

## STRATEGIC PLANNING (Updated for the 2012 Capital Budget)

*This Section is essentially the same as presented in past years, updated where needed, and remains Management's vision as our Strategic Plan. It was first presented in the Capital Plan for 2001.*

### Long Term Strategic Planning

Our primary objective, in the short term and the long term, is to provide cost-effective sewage conveyance and treatment that meets the needs of our existing and future customers.

The Authority started its strategic planning with the completion of the Wastewater Facilities Planning Study in 2000, and the implementation of recommendations from that study, which included: property acquisition at the DC Plant; partial capacity augmentations of the Oakwood Road, Valleybrook, and Giant Oaks Interceptors; and in-depth analysis of the Brush Run Sewer System's infiltration and inflow, followed by comprehensive sewer rehabilitation projects focused on the Brush Run Sewer System. The second major document prepared as part of the strategic plan was the DC 537 Sewage Plan. The 537 Plan was completed in 2010, adopted by the Township, and approved by PaDEP in 2011. The DC 537 Plan will be our primary planning tool for the next 15 years. While the 537 Plan primarily addresses the issues related to plant expansion, it does include a framework for how public sewerage will be developed in the Lehner Lakes Basin, and how we will approach interceptor capacity augmentation to eventually eliminate wet weather overflows.

The major points of our strategic planning are:

- Maximize the capacity of the Brush Run Plant in the short term (hence the Wet Weather Improvements Project which will extend the design year of the plant to 2030). The Brush Run Sewer System is our largest source of new customers, casually estimated at 1,000 growth EDUs, and we will want to avoid any tap restrictions going forward. The Wet Weather Improvements Project, in conjunction with the two planned interceptor augmentations, will eliminate any concerns regarding tap restrictions for the next 15 years.
- Plan for the expansion of the DC Plant beginning in 2014, potentially to serve upstream communities, although that looks less likely as time goes on. We do expect however that North Strabane will once again seek sewage disposal at the DC Plant 5 to 10 years from now. The plant layout as presented in the 537 Plan contemplates this, preserving the ability to had a fourth clarifier, and convert the aerobic digesters to aeration tanks, thereby increasing the plant capacity by 33% or about 0.6 MGD.
- Position ourselves to be a primary partner in a regional plant on Chartiers Creek in the long term. This also looks less likely as time goes on. This objective was intended to someday combine our treatment plants into one large treatment plant along Chartiers Creek, somewhere near the confluence of Chartiers Creek and Brush Run. After we invest \$15.0 million in the DC Plant Expansion, it is unlikely the concept of combining the two plants would ever become cost-effective.

Strategic Planning Concepts:

***Strategic Planning Concept No. 1: Manage our finances to maintain a minimum CIRF balance of \$500,000.*** The value of an adequate balance became evident in the aftermath of the Hurricane Ivan flood. Total damages amounted to \$450,000. Had we not had a surplus to draw on and had to instead run to the bank to borrow money, our response to the flood damages would have been completely different, and much delayed. Having an adequate surplus allowed us to make the right decisions quickly to restore facilities immediately.

In order to continue to provide cost-effective services it is critical that we keep our debt service cost to a minimum. While there may be rules of thumb to follow, the simple concept of not allowing our debt service/customer (EDU that is) exceed the existing amount; while targeting a future reduction, is hard to beat.

***Strategic Planning Concept No. 2: Manage our facilities and finances to assure that debt service per customer does not exceed existing (Year 2000) values; while targeting future reductions.***

The 2000 debt service per customer (EDU) was \$145 annually (inclusive of 10% cover), whereas in 2010 it was \$124/EDU that is a 14.5% reduction over a 10-year period. This planning concept was developed as a means to plan for the DC Plant Expansion Project, whereby the new debt would not be incurred until the Brush Run debt was retired or nearly so. This planning concept is slipping away from us due in part to the borrowing for the administration building and the Brush Run Wet Weather Improvements, in conjunction with the expectation that the future DC Plant will be substantially more expensive than the Brush Run borrowing.

Assuming 7,100 EDUs in 2015, a debt service of \$145/EDU would provide for an annual debt service payment of \$1,030,000. Based on Funding Alternative No. 1 in the DC 537 Plan, which is a combination of Pennvest low interest loans and a bond issue, the debt service for a \$17.3 million borrowing with a 20-year term, would be \$1,240,000. When the affect of inflation is factored in, the \$145/EDU in 2000 is the equivalent of \$190/EDU in 2011, which would provide for \$1,350,000 in debt service. So when inflation is considered, Strategic Planning Concept No. 2 may be achievable.

Brush Run remains essential in this strategic planning concept. It is our primary source of revenue, both in customers served, and potential customers to serve, as well as the tap fees that come from those customers. In order to preserve as much capacity as possible for future customers, I/I reduction is an absolute necessity. Hence the implementation of a major I/I study for the Brush Run System in 2003, along with the commitment to repair defective sewer segments, and ultimately, to require property owners to repair their building sewers to remove sources of infiltration. This establishes Strategic Planning Concept No. 3.

***Strategic Planning Concept No. 3: Commit to meaningful, cost-effective, I/I reduction; with a target value of 10% reduction over the next 5 years.***

Brush Run's design year was 2010 (the year when the design population and design flows are expected to be reached). The Brush Run Wet Weather Improvements, to be completed in early 2012, will enable the existing plant to serve through 2030 without a major expansion, provided our NPDES Permit Discharge limits do not become more stringent, requiring nutrient removal.

Additionally, there is a strong likelihood that the Brush Run Plant could be rerated to a 2.3 MGD capacity, if ever needed, with little or no capital expense, provided nutrient discharge limits are not imposed. If this is achieved, the plant's capacity will likely be BOD limited, not hydraulically limited, and the next major expansion might not occur until 2030 or later, *barring any major revisions to our NPDES Permit, or sludge disposal practices or requirements*. Our planning at this point assumes neither will occur in the short term, but we must keep in mind that the potential exists in the mid-term to long-term. (*We learned this lesson with the Brush Run TMDL, which we were fortunate to conclude in our favor*). Another example for instance, is major increases in sludge disposal costs may make it inefficient to continue to use a belt filter press for dewatering, which achieves 15 to 18% cake concentrations. Our 2011 average annual concentration was 14.6%. The alternative could require a plant upgrade to add centrifuge dewatering to achieve 30% cake; and if so, borrowed funds would be required. This paragraph has then identified the next 3 strategic planning concepts:

***Strategic Planning Concept No. 4: Plan to Achieve a hydraulic rerating of the Brush Run Plant to 2.3 MGD.*** *This objective was originally in the scope of the Brush Run Wet Weather Optimization as a "secondary objective" however it was deleted due to schedule and ultimately, the decision that rerating the plant to a higher hydraulic capacity at this time was premature. While a rerate in the maximum month design flow for the Wet Weather project was not obtained, the Part II Water Quality Permit Application and Permit established that the plant has the capacity to treat a monthly maximum average day flow of 2.5 MGD. We therefore believe that a rerate in the design flow can be easily obtained if ever needed.*

***Strategic Planning Concept No. 5: Stay informed regarding water quality and watershed management issues (such as TMDLs, and impending statewide nitrogen and phosphorous limits).*** *Nutrients limits will eventually imposed and the Brush Run Wet Weather Improvements will provide for some nitrogen removal, and can be adapted for some phosphorous removal. Likewise, any upgrade to the DC Plant should include provisions to be easily adapted to nutrient removal.*

***Strategic Planning Concept No. 6: Explore sludge disposal alternatives, including land application; and commit to keeping our biosolids clean and re-useable.***

After completing the Brush Run Wet Weather Project in 2012, the focus will shift back to the DC Plant.

***Strategic Planning Concept No. 7. Defer the DC Plant Expansion for as long as possible in order to retire as much Bond principal as possible, and plan to pay all planning and design engineering costs from the CIRF. The 2009 Bond Indenture is retired in 2017. The construction of the DC plant will not begin until 2014, and perhaps could be delayed until 2015. The principal balance after September 2014 will be \$1,340,000, with \$751,000 in the Debt Service Reserve Fund. Therefore our net principle is \$589,000 in 2014 after applying the Debt Service Reserve Fund. The bond indenture could be retired in 2015, or the balanced rolled over into the new borrowing for the DC Plant.***

*The design fee estimate for the DC Plant Replacement project is estimated at \$800,00, with an approximate 2 year schedule beginning in March 2012, and concluding in March 2014. The Authority has reserved \$250,000 of surplus in 2011, and if it budgets \$275,000 in 2012 and 2013 for the design costs, then it will have achieved this planning concept.*

***Strategic Planning Concept No. 8. Determine early if we wish to pursue a Pennvest loan for the DC Plant Expansion project, and if so, begin the process of ensuring that we obtain approval within our schedule. This has been initiated, with amending the 537 Plan to include the necessary documents to allow for a Pennvest loan, including the Uniform Environmental Report. A preliminary consultation was held with Pennvest officials in October, 2010, and based on that meeting the probability of obtaining a Pennvest loan is now considered "Low". The Authority however will continue to pursue this alternative as the low interest loan has a grant equivalent of approximately \$3,000,000 when compared to revenue bond interest costs.***

***Strategic Planning Concept No. 9. Design the DC Plant Upgrade for the 21<sup>st</sup> Century. This means energy efficient, and using new or emerging technologies. It also means re-thinking what we take for granted. For instance, Include high quality treatment for a portion of the effluent recycle stream to sell as irrigation water to the soccer field, Evergreen Village, and eventually the Township and the School District.***

***Strategic Planning Concept No. 10. Begin thinking green. Resource recovery and reutilization.***

- *All of that high quality grease sitting in those grease traps can become bio-fuel.*
- *The aerobic digesters are planned to be covered to contain odors. That will provide a wide open space for solar panels.*
- *A turbine generator located in the final effluent line*

***Strategic Planning Concept No. 11. Work to achieve our Mission every day.***