Cline	
Kenzie Pelletier	
Mayson Rutsky	
Emily Edmondson	
Amy Vaughn	
Nick Milligan	

Faculty Advisor/Coach:

Print Name	Signature
Stacy Kolegraft	