

**State Parks Committee Meeting  
Garvan Woodland Gardens, Hot Springs, AR  
February 19, 2015**

**Commissioners Present**

John Gill, Committee Chair  
Bill Barnes  
LeRoy Dangeau  
Danny Ford  
Cindy Smith

**Commissioners Absent**

Jim Dailey  
Mike Mills  
Ness Sechrest

**Department Staff**

Richard Davies	Tom Stolarz
Greg Butts	Marcel Hanzlik
Randy Roberson	Shea Lewis
Jon Brown	Kris Richardson

Chair John Gill called the State Parks Committee meeting to order at 12:30 pm.

Chair Gill called the meeting in order to review the cost of standard employee residences and make recommendations to the State Parks, Recreation and Travel Commission (SPRTC) to lower the cost of construction of employee residences. Randy Roberson reported that Planning & Development continues to work with design professions and contractors to identify and implement changes to the standard design that would reduce costs while maintaining construction quality and compliance with State and local codes as well as requirements of the Arkansas Building Authority (ABA) standards and criteria. John Gill presented a memo from Randy Roberson, dated February 18, 2015, identifying value engineering items that could be implemented to reduce the cost of standard residences. He stated there is not one area of significant savings but there are several areas that offering smaller savings that could be implemented. The committee reviewed a list of possible specification revisions presented (see February 18, 2015 memo attached) and some recommendations were reviewed favorably while others were not. Commissioners expressed

an interest in maintaining the same quality and the same amount of living space as included in current floor plan. Danny Ford stated he is not in favor of saving money on the front end to have to spend more money later. Greg Butts stated the majority of suggestions are good savings that would not affect functionality or quality. Butts noted that communicating specification revisions to the bidders is very important in the cost saving process.

**LeRoy Dangeau moved to approve the concept of changing specifications in light of recommendations made by the staff with the goal of reducing the cost of standard employee residences estimated at \$46,775 per unit. Danny Ford seconded and the motion carried.**

Randy Roberson presented the idea of taking the current floor plan and regrouping the plumbing and laundry and reducing the size of an extra wide hallway by 65 square feet with a potential savings of \$10,000 per unit. Commissioners were in favor of the reorganization of the current floor plan while retaining the same square footage. Roberson reported that additional savings could be achieved by reducing the size of the residence further by eliminating the carport and outdoor storage of approximately 576 square foot for a savings of an estimated \$46,656 per unit. Commissioners were not in favor eliminating the carport or associated storage for employee residences.

**LeRoy Dangeau moved to approve the concept of reducing square footage in light of recommendation made by the staff of regrouping the plumbing and reduce the wide hallway by 65 square feet with an estimated savings of \$10,000 per unit. Danny Ford seconded and the motion carried.**

Randy Roberson presented the concept of bidding, where possible, multiple homes per park to reduce the overall cost of job superintendence. He noted there are opportunities in two parks, Crowley's Ridge and Toltec, to try the multiple bidding option.

**The State Parks Committee recommended that Planning & Development experiment with bidding multiple homes per park to reduce the overall cost of superintendence.**

Randy Roberson reported there is confusion regarding manufactured and modular housing. He stated that the big difference is manufactured homes have a title, are considered a "commodity" and enable Force Account to install plumbing, electric, etc. resulting on average of \$115,000 per unit. Roberson recommended that Arkansas State Parks (ASP) continue using manufactured homes when applicable. Modular homes are not considered a commodity (product) to be purchased through the Department of Finance and Administration (DFA), but rather as "construction" through ABA, requiring general contractors do onsite improvements. Consequently modular homes are not as cost effective. Roberson reported that there is a good modular home company located in Tyler, Texas, that is worth exploring. LeRoy Dangeau advised that Cross County Bank has installed a new modular structure in Wynne that looks like a traditional stick built building and will inquire where the modular unit came from. Randy Roberson concluded that manufactured and modular homes are similar in content as both are built in factories, delivered to site in multiple pieces and assembled on site. Manufactured

homes are less costly and quicker to complete, due to the fact that modular homes require licensed contractors. Discussion ensued regarding if field staff are receptive to manufactured homes. Jon Brown advised that field staff are in favor of the manufactured homes, such as the one located at Lake Ouachita State Park. Bill Barnes reported great improvements have occurred with manufactured homes within the last 10-15 years and suggested they may be 90% as strong as stick built homes. Greg Butts commented that stick built homes has the best longevity but manufactured homes have improved greatly through the years. Butts noted with expensive bids for standard homes received recently, alternative options need to be considered.

**The State Parks Committee recommended exploring modular housing to the extent necessary and reviewing manufactured housing as recommended by staff.**

Cindy Smith noted that manufactured homes do not include carport and storage in their products. Randy Roberson advised that the Force Account can easily build carports, storage (attached or detached) and decks on the units.

**The State Parks Committee recommended continuing the practice of acquiring housing nearby or adjacent to state park property at reasonable cost that meets or exceeds ASP minimum standards.**

**The State Parks Committee recommended continuing efforts to develop more economical standard housing designs.**

**The State Parks Committee recommended continuing efforts to simplify the specification book issued when bidding standard employee residences through Arkansas Building Authority.**

John Gill stated he will provide the State Park Committee's recommendations to the SPRTC regarding the savings options for standard employee residences, noting these options will make a start on reducing the cost of standard employee residences.

Without any further business, the State Parks Committee adjourned at 1:20 pm at Garvan Woodland Gardens in Hot Springs, AR.

# Arkansas State Parks

# MEMORANDUM

To: Greg Butts - Director, Richard W. Davies – Executive Director, SPRT - Parks Committee  
From: Randy Roberson - Manager of Planning & Development  
Date: February 18, 2015  
Subj: Cost of Standard Employee Residence & Options for Savings

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Planning & Development continues to work with our design professionals and contractors to identify and implement changes to the standard design that will reduce costs while maintaining quality of construction and compliance with State and local codes as well as requirements of the Arkansas Building Authority Standards and Criteria.

### **A Short History of ASP Standard Employee Housing**

In the early 1970's the standard for employee housing was approximately 1,084 square feet of heated and cooled living space with 3 bedrooms and 2 baths. This model typically included a small enclosed garage or a carport which added approximately 260 square feet for a total of 1,344 gross square feet.

By the early 1990's planning staff had developed a new standard residence that provided approximately 1,776 square feet of heated and cooled living space that included 3 bedrooms, 2 baths and no garage/carport. A small (approximately 80 square feet) covered entry porch was included which drove the gross square footage of this model to 1,856 square feet. Staff occupying this later standard residence were typically expected to provide their own storage buildings and carports.

The current standard residence design was developed around 1998 and included approximately 1,841 square feet of heated and cooled living area to include 3 bedrooms, 2 full baths, plus a 576 square foot carport with associated storage and a 154 square foot covered porch which comprises a total of 2,571 gross square feet.

The minimum standard for uniformed employee housing remain at 1,500 square feet of heated and cooled living space, 3 bedrooms, 1-1/2 baths, and no garage/carport/storage. Residences not meeting this standard are typically replaced or used to house seasonal staff.

### **Cost of the Current Standard Residence**

Over a 9-year period, we have paid an average of \$281,567.31 for each of 12 residences (includes site improvements, access and utilities). The average cost per heated and cooled square foot (building only) for this period has been \$120 per square foot. Including site improvements and utilities, the average square foot cost to construct a standard residence is around \$152.94 per square foot. However, we have recently been receiving low bids that fall into the range of \$162 per heated and cooled square foot including site improvements and utilities.

### **Value Engineering the Standard Residence to Save Cost**

In cooperation with Taylor Kempkes, Architects and Planners; and, Davis Construction, a General Contractor, we have identified the following value engineering items that can be implemented to reduce cost of our standard residence. We agree that the items would be acceptable and are incorporating these changes into the existing standard residence design.

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Item	Description	Est. Savings
1	Change water piping from copper to PEX pipe and change cast iron drain fittings to Schedule 40 PVC.	\$ 3,468
2	Change plumbing fixture package to that shown in Exhibit A.	\$3,891
3	Change from 16 SEER HVAC system to 15 SEER as shown in Exhibit B.	\$2,356
5	Eliminate the three day balance and test of HVAC required in Division 25	\$2,616
6	Change lighting and switch gear package to V.E. package shown in Exhibit C.	\$4,219
7	Install one two-headed light fixture in bathrooms in lieu of two singles	\$90
8	Delete under cabinet lights (three #12 fixtures) in Laundry Room	\$220
9	Delete closet lights/switches in Bedrooms and Entry	\$310
10	Change electric service entry from 400 amp to 225 amp	\$1,380
11	Delete the back band around 1x4 trim at doors and windows	\$953
12	Delete Base Shoe	\$1,198
13	Delete casings at the opening in Entry 103. Wrap with gypsum board.	\$226
14	Delete casings at window head and jamb. Wrap with gypsum board.	\$1,908
15	Change Architectural Woodwork to Include: <ul style="list-style-type: none"> <li>• Cabinet Doors &amp; Drawer Fronts from recessed panel to flush solid red oak.</li> <li>• Delete fixed door panel at island.</li> <li>• Substitute lower grade plywoods at semi-exposed portions of cabinets</li> <li>• Delete recessed laminate at counter-top nosings, use solid red oak nosing stained to match cabinetry.</li> </ul>	\$1,210
16	Use cellulose wall insulation only at the exterior thermal envelope, master bedroom walls and master bathroom walls.	\$1,293
18	Delete integral color CMU, colored mortar and water repellant coating at foundation walls. Use standard CMU, mortar and masonry paint.	\$1,136
19	Delete specified wall sheathing, install ½" OSB sheathing.	\$408
20	Change soffit overhang dimension from 24" to 16"	\$518
21	Exterior Soffit and Ceilings: <ul style="list-style-type: none"> <li>• Delete fiber concrete board fascia and drip edge, use aluminum per Exhibit D.</li> <li>• Delete fiber concrete board ceiling at Storage and Carport; use aluminum.</li> <li>• Install fiber concrete board and wood trim as specified at Porch exterior beams and columns.</li> </ul>	\$2,325
22	Delete thermally broken aluminum windows and substitute vinyl window shown in Exhibit "E".	\$1,912
23	Change finish applied to gypsum board: Ceilings to receive level 4 drywall finish and "stomp" texture, no paint. Walls receive a level 4 drywall finish and a light orange peel texture with paint as specified.	\$2,160
24	Delete fireplace complete from foundation to flue cap. Finish interior wall with gypsum board to match adjacent finish.	\$9,775
25	Substitute engineered wood flooring and tile products per Exhibit F.	\$2,150
26	Use a 1-3/8" hollow core door at interior openings in lieu of solid core.	\$1,044
	Estimated Value of Total Deductions	\$46,775

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Assuming an average cost of \$162 per heated and cooled square foot (including utilities and site improvements) and accepting all the above value engineering items, would reduce the average cost of the standard residence by around \$25.41 per heated and cooled square foot (+/- 16%).

### **Reducing Square Footage of the Standard Residence to Reduce Cost**

Planning & Development, in conjunction with Taylor-Kempkes Architects and Planners, is evaluating a re-design of the standard residence that would reduce the heated and cooled square footage of the building to 1,776 square feet. This is a reduction of approximately 65 square feet and is achieved by re-arranging spaces to eliminate an overly-wide hallway that had been required to comply with the Americans with Disabilities Act Guidelines. At the average \$162 per heated and cooled square feet, this would potentially reduce the cost of the standard residence by \$10,530.

Additional savings could be achieved if we are willing to reduce the size of the standard residence further. The 1,500 heated and cooled square foot minimum standard for park housing mentioned above would be the lower limit of reductions.

On standard houses, the carport, carport storage and covered entry porch add approximately 730 square feet to the total building area with approximately 576 square feet of that being for the carport and associated storage. If necessary, we can consider deleting the carport and associated storage to further reduce costs. The resulting building would be roughly equivalent in size and layout to a manufactured home. It would, however, be constructed on a concrete slab as opposed to being trailered to the site and set up on piers. We have not asked our architect to calculate the potential savings that would be achieved by deleting the carport and storage from the building. However, assuming the value of this space to be approximately 50% of the average square foot cost of the entire building, we might expect to reduce the cost of the structure by an additional \$46,656.

### **Bidding/Building Multiple Residences Per Location**

The biggest disadvantage we face is that every one of our standard homes is priced by general contractors as a custom home. The cost to provide a superintendent to oversee construction of one home is the same as the cost to provide a superintendent to oversee construction of two, three or more homes. Planning & Development staff recommends bidding, where possible, multiple homes per park to reduce the overall cost of job superintendence.

### **Simplifying the Project Specifications Manual**

We have been told by ABA and several contractors that our bulky specifications book adds cost to the project. Contractors indicate the complex and lengthy specifications causes them to add a hassle factor to their bids. We are exploring options with ABA to develop short-form specifications as well as the option of placing all specifications on the plan sheet and binding only the ABA front end documents.

### **Manufactured Homes**

We have, when deemed necessary and/or appropriate, purchased and installed manufactured homes to serve park staff housing needs. With in-house installation of site utilities, access and porches, we have been paying an average of \$115,892 per unit (materials only, adjusted for inflation to 2014). These homes

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typically include 1,980 square feet of heated and cooled living space to include 3 bedrooms and two baths. However, these units do not include a covered entry porch, a carport, or exterior storage.

### **Modular Homes**

We have begun contacting vendors that indicate they are able to provide modular homes. Most of the vendors contacted initially indicate they can provide modular homes but later admit they are using the term “modular home” interchangeably with “manufactured home.” We have made contact with one vendor that claims he is able to provide an actual modular home. The differences still appear to be minimal. Both are typically delivered to the construction site on trailers and are set on piers rather than slabs.

While they both may arrive on site on trailers, manufactured homes and modular homes are treated much differently from accounting and administrative viewpoints. The manufactured home can be purchased as a commodity through the Department of Finance and Administration. As long as in-house forces are used to develop the site, utility and access improvements (or the total amount spent on small contracts to accomplish this work is less than \$20,000) this process can be completed without having to hire a general contractor or to bid the project through Arkansas Building Authority. Acquisition and installation of a modular home, on the other hand, is handled in the same way as construction of our standard home...the project would be specified and bid through Arkansas Building Authority in very much the same way we bid construction of our standard residence.

One vendor we contacted is based out of Tyler Texas but includes Arkansas in its territory. This vendor indicates a Modular Home can typically be delivered to our site for around \$70 to \$75 dollars per square foot. However, the costs for construction of foundations, utilities, and access are all extra. Assuming a home with similar heated and cooled square footage as our standard, we could the theoretical cost to deliver a modular unit would range between \$128,870 and \$138,075. For our standard residence projects, utility and site improvement costs average around \$30,300 per unit resulting in a total estimated cost of \$159,170 to \$168,375. The additional paperwork required to bid a project like this through Arkansas Building authority might add as much as 15% to 20% to the base cost resulting in an ultimate cost ranging between \$183,045 and \$202,050.

### **Observations/Recommendations**

Arkansas State Parks Planning & Development staff has identified multiple means of reducing the cost of providing employee housing. We recommend taking a multi-pronged approach to reducing the cost of employee housing that includes the following:

- Identify and implementing changes in the design and specification of the standard residence to reduce the cost of individual house projects. Preliminary information indicates potential savings ranging from a low of 4% with no appreciable change in product to a high of approximately 51% by implementing all potential changes in design to include deletion of the carport and storage room.
- Acquiring housing with adjacent property at reasonable cost that meets or exceeds our minimum standards, is strategically located and which enhances our ability to manage park resources.
- Construction of multiple housing units where possible to reduce contractor overhead costs.

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- Planning and budgeting for purchase and installation of manufactured housing where limitations and circumstances dictate this to be the best approach.
- Continue efforts to develop more economical standard housing designs.
- Continue efforts to simplify the specification book issued when bidding standard employee residences through Arkansas Building Authority