Project Management Plan

From PMGT501

by

Troy Stempfley

Embry-Riddle Aeronautical University Worldwide

PMGT 690 June 17, 2017

WBS 8.7

Sustainable Home Construction Project: Week 8 Final Deliverables

Group 3:

Jesse Hoover

Jeremy Rodgers

Lance Salter

Troy Stempfley

Robert Strack

David Wichner

Embry-Riddle Aeronautical University Worldwide

PMGT 501

Dr. Gigi Smith – Instructor

December 14, 2014

Project Scope Statement

Project Objective

The objective of this project is to build a high-quality, Leadership in Energy and Environmental Design (LEED)-certified, single family house in Colorado within 9 months. This initial estimate is based on a modification to the average timeframes derived from the 2012 Survey of Construction as reported by the National Association of Home Builders (Siniavskaia, 2013, para. 3). The home will be built from sustainably sourced material wherever possible and include features in the deliverable list to reduce the occupants' long-term carbon footprint. While the average construction price of a new home is approximately $400,000 (Taylor, 2014, p. 1), the home specification for this project calls for a larger finished area and significant sourcing of advanced materials and systems. Therefore, the initial top-down estimate provided for a budget not to exceed $1,000,000.

Additionally, the specifications of the number of rooms, and other structural attributes for this home are based on a report from the National Association of Home Builders, which describe "what home buyers really want" (Quint, 2013). In keeping with the sustainability objectives, the home will not have luxury amenities such as elevators, wine cooler, wet bar, or game room.

Deliverables

1. A 3,500 square-foot finished home, with 4 bedrooms and 4 bathrooms.
2. Exterior finish in accordance with environmentally preferable products.
3. Energy independence systems, including rooftop solar energy installation in accordance with the California Energy commission, with renewable energy battery support building/room attached to back of the garage, and a geothermal heat pump.
4. A 2-car, detached, finished garage, insulated and sheet rocked with an attic storage area and with built-in connection for electrical vehicle recharging.

5. Energy Star, or higher, rated all-electric Stainless steel kitchen appliances, to include induction cooktop, dual ovens, built-in microwave and dishwasher.
6. Interior finish using environmentally preferable materials according to ASID Sustainable Design Council (ASID, 2014).
7. Integrated, intelligent control systems for lighting, heating, ventilation and air conditioning (HVAC), high speed internet, and entertainment.
8. Leadership in Energy and Environmental Design certification (U.S. Green Building Council., 2014).

Baseline Milestones

1. Contract signed……6 Jan 15
2. Architectural design started…….8 Jan 15
3. 30% design review……..... 9 Feb 15
4. 60% design review…….2 Mar 15
5. 90% design review…….……...16 Mar 15
6. Design complete…….……..16 Mar 15
7. Permits approved, construction begins …….…….……..17 Mar 15
8. Excavation complete..……...……23 Mar 15
9. Foundation complete……..……...15 Apr 15
10. Framing complete……..……8 May 15
11. Roofing complete…….....7 May 15
12. HVAC system installed……..……..28 May15
13. Plumbing, electrical, and mechanical installed ……...……...5 Jun 15
14. Plumbing, mechanical, electrical inspections passed ……..…...8 Jun 15
15. Exterior finish……..8 Jun 15

16. Landscaping complete……15 Jul 15
17. Interior finish……..……..24 Sep 15
18. Final inspection and acceptance by owners …….29 Sep 15

Technical Requirements

The renewable energy sources must initially provide for approximately 2,000 KWH per month from a Grid-tile rooftop solar installation with Micro-grid AC Coupling (Wholesale Solar, 2014), upgradable to full energy independence (i.e. wind generation) with additional home owner investment at a later date. The design must facilitate the use of natural lighting as much as possible, using skylights and energy efficient windows and doors. Each room must have security, high speed internet, cable TV, and motion sensing to indicate room occupation to be used with HVAC zoning and automated lighting options for more efficient energy use. All appliances shall be at least Energy Star compliant. The structure will be built with a minimum of 2 X 6 inch sustainably sourced framing to allow for increased insulation and structural stability. Communications system will be designed with the most recently available consumer technology. A geothermal heat pump system will provide heating and air conditioning to allow solar panels to be used primarily for direct electrical power generation.

Limits and Exclusions

Limitations of the project scope exclude:

1) Providing electrical power, sewage, natural gas, and water services to the site,
2) Development of driveways beyond 500 feet from the building site,
3) Maintenance contracts and inspections (e.g. septic system)

Customer Review and Approval

This scope statement serves to establish an understanding and agreement that the deliverables of this project outlined above are in accordance with customer expectations. Interim approvals for these deliverables will be sought to ensure your ongoing satisfaction with our progress. Modifications to the scope may be submitted during the planning and execution phases of this project. However, these will constitute Change Orders, potentially requiring changes to cost or schedule.

If, during the project, there are any issues or concerns please alert our organization as soon as possible. We look forward to serving you in this effort and look forward to our ongoing collaboration. Please sign and date two copies of this letter; one for your records, and the other for our records.

X_____	X_____
(Signature of Customer)	(Signature of Contractor)
Date_____	Date_____

References

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Siniavskaia, N. (2013). *Eye on housing: How long does it take to build a house?* National Association of Home Builders. Retrieved from http://eyeonhousing.org/2013/10/how-long-does-it-take-to-build-a-house/

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