

Montezuma Multi-Phase Infrastructure Improvements



Strategies for a Competitive Funding Application

- Although funding sources vary in their requirements, most want you to show some sort of need. This Community Development Block Grant effort focuses on the needs of the general public.
- Perpetuating Poverty: The program requires that we serve an area that is composed of at least 70% low to moderate income individuals. However, the effects of inadequate infrastructure can inhibit a person's ability to rise out of financial destitution. A couple of examples are by lowering property values and affecting a person's health.

Strategies for a Competitive Funding Application (cont'd)

- Documenting Need
 - Work order forms show the frequency of infrastructure failings
 - Documenting the cost of repairs shows both a debt that has to be passed on to the residents and a situation that inhibits the local government's financial ability to upgrade the system.
 - An EPD finding or just noting the potential for one furthers this same notion.

Strategies for a Competitive Funding Application (cont'd)

- A Subjective Touch:
 - Include people in your pictures whenever possible
 - Show poverty outside the scope of your project – For instance, although the focus of this project is on the general public rather than economic development, I show vacated business to illustrate the larger environment of poverty that surrounds the people on a number of levels. Likewise, although this is an infrastructure project, I took pictures of very cheap building materials used in private housing to illustrate that we are in an appropriately low income area.

Strategies for a Competitive Funding Application (cont'd)

- Reach out to experts
 - An example would be having the Health Department compose a letter of support outlining the health risks to the public if the infrastructure issues are not addressed. This can include exposure to sewage, the pests that are drawn to the fecal matter, or drinking water that is not fully purified.

Phase I

- Identify the greatest need in the jurisdiction
- Use the first funding application to address that need
 - Right thing to do for the citizens
 - Establishes rapport with the funding agency
 - Creates a reputation for the area as having true need (first impression in some cases)

Phase I - Sewage

- For the City of Montezuma, sewage in a specific low income neighborhood was the greatest immediate need.
- Approaches:
 - We measured the amount of metered water going into the system, and then the volume that was reaching the sewage treatment plant. We argued that any water beyond the amount of metered water was from root infiltration and natural decay of the sewage lines. We also calculated the cost of electricity to process this extra water.
 - I used Census data that depicted the City of Montezuma having a higher prevalence of people without vehicles than the state or nation. I then claimed that there was a increased likelihood of residents walking through the neighborhood, increasing their chances of being exposed to sewage back up in people's yards and seepage by the mains at the road.

Phase I – Sewage (cont'd)

- Approaches

- I had an elected official note that, within low income neighborhood, there were likely far more people that would benefit from grant-funded infrastructure improvement than we were able to find with the required household surveys. Many people who do not live in the area permanently frequent it. Examples are family members whose water or power has been disconnected, those needing social contacts for daycare, etc.
- Although we were not allowed to count the alternative school participants as beneficiaries, I collected a letter from them noting the health impact on the children, their need for the school, and the jobs that would be lost if the facility had to close due to sewage problems.
- Even though I generally like to keep different types of infrastructure isolated in their own projects (such water, sewage, storm water, etc.) for simplicity of scoring, we decided to include a water line in this one because it was so disturbingly close to sewage. We were going to be working right on top of it, so it just made sense.

Submerged Overflow Pipe



The outflow pipe dumps the sewage



The level of poverty is clear as most people can only afford very modest units.



Phase II

- Split water into 2 phases (Splits neighborhood project area from sewage phase into 2 parts)
- Strategies:
 - Fire Department provides hydrant pressure tests – Some areas do not have the necessary pressure to for fire protection
 - We made the argument that, during a fire event, negative pressure could actually occur. This means that if anyone has left a hose in a dirty swimming pool or in a bucket with chemicals, the contents could actually be sucked into the system.
 - Water quality tests
 - Remote Read Meters
 - Cut-off valves – Decrease the amount of time people are without water
 - Self repairs

Phase II (cont'd)

- Strategies (cont'd):
 - To show general poverty in the area, I used census data to show the percentage of homes that were of a certain advanced age. Many were built before lead based paint and asbestos were prohibited. This, in turn makes many of the vacant houses an environmental and health risk. The number of vacant houses was extreme due to people fleeing the water issues and units that burned due to inadequate fire protection. Many are a safety hazard that threaten to collapse, or are already a pile of hazardous, often sharp material. This is especially dangerous for children.

Red Water!



. . . or sometimes yellow



Failing water tubing



Shows presence of old tubing



Water line replacement



Galvanized line



Difficult excavation to reach pipes



Copper line became detached from main due to deterioration



Water leak repair showing leak



Undersized line



Water line by manhole



Water leaking from beneath the road



Another water leak beneath the road



Phase III

- 2nd Water Phase
- Targets the remaining portion of the neighborhood from the sewage phase that we could not serve with water improvements in the first water phase due to budgetary constraints.

Abandoned Hotel

