Tumblin Creek Project Timeline Summary

Introduction

The Tumblin' Creek Sediment Facility (TCSF) was identified as a project in the Tumblin' Creek Watershed Management Plan. The location of the project is east of SW 13th Street with access being provided through the property located at 1880 SW 13th Street. It was identified as a facility to collect sediment and trash within Tumblin' Creek prior to discharging into Bivens Arm and also as a means to re-hydrate approximately 6 acres of wetlands located immediately to the north of this section of Tumblin' Creek.

The project was also identified as a possible water quality (WQ) credit facility similar to the existing SW 5th Avenue Credit Basin. These WQ credit facilities help facilitate redevelopment of existing properties. The process allows these properties that only need water quality treatment for their site to purchase this required treatment in these off-site facilities. This allows a better utilization for the redeveloped property.

Funding

The original budget for the project was $1,250,000 and was funded from the Stormwater Management Utility. During the design of the project, additional funding was received in the form of grants. The first grant is from the Florida Department of Transportation (FDOT) through the Gainesville Clean Water Partnership for the amount of $190,785. The second grant is from the Florida Department of Environmental Protection (FDEP) for the amount of $393,357. The current total budget for the project is $1,834,142.

Planning, Design, and Land Acquisition

Jones Edmunds was selected as the design firm. They are one of the design firms that have a Continuing Services contract with the City. They also were the design firm for the Sweetwater Wetlands Park project, which included a large sediment and trash trap. The design of this project would benefit from the lessons learned from the design and implementation of that facility.

The design of the TCSF included several hurdles to overcome in addition to the design.

- The initial location of the TCSF was on City owned property. In order to be able to adequately re-hydrate the adjacent wetland, the TCSF needed to be relocated further upstream onto private property. This required additional easements which resulted in both additional costs and time delay.
- Permitting the TCSF through St. Johns River Water Management District (SJRWMD) to allow the facility to function as a water quality treatment credit facility was one such hurdle. During the permitting process, the amount of expected credits was reduced to approximately half of the expected amount. This was done in order to be conservative with respect to the amount of Total Nitrogen (TN) being removed via the sediment capture. SJRWMD did allow that the removed sediment could be tested during the first year of operation to determine

if more TN were being removed than the permitted amount and if so, then the permit could be modified with this higher amount.

- Gainesville Regional Utilities (GRU) has an existing 24" gravity wastewater main on the east side of this section of Tumblin' Creek. Due to the age of this infrastructure, GRU determined that it needed to be slip lined in order to maintain its integrity during the construction of the TCSF. In order to minimize the cost of the City's portion of this process, the TCSF needed to be relocated a second time in order to be placed between two manholes. This relocation resulted additional costs and time delay.
- Based on the lessons learned from the Sweetwater Wetlands Park project, it was determined that the delivery method for the construction phase would be via Construction Management at Risk CMAR). The construction of the TCSF will involve several complicating factors, including several unique types of construction.
    1. A large modular wall is needed as part of the project. The type of wall needed includes large segments of block to provide the needed depth of the facility. The blocks also need to be robust enough to withstand contact during the maintenance of the facility.
    2. Sheet piling is required to be installed for both construction phasing of the project and to provide additional protection of the existing gravity wastewater main.
    3. Installation of several unique, single source items such as a pneumatic Obermeyer gate and trash boom.
    4. Working in conditions that require extensive dewatering techniques.
    5. Working with robust erosion and sedimentation controls due to the fact that the facility is located within a creek.
    6. Experience with construction within creeks with similar functions as Tumblin' Creek. One specific requirement relates to the ability to control a construction site during the times when the creek "flashes" from increased flows from storm events. These flashes occur with little warning and can be can result in very high flow rates.

  The engineer's estimated cost of construction at 60% plans was $950,000. This allowed the utilization of the City's Continuing Services contracts for CMAR. The Brentwood Company, Inc. was selected as the CMAR as their firm was the top ranked firm during the RFQ process for City's Continuing Services contracts for CMAR and scored the best when staff reviewed each firm's portfolio for previous experience covering the above unique construction aspects for this project.

The planning, design, and land acquisition phases based on the above items utilized approximately $500,000 of the budget. This results in approximately $1,334,142 funds available for construction. All of the pre-construction costs are from the Stormwater Management Utility (SMU) funds, bring the remaining available SMU funding to approximately $750,000.

Guaranteed Maximum Price

The Guaranteed Maximum Price (GMP) proposal from Brentwood Company is in the amount of $1,773,018.10. This exceeds the engineer's estimate based off of the 60% plans completed in January 2014. The sub-contractor bidding was conducted by Brentwood and included two types of bids. One form was individual trades and the second was from one overall company. This was done due to the unique type of construction being requested and from Brentwood Company's experience and knowledge of the current availability of qualified firms. Staff was present during the bid openings for the sub-contractors with Brentwood Company. Brentwood evaluated both forms of bidding and provided their GMP proposal. The GMP exceeds the 60% plan cost estimate for several reasons.

1. A CMAR is being utilized due to the complexity associated with the construction of the TCSF. This cost was not included with the engineer's cost estimate.
2. The plans were further refined from 60% plans to construction documents. This included
    - A change in the bottom of the facility from rock-filled geocells to a solid concrete bottom
    - A change in the configuration of the trash and debris boom.
    - A paved turn around for maintenance vehicles.
    - Additional earthwork.
    - Details for the segmented retaining wall, erosion control means, and sheet piling.
3. There are two single source items being installed due to the unique nature of the project. The costs for these two items (a pneumatic gate and trash boom) were higher than the engineer's cost estimate.
4. Two years have elapsed due to the above complications for the project.
5. Due to the amount of construction being performed in the area as well as this type of specialized construction, the number of available sub-contractors is limited.
6. A cost saving proposal was requested from Brentwood Company. Three options were presented.
    - Change out the specified segmented retaining wall (which was utilized at Sweetwater Wetlands Park) for a less expensive modular wall. This was rejected because the proposed wall would be more of a landscaping wall so it may not be able to withstand impacts it may occur during sediment removal with heavy equipment.
    - Riprap stabilization by using a mat/geotextile in lieu of riprap and bedding stone. This was rejected due to the flashiness of the creek and the small cost difference.
    - Replace the City black picket fencing with chain link fencing. This was rejected due to the location of the facility on the private property, concerns expressed by the hotel owner, and the small cost difference.

Based on these reasons, staff is requesting approximately $400,000 in additional SMU funding. However, with this facility also being utilized as a water quality credit facility, some portion of the SMU funding will be able to be recovered.

Water Quality Credit Recovery

The WQ credit model is currently proposed to recover half of the requested SMU funding total ($1,650,000). This cost would equal approximately $100,000 for an acre of redeveloped property for light office use. Based on land values for the Tumblin' Creek watershed, this is a reasonable cost based on the additional land available and the cost savings of not having to build a stormwater facility on-site.

During the first year of operation, the sediment removed will be tested. If the amount of TN is higher than the permitted amount, then a request can be made with SJRWMD based on this higher, actual amount. The current expectation is that the amount of credits will be double the initial permitted amount. In the event this occurs, all of the SMU funding for this project could be recovered.