

## Bulletin 1 of the Redesigning cities

The possibilities of reusing vacant buildings for housing.

I am writing this from my observations on the need for housing here in Colorado Springs. The issues I will raise and the possible solutions to some of the concern for housing will probably in many cases be unique to the situation here in the Springs.

First off there is a growing housing shortage more and more individuals and families are living on the streets and in cars. The city has passed an ordinance outlawing car camping. In my mind this is an outrageous act people would not be living in their cars if they have options. Family Promise and group of concerned individuals is moving towards arranging with some of the churches in the community to allow car camping in their parking lots. This is one part of a temporary solution and what I hope to do in this Bulletin is layout the possibilities of a more permanent solution.

There many vacant and abandoned buildings throughout the community. In the past some of the buildings were commercial retail operations, some offices spaces and entertainment facilities like bars and restaurants and some light industrial. I think that any vacant building could be rehab for housing but many will not seriously be able to be considered for the cost of altering them for housing. Here I want to layout some of the concerns on determine which buildings would be suitable for alternation for housing.

The types of housing to be considered as part of the alternation could run from dormitory type shelters, efficiency apartments and one to say three bedroom apartments or even a combination. Also a necessary consideration is it possible that the alternation of the structure in housing would be a facility operated by a charity or could it become a rental property or a condo. Those are some of the considerations to keep in mind as we move through the procedures.

### STEP ONE

The first step is to make a determination if the physical layout of the building would be suitable for housing. There are apps for a smart phone that will allow you to walk through a building collecting data and photographs that will give you a three dimensional model with approximate dimensions. This data would not be adequate for design purposes but would hopefully have enough information for an architect and civil and structural engineers to make assessments that the building has possibilities for use for housing. The considerations would be structural items and if the layout of the interior would be adequate for alternation into apartments etc. Again this is not a design phase but a phase of determining if the building has possibilities enough to move on the next steps.

### STEP TWO

If it is determined that the building has possibilities for housing then we would move to the next step of contacting the owners of the property. Before contacting the owners it would be good to try and see what the possibilities of the building being reused as a commercial or industrial venture. If so then it might not be worth the time to contact the owners, but if commercial or industrial use of the property is not an option then we would contact the owner. The contact with the owner would be to explore the options about taking control of the building. Would the owner want to become involved in renting the units or would it want to figure ways to sell the units as condos or would the owner want to donate the building to a charity organization for a tax right off.

### STEP THREE

After some initial agreement has been made with the owner about the possible reuse of the building for housing then the next step is consultations with surrounding neighbors. If the building is in part of a shopping center or industrial areas with existing operations it may be necessary to prepare a general layout of how the building would be used for housing. This layout would not have to be of great detail but would just show an approximate idea of how to set up parking for potential occupants and maybe the possibility of playgrounds or community space around parts of the exterior. This would not be an actual property boundary drawing but just general idea for discussions with the neighborhood. Here it would be important to try and determine if any commercial operation in the neighborhood might have any desire to use the vacant building as part of expanding their facility. In the commercial areas we would have to show how the use of housing would impact the general access of parking and delivery for the existing commercial operations. At this stage I would not worry about the issue of zoning. In many cases reusing the building for housing would require changes in zoning and possibly redoing the property boundary and changes in easements. If an agreement could be made with the surrounding neighbors about the reuse as housing then I think the issue about zoning could be addressed. With the right approach to the local government authorities I think the zoning issues could be changed as needed by using the need for housing. I think various organizations concerned with the need for housing could put pressure on the changes in zoning.

### STEP FOUR

Once an agreement for reuse of the building has been reached with the surrounding neighbors then we would need to do a detail survey of the interior and exterior of the building. This survey would also include the surrounding areas to cover access for parking and maintenance and delivery. Most likely a new property boundary would have to be produced to represent the changes in use. The collection of this survey data could be accomplished using lidar scanners as well as traditional survey technologies. The data would have to be detailed enough to determine the structure integrity of the building and the access for utilities. Detailed plans would be produced to put before the regulatory agencies to get approval for the changes of use. The plans would also be produced to determine just how the construction for altering the building would proceed. At this stage we would make the determination on the size of the units to be constructed. The agreement with the neighbors and building owners and regulatory agencies would possibly put restrictions on just how many units and the size of those units could be constructed.

### STEP FIVE

This would be the actual construction. The type of material and to be used in this state would depend a lot of the structure issues of the building and the restrictions in access to the property. Force 10 a company from Australia uses a panelized system to build structures. We have experienced this technology while living and working in the Virgin Islands. The panels are steel framed with chases for utility in the bottoms and sheet rock panels on both sides of the frame. There is insulation between the sheet rock. The dimensions of the panels could be altered to fit the particular requirements of the buildings. There will probably be differences in the heights of the panels to fit the needs for a particular building. The panels are bolted to each other and ceiling support and it does take a skilled carpenter to put them together. Any work that may be done for outside additions to the building things like walls around playground or maintenance and garage collection areas can be done using this system. The

differences in the panels for the exterior would be replacing interior quality sheet rock with exterior quality units.

## STEP SIX

The principal cost of reusing buildings for housing would be the surveying and production in STEP FOUR and the construction in STEP FIVE. Using lidar technology it will possible to collect all the data needed for planing for the reuse in one to 2 days at the most. The design and planning for the construction will require licensed architects and engineers and the construction will require the cost of the materials and labor. It is possible that some of the labor could actually be provided by people who will use the housing. Force 10 needs labor that can turn a wrench.

How to pay for the reuse will be an issue. In some cases the cost could be covered by programs for funding housing. In other cases the cost might be covered by the changes in the property being part of a business venture. Where the costs are covered by rental agreements or selling the units as condos.

It is to be understood that the reuse of some of the vacant buildings in a community for housing will not be the final solution for the problem. We fill that it will be a reality easy way to rehouse some of the homeless. We feel that the reuse of appropriate vacant buildings will be less costly than building housing from scratch.

The building of new housing is another issue which we are working on developing ways to build solid homes rapidly with reduced costs in material.