INNOVATIVE FINANCING TECHNIQUES IN A VOLATILE MARKET REQUIRE COOPERATIVE EFFORT

L. Jack Davis

Gulf Coast Waste Disposal Authority, 910 Bay Area Boulevard, Houston Texas 77058, U.S.A.

ABSTRACT

The key to any successful water related project is a successful financing project. This paper deals with the need to develop cooperation and understanding between administrative managers who must select and implement the necessary financing program and the project personnel who plan design and implement the physical program. The paper also examines the various financing vehicles that are available to the governmental managers in a volatile international money market and the need to mesh project implementation to favorable financing schemes. Several methods of financing are discussed with some references to bond rating criteria. The principal theme is the need for flexibility in all phases of project financing.

KEYWORDS

Administrator; bonds; debt service; financing vehicle; guarantor; market; project; project manager; rating; rating agency.

This address is not intended to be a scholarly dissertation on the mechanics of financing water related projects. Its primary thrust will be to show that the financing mechanisms are as varied as the imaginations of the commercial bankers, lawyers and financial managers who combine their talents to achieve the necessary capital formation.

The best laid plans of these experts are for naught unless the administrator or manager of the sponsoring agency has the ability to put the whole project together. Major projects are likely to take more than a decade to bring from planning to fruition. During such an extended period there will usually be changes in the political structure, applicable tax laws and, more recently, environmental regulations.

The absolute bottom line of any water resources project, which must now include water quality enhancement factors, is whether the project can be funded. One must then address the issues associated with any traditional governmental borrowing.

The questions that must be analyzed by the manager would probably include these: Who, and how strong, is the guarantor? Can the project wait on a stronger market condition - in brief, is the timing right? Will conditions change before the issue is ready? If it is a multi-stage development, are foreseeable changes likely to occur that will impact future phases? Is the political climate right at this time and what are the risks of change that might impact implementation, or completion, in the future?

Water related projects almost always involve large, sometimes enormous, sums of money. The variations of a few points in the interest rate have a significant impact on the economics of a project. As of January 1, 1986, local water agencies in Texas had outstanding indebtedness of $8.4 billion. Fifty basis points, or one-half of one percent, on that size debt reaches astronomical numbers, almost $50 million per year.

In a June 1984 issue of Governmental Finance, the editorial section began with this observation, "Amid the shifting sands of the nation's financial markets, no terrain is more fluid or intricate than that of the..."
municipal bond market. The finance officer, and his retinue of financial experts and consultants, must stay alert to stay alive as that market, once noted for its serenity, is buffeted by the winds of change in economic prospects, government deficits and the federal tax laws." This was a rather ominous precursor of the situation that exists two years later.

It is through this maze that the manager must plan a course that allows an adjustment factor on each project. To the extent possible, each phase of a project needs to stand on its own. A critical path must be charted that allows for adjustment, either acceleration or delay, at predesignated junctures.

Sometimes it is difficult for a project manager, engineer, or planner to understand the necessities of timing in the implementation of a project. The manager can generally lay the groundwork for acceptance of delays and adjustments by requiring them to be built into the plan as alternatives. This will allow a project to ebb and flow with the economic changes that apparently will continue to occur in a volatile international economy.

Let me now turn to the financing process itself. This is where the manager will be able to exercise his ingenuity in developing a long-term water development program. The verb manage embodies the following definitions: to pilot, direct, eke out, make use of and contrive. Each of these must be in the manager's arsenal as he addresses the financing process.

In discussing the financing alternatives available, it is appropriate to begin with the system of financing projects in the State of Texas, a program mirrored to some degree in many other states in the U.S.A. The citizens of Texas have recently voted a Water Development Bond program of $1.2 billion. This program is an extension of the original Water Development Fund which was created by constitutional amendment in 1957. The 1957 amendment also created the Texas Water Development Board to manage the affairs of the Fund and also authorized the issuance of $200 million in general obligation State of Texas bonds for the purpose of financing water projects such as reservoirs, conveyance systems, wells, elevated and ground storage facilities.

Shortly thereafter, in 1962, the Constitution was amended again to provide for the purchase of storage projects by the state and also authorized the issuance of an additional $200 million in general obligation bonds by the Water Development Board for water projects.

In 1971, the Constitution was again amended to provide for the issuance of $200 million general obligation bonds by the Water Development Board for water quality enhancement purposes. One of the original purposes of this section of the Constitution, other than simply a means of providing funding for sewer projects, was to provide state matching money for Environmental Protection Agency grants. The regulations now require that local political subdivisions have to provide a match and many of the water quality enhancement loans currently made by the Board go to local entities as matching money.

To date, the Water Development Board has issued all of the original authorization of $600 million. This is an average annual participation by the state of more than $20 million. Over the past two years, the Board has committed an average of over $2 million per month for water and sewer projects. This will undoubtedly increase as the availability of Federal dollars for water and sewer projects decrease.

Another interesting aspect of the operation of the Development Fund is that the Board is statutorily required to make loans to "hardship" cases. This means political subdivisions which cannot sell bonds on the open market or cannot sell at a reasonable interest rate. In making these loans, the state actually purchases the bonds of local political subdivisions. The bond portfolio is made up of what most would consider not so desirable credits. To date, the Water Development Board has not had a default in principal and interest payments from any of these entities.

The Storage Acquisition Program is a program that is of intense interest to those entities with marginal projects. Essentially, what this program does is to allow the State to purchase an interest in a reservoir in order to optimize the development of the reservoir. A local political subdivision may have a need for additional surface water and will identify a site for a reservoir. The dilemma that the local entity finds itself in is that it cannot afford to construct a reservoir that will maximize that particular site. The state will purchase a portion of the reservoir which will enable the local entity to maximize the yield. The state will get its money back from these storage projects when demand is such that the water can be sold. The state has purchased storage in eight reservoirs and currently has an interest in five of these reservoirs, thus, three of them have now reached economic stability.

The role of the state in water resource development had its origin in 1957 and has continued an active, aggressive role for almost 30 years. The people of Texas have voted four times over the past 30 years to tax themselves to support water development. Important as the contribution and leadership of state government has been, it has still fallen upon local government to provide the major source of funds for the
Innovative financing techniques

development and quality control of its water resources. It is really at this point where management financing techniques have been most innovative.

The most basic form of financing is with the issue of general obligation bonds (GOs) wherein the pledge of a property tax is used to guarantee the payment of principal and interest. This method is used infrequently for water projects as the GO Bond capacity is usually reserved for nonrevenue producing governmental functions, such as streets, parks, public buildings and fire and police protection.

Grants and loans from the federal and state governments have served an important role in water and wastewater treatment programs. Despite their importance and contributions to water resource development and wastewater treatment, it has not, and cannot now be considered as a reliable and long-term source of capital. The vagaries of political trends makes dependence on the largesse of federal and state governments a doubtful resource for most local projects. We then must turn to the primary financing source - the Revenue Bond.

A "revenue" bond is defined as a long-term debt instrument issued by a political subdivision which is payable solely from enterprise earnings, that is, revenues derived from operation of the facility acquired or constructed from the bond proceeds. Revenue debt was originally used to finance canals and highways, but this mode of financing has been adapted to a wide variety of uses.

Revenue bond financing provides a convenient method of matching the capital costs of a facility to the ultimate user by amortizing the bond issue in annual installments over a period of years and paying debt service from user fees. Revenue debt may also be used to avoid the need for voter approval, to avoid encroachment upon constitutional or statutory debt limitations, or to facilitate financing that involves several municipal entities.

Although types of revenue bonds vary widely, there are certain basic features common to such issues. Each of them must be rated separately for each project. Rating agencies determine the credit value of each project and assign a rating which ultimately determines the rate of interest that will be paid to purchasers of the bonds. The value of a good rating is obviously very important, as it determines how bonds sell against each other in the market.

In rating revenue bonds, there are generally four key areas of concern:

- Legal factors
- Economic factors
- Administrative factors
- Financial factors

Because these factors overlap, no area can be examined in a vacuum but must be considered with respect to the overall picture of the credit. For example, while a particular issue may have a weak or vulnerable economic position, this factor can be mitigated to a large extent by strong administrative factors and/or a vigorous legal structure. The summation of all the aforementioned factors results in the determination of a revenue rating for each issue.

The first area of inquiry concerns the actual security behind the bond; that is, from what source is the issuer pledging to pay the bondholder? In most instances, pledged revenue will be derived from the facilities financed with the bond. For example, a water revenue bond used to construct a water treatment plant is typically secured by a pledge of net water revenues.

As stated earlier, the manager needs to ask several questions, one of which is economic - what is the strength of the guarantee? The primary reason for performing the economic analysis is to evaluate both the demand for the services offered within the service area and the ability of the ultimate user to pay for those services. The economic analysis basically asks two questions:

- What kind of demand can we realistically expect from the area served?
- What are the perceived weaknesses and vulnerabilities that could negatively impact the pledged revenue stream?

To answer the first question, basic economic trends are examined as well as trends related to the specific revenues pledged. When provided, feasibility studies or management projections are also helpful. While this analysis provides a meaningful snapshot of the past, the trend data generally provide a good picture of
at least the near future. One of the most important results of this study reflects the adequacy of the issuer's system for meeting future demand and the resulting need for future financing.

The question pertaining to weaknesses and vulnerabilities is equally important. In an area of declining economic activity, demand for a service will decrease resulting in reduced revenues and added pressure on rates and remaining payers to make up this shortfall. This problem could be relieved with the critical path method utilized in project planning by implementing a staged development program.

The importance of the administrative factors should not be underestimated, as this is the component of financing which often holds the "make-or-break" power. A financing with very solid legal, economic, and financial indicators can still get into trouble if management is not capable. Similarly, good management can, and often has, turned a troublesome situation around into a successful project. The rating agency does not look at the physical structure(s) to be provided, they want to know if it can be paid for in the prescribed time frame.

In evaluating the administrative factors, management structure is important. Also important is the susceptibility of political influences which may at times lead to decisions not in the best interests of the bondholder. Rate structure and policy are other key components of the administrative factors.

Rating agencies always look at more than just the projected source of revenue. Management's stability and dedication to maintaining sound economic policies over a long time frame are as equally important as the current balance sheet in assessing the financial factor.

Of signal importance in the Texas Water Development Board program is a new Bond Guarantee for local issuers. Under this program, those governmental units that qualify for the state guarantee will automatically receive the higher bond rating of the State of Texas. This will have a tremendous impact on the economics of a project as a result of interest savings.

In recent years, the condition of the infrastructure in the United States has become a matter of public concern. Inadequate water supply and aging distribution systems, outmoded sewage treatment facilities and deteriorating sewer pipes are among the most serious infrastructure problems facing states and municipalities. Efforts to better the situation are reflected in the high levels of expenditures on water and wastewater services and in capital improvement programs for water and sewer facilities.

Such expenditures and programs have traditionally been financed by general obligation debt and federal funds and grants. However, federal funding has decreased significantly in recent years, so that the financial burden of these ongoing services and capital improvement programs has fallen on the state and local governments. Furthermore, many cities have experienced deteriorating fiscal conditions due to population shifts, economic fluctuations and a decrease in federal funding, and overburdened municipal budgets have resulted in a slippage of general obligation ratings for many cities. Consequently, these cities cannot adequately finance the necessary improvements and expenditures of their water and sewer systems. To successfully overcome the problems of financing these increasing costs, new financing structures and techniques are being developed which allow water and sewer systems to operate as independent, self-supporting entities.

One solution to the problem which has had large application in recent years has been to shift the funding of water and sewer projects from the general obligation debt of the municipality to revenue bond financings of an independent water and/or sewer authority. Such an authority generally operates and finances the system, and assesses rates and charges which are sufficient to meet the operating and financing costs of the system. These charges, which are collected from users of the system, constitute the system's revenues and secure any bonds issued by the water/sewer authority. The authority is usually empowered to issue its own bonded debt with its own, independent credit rating and an independent bond security, both based on the system's revenues.

Revenue bond financing alleviates the debt burden on the municipality or state, which strengthens that entity's general obligation credit rating, and releases monies and funds reserved for the water/sewer system for other needs. Furthermore, by establishing a separate debt vehicle from a municipality's general obligation debt, the authority can often obtain a higher credit rating and establish a more flexible debt structure and bond ordinance than is permitted with general obligation debt financing. These benefits have spurred many municipalities and states to establish a separate self-sufficient authority to oversee and finance water and sewer systems, which have provided successful solutions to their individual infrastructure problems.

Bond bank financing has also become an increasingly popular financing vehicle for infrastructure needs across the country. Bond banks issue debt in their own name secured by user fees, revenue pledges, or tax revenues of communities participating in the bond bank, the proceeds of which are then distributed to
these communities for their water and sewer projects. The bond bank repays the bonds from loan payments made by the participating communities.

A bond bank enables several municipalities of different credit ratings and sizes to borrow money from the same source at similar borrowing rates. It benefits small communities by allowing them to borrow money at a lower interest cost because of the bond bank's superior credit rating and its greater market access, and by incurring fewer costs of issuance than if they issued debt individually. A bond bank also benefits larger and better-known communities by enabling them to borrow money for capital improvement purposes in smaller amounts than they might be willing to borrow on their own in the marketplace. If such a community were to issue its own debt to finance capital improvements on a frequent basis, the large supply could decrease the value of subsequent bond offerings. The bond bank provides a vehicle through which such a community can borrow money on a regular basis without entering the marketplace frequently itself.

The success of bond bank financing has led to the development of state revolving loan funds, which are similar to bond banks except that they are financed not only by bond proceeds but by state and federal appropriations as well. These appropriations enable a state revolving loan fund to leverage their bonded debt and thus provide below-market interest rate loans to the participating communities. These appropriations can also be used as security for the revolving loan fund's bonded debt. The following diagram illustrates the flow of monies in a state revolving loan fund.

Currently, 12 states have operational revolving loan funds for water and wastewater projects, and 21 states are either studying or have introduced legislation to operate a revolving loan fund. This financing vehicle has also become a popular and successful means of financing water and sewer systems.

The local administrator has more flexibility and can utilize a greater variety of financing techniques if there is no reliance on federal and state funds and the regulations that accompany them. I will describe two of those used by the Gulf Coast Waste Disposal Authority (Authority).

In the first instance, we were attempting to build a regional wastewater treatment plant for industrial dischargers having compatible wastes. We ultimately contracted with five industries with varying degrees of credit ratings. In rating an issue, the rating firms always look at the weakest link - or the worst credit in this case - in determining the overall rate. All of the industries wanted the best rate, of course, and two of the five would have pulled the rating down.

The solution to the problem was for the two major credits to underwrite the entire bond issue of $25 million. They then entered into a separate agreement that did not involve the Authority, but did pledge the security of the three other industries to pay their share of the debt service. A very simple solution evolved to each one's best interest. This contract was signed in 1972 and has created no problems and all debt service has been paid on time. In fact, we have added other users to the system and each of them must pay a proportionate share of debt service, which reduces the costs to the original five participants.

This type arrangement is much simpler when industries deal with each other and no public agencies are primary participants. We do have a municipal user now, but it is not a bond guarantor.

Another interesting arrangement has recently been made with six industries who have hazardous waste disposal problems. The Authority proposes to build a hazardous waste management center in our area.
There is extreme difficulty in getting permits for such facilities and we anticipate spending as much as $2 million to secure this one.

The industries were reluctant to commit large sums of money until there was assurance of obtaining a permit. By the same token, one must describe the wastes that will be incinerated, or otherwise treated, at the Center. Our solution to this "chicken or egg" dilemma was to enter into an option contract with each of them. They paid a portion of their share of the permit costs for the right to "buy in" after the permit issues. As a prospective participant with disposal rights, they were then agreeable to producing their waste profile for permitting purposes.

An interesting sidelight to this project is the method we are using to guarantee debt service and operations. We plan to have more capacity than will be utilized by the industrial participants, which we will market to other users. There is an excellent potential for profit.

After a permit is granted, we will enter into a "shortfall" agreement with each, based on its ratio to the entire system. Any year that income falls below our needs, the industry will have to pay their share of the "shortfall." If there is a net of income over needs, the pro rata share of the net will be credited to each. We believe this to be an excellent solution to a difficult contract and permitting problem.

There is a trend in the U.S. towards the concept of privatization. This merely means that a municipality - or state agency - contracts with a private entrepreneur to provide a service that has been, or normally would be, provided by the governmental unit. The contract is for a fixed term and requires a certain standard of performance. In turn the governmental unit will agree to pay a fixed rate for satisfactory service. This does not create a debt obligation on the part of the municipality, leaving some additional room to issue bonds for other public needs that are not amenable to privatization.

Benefits to private industry will vary in each case but generally they are able to leverage a 20 percent investment into a lucrative tax writeoff. They also expect to make some profit on the operations and may be able to use equipment or expertise that is either patented or proprietary that could not otherwise be sold to a municipality under public bidding processes.

It appears that privatization will flourish in the near term as cities and other units of government seek to reduce taxes and maintain good public services at the same time. In most cases, the charges will be paid by service fees, which may even be collected by the private company.

The Authority is currently developing a modified version of privatization on two projects. We will be the third party between private industry and the public agency. In one case, we propose to build a waste-to-energy project for two cities, utilizing a private company for actual operations. The other situation is for utilization of a patented process, called Vertox, for municipal sludge disposal.

In both cases, the Authority will contract with the cities for service and collect the fees. We will then contract with the private industries to provide the service. The difference here is that the Authority will be responsible to the cities for the service. If the private operators are unable to perform, we are still responsible for the service and must find another means of providing it.

I trust that the majority of this audience is technically oriented. Your job is to perceive needs, develop plans and get it done. In the current international economic climate, you are probably going to have to add the ingredient of patience to the "get it done" phase. By understanding this phenomenon and building fail-safe points into your planning, it will make for a smoother relationship between the parties in the project mode and the financing mode.

In the final analysis, if there is no money, there is no project. It is therefore clearly in the interests of the project coordinator to keep the administrator or finance manager well informed as to the planning, engineering and construction schedules. Of particular importance is to advise them of any significant changes that might impact the financing schedule. Hopefully, the administrator will reciprocate by advising the project manager of factors that might impact the proposed project financing schedule. A cooperative effort in the early stages will greatly enhance the chances for a successful project.

ACKNOWLEDGMENT

The contributions of M. Reginald Arnold, II, Development Fund Manager, Texas Water Development Board, are gratefully appreciated.

REFERENCES

Governmental Finance - Up-to-date debt management, June, 1984.
Standard & Poor's - Rating Guide.
Standard & Poor's - Credit Overview