

Progress Report 7/10/08

To the TGRS BOD,
regarding the Tucson Children's Museum/TGRS project

Ruth Taylor and I met with Sandy (Executive Director), Samantha (Facility Manager) and Jennifer (I didn't get her title but understood that she worked with designing displays) of the TCM on Tuesday, July 8 to discuss the project.

I – Funding

We discussed funding and agreed that Union Pacific was the primary target both because of their presence in town, the nature of the display and their need for favorable publicity with the Picacho Peak project causing controversy. Ruth had done some research on U.P. and their contributions. These have been well over \$200K in the Tucson area, mostly to schools. The U. P. Foundation had given grants to the museum of \$5K each in both 2005 and 2007. There is a timing problem with the foundation in that they require requests by August 15 but don't disburse funds until February of the following year.

Sandy indicated that if we knew the money was certain to be granted she could borrow from other projects to handle the timing problems. We all agreed to ask the foundation to fund the entire project, not just the \$4K elevated line for which I had built a budget. Our first task then, was to finish the design of the room and complete the budget for all of the items.

We discussed other sources of funding. I think Sandy was hoping to tap our membership but we put that off with a comment that we could ask. We **did not** tell her that the club had agreed to fund up to \$4k of the project as we wanted her to continue to seek the maximum from the railroad. I also agreed to contact Kalmbach Publishing, seeking some participation essentially piggybacking off the grant request.

II - Room Layout

Overhead Layout

You already have the initial proposal for the elevated G gauge 15' X 35' loop operated with child level push button and supported on acrylic for visibility. As previously reported this loop will exit the 15' X 25' room through a tunnel portal and re-enter through a second portal and bridge. The motive power will be diesel and contain a TV camera to provide an engineer eye view. If we are able to obtain sponsorship from the Union Pacific their locomotives and cars would be featured.

As the club suggested, I have included a back up locomotive but am still within the budget as the TCM has a TV set we can use saving the budget cost of that item.

Southeast Corner

The TCM has a television set mounted in a 5' case that we can use for our engine camera. The case has ample room below the television set for the power supply and push button electronics and the button itself can be mounted in the case. We will place this case diagonally in the southeast corner. Of course pressing the button will cause the train to loop about and is an interactive function.

South Wall

The south wall is about 11' to the door to the performance room so there is adequate room for a non branded Brio train set along this wall. The museum has a 3' X 5' table and track but thinks a larger one, with expanded track and new cars (to replace the rather worn existing ones) would be better. This table will provide both interactive play value and dexterity training and well as unobtrusively teaching how trains are guided by the rails.

East Wall

The east wall is currently a wall of metal sheeting intended for magnets. Having in mind our twin objectives of interactivity and education we will keep this metal wall and equip it with magnetic train cars. A series of brief descriptions of each car, including what it is typically used to carry, together with a picture of the car will be on a laminated and mounted on the wallboard below the metal wall. The descriptions will be brief, taking account of the probable reader's age, and will be in both English and Spanish. We think the descriptions (see attached first drafts for samples) will serve an educational function while moving the cars about on the magnetic wall will provide interactivity and play value.

We discussed several ways of creating the magnetic rail cars including printing them onto magnetic sign material but in the end agreed that they needed more bulk in order to be easier to grasp and move. Ruth suggested we take digital pictures of model train cars, have them enlarged and professionally printed (say at Kinkos) and use them for both the top of the description posters and to laminate onto wood blocks shaped to accommodate the photos. After lamination an epoxy coating would be applied protect the photo surface. She also suggested, and we agreed, that that handles could be mounted on the front to make it easier to grasp and move the cars.

North Wall

The north wall is relatively short with two entrances. While the train room is intended to be a pass through room there will be some children who linger at the various attractions. Accordingly we thought a station like bench (available as patio furniture) could be placed on this wall. Behind the bench we might consider

a mural of mountainous terrain to enhance the two tunnel portals that the train passes through as it exits and re-enters this room through the north wall.

West Wall

The west wall currently has metal sheeting similar to the east wall. This will be removed and the wall refinished and repainted. We plan to use this wall for laminated safety posters if Operation Lifesaver can provide them. (Although Byron has gotten me a name and contact number, he has not returned any of my calls to date.)

Someone in the club suggested creating a history of railroads in Tucson and this would be the wall to post a laminated posted of whatever we develop. I would ask, however, that whoever is developing this history keep in mind that most of the visitors to the museum are quite young and create a simplified version to accommodate their limited attention spans. Historic photos and brief captions might go well, especially if the photos show activity (e.g. trains) rather than just buildings.

A second bench might also be placed along this wall.

Room Center

TCM wants a train that children can interact with in the center of the room. I have done some preliminary design work on this (see attached sketches). It is essentially a 3 sided plywood box plus a roof for a cab 4' wide X 4' deep X 4' high. Window opening would be faced with molding to reduce splinters. Another, circular, opening in the cab front would allow access to the boiler.

The 'boiler' would be a 2' diameter by 6' long PVC pipe open at both ends and lined with glued on indoor/outdoor carpeting. I had initially though a larger diameter would be required but the museum has a successful crawl through using 2' diameter pipe in the undersea exhibit.

The pipe would be supported by 3 cradles or supports made of two plies of ¼" plywood and 2" X 2" lumber. Two cradles might be adequate but I am planning on 3 as a safety measure. The side between the supports would be closed off by plywood (roughly 2' X 6') which would also serve as a mounting platform for rotatable drive wheels.

If we can manage it, I would like to include rods so that rotating the wheels would show how linear motion converts to rotary motion. This would provide painless educational value, while playing. The boiler and sides would be black but the wheels could be bright with aluminum painted 'rims' and 'spokes' as would the rods (which could be painted wood or metal). There is no need for a pilot truck but we could paint one at the front of the side. The cab would be brightly colored, perhaps yellow with dark red trim at the corners and windows.

As the drawing shows, I would like to finish off the engine with a stack (probably just smaller PVC pipe and a bell that could be rung from inside the cab. The drawing also shows a plastic slide as a pilot but if we keep the 'boiler' just a foot off the ground that probably won't be required.

III – Timing

As previously reported the museum is closed Mondays once school begins in September. We would be able to begin installation at that time. Sandy informed me that she has various traveling exhibits scheduled for that room so that it would not be available until later in the year. I need to get specific dates from her but we talked in terms of a well publicized 'Grand Opening' in mid December.

I did confirm with Sandy that once the exhibit was fully installed the room would remain the railroad room and that not further unrelated exhibits would be placed in it.

IV – Next Steps

I will complete new sections of the budget including:

- Building, finishing and painting the Locomotive
- Building the magnetic rail cars for the east wall
- Benches
- Sign and posters, including laminating
- Demolition and repainting of west wall (data to be supplied by Samantha)
- Carpeting for room (data to be supplied by Samantha)

I will revise the old budget for the elevated train (2 locomotives to provide backup but no additional TV set.

I will have the total budget available before month end
TCM (Sandy) will write the grant request using the new budget figures and have it ready before the mid August deadline.

Ruth will contact the local U. P. area manager to see if there is a way to get assurance regarding the foundation grant prior to next year's official announcement. Failing that we will try to see if they can give us assurance from their PR budget.

I will continue to try to contact Operation Lifesaver

Using the grant request I will try to contact Kalmbach for funding.