

BSI Canal Committee

5/9/22

As announced over the last several weeks, the city held its informational meeting on Monday 5/2 at Twin Isles CC. We had an amazingly strong turnout with very few seats open during the meeting. I want to thank all that turned out for this very informative presentation. I personally believe we are a better community for staying educated on all such relevant issues.

The heart of the presentation centered around the fact that our seawalls at 40 years (being installed between 1980 and 1982) have reached the end of their designed life expectancy.

As has been mentioned in earlier articles, the city recognizing this, hired Taylor Engineering, with the goal to better define actual conditions, expected failure rates, design review, and options--- with recommendations going forward. Taylor Engineering is a respected civil engineering firm specializing in water-front works, and did an excellent job with their given task. Knowing their liabilities associate with this type of review and recommendations, chose to take a very conservative approach in their report. It is understandable-- based on the foreseeable future where negative outweighing positive consequences by factors of several exponentials -- especially if litigation gets involved. It is easy to understand their very conservative approach to this study. ---I, for one, can accept this and wouldn't expect any different.

On the other hand, I believe we are in a lot better shape than they would have us believe, simply based on the overall conservative nature of civil works on average lasting much longer than design. From a general knowledge perspective, most civil works life cycles across this country will easily exceed design lifecycles by factors of 1.5 to 2.5.--- this is not to say that this will happen here, but I believe this a guideline to be used to help with understanding the true condition of our walls.

So, here are the highlights from the meeting (I'm sure some will be missed —just let me know)

Seawalls

- The design life of the original seawalls was 40 years(and installed between 1980 and 1982)
- Approximately 20 % of the seawalls have been replaced, much due to unforeseen circumstances -i.e..... hurricanes, etc.
- There have been revisions in the design standards, especially over the last 20 years, which has effectively increased design lifecycles on new walls to 60 years.
 - Change in re-bar to corrosion resistant steel
 - Change in concrete mix design -- more saline resistant mix
 - Changes in dead-men placement
 - Changes in height of panels from 8' to 10'
 - Changes in weep hole placement
 - Major changes in inspections protocol and frequency of these inspections
 - Thereby catching much of potential failures while still in their infancy, keeping repairs to minor rather than major costs
- Cost of construction materials has gone up (personal note---duh)
- Cost on contractors actually doing the work has gone up

These next two items will allow for larger barges into BSI which are required as vacant lots are transformed into homes, effectively eliminating the opportunity for the city to use these as canal maintenance staging areas.

Lock

- The bid package was released with all bids coming in way above budget, these were subsequently rejected, and the city is reassessing what next steps are possible
 - Delay the project, hoping for better bids in upcoming slower times
 - Revised the budget to align with contractor bids—which means going back through the city budgeting process
 - Borrowing the money from the city and re-imbursing in the coming years—also a budgeting process

Perimeter Corners

- 5 rim canal corners have been identified that need to be widened to facilitate movement of larger barges
- We need to start the process now of designing, and permitting for this eventuality, since these efforts at best take several years before actual widening would commence.

General maintenance of the canals includes

- Inspections of all civil works-every other year
 - Seawalls
 - Riprap
- Bathymetric surveys of the canals
- Mangrove trimming
- Dredging of the canals
- Pilings

General Conclusions

- We are seeing an increase in wall replacement, which for next year alone is twice our current rate
- Due to their age, we can expect our seawalls to fail at an ever-increasing rate, until they reach an age-equalizing steady state based on previous replacements.
- Based on our current new home construction rate, we will run out of staging lots within the next few years. We need to start the lock and corner widening projects now if we expect to have these done and in place before prior to running out of staging lots.
- Even with the larger barges, the city will need a staging area. They are currently reviewing potential sites where this would be possible. Several sites include properties both inside and outside BSI proper have been reviewed.
 - No decision has yet been made.

So, all of this leads to some bottom-line numbers

Seawall

- Annual assessments will rise—in order to meet minimum requirements, this needs to be at least \$200/year, with annual incremental increases until it reaches an estimated \$500/yr. (say over the next 3-5 years)

Lock

- We were originally thinking a special assessment of \$75/year for 3-4 years would be needed to pay for the lock widening, this may have to be increase to \$100/year for 5 years

Perimeter Canal Corners

- We still do not have a good estimate on the cost for corner widening, but a “thumb nail” guess would be \$75/year for 3 years.

I realize this is a lot to digest, but the “can has been kicked down the road” for some years now and we are running out of possible options. Decisions need to be made ensuring facilitating us moving forward in solid fashion.

In closing, let me just reiterate my personal goal in all this. Quite honestly and frankly, my primary goal is fiduciary in nature, The city will be asking for (requiring) higher annual assessments, which we will be obliged to pay, but we do have some flexibility in how, when and to what extent additional funds will be assessed. I want to ensure every dollar is spent wisely with the best possible return on our money. That to me means not getting ahead or behind on our ongoing efforts to maintain our standard of canal life here in BSI. After all, I don't want to spend a penny more than I have to. This money is coming out of my pocket, just as it is your pocket.

Rick Daugherty, Chairman, BSI Canal Committee