V. Institutional and Financial Arrangements

Implementation of an integrated solid waste management system will require a somewhat complex institutional arrangement that has the legal, fiscal and physical ability and powers to implement the various facility, programming, coordination, regulatory and financial aspects of the system.

A. Institutional Assessment/Evaluation of Alternatives

There are several potential alternative institutional arrangements capable of implementing such a complex system.

1. County Ownership And Operation - District. NYS County Law Section 226-b authorizes the county as a legislative body to manage and dispose of solid waste within its jurisdiction. Facilities to accomplish this can be built and operated through the county general fund, with revenues generated on an ad valorem taxation basis. The facilities can be managed by a county, an independent county department, or as is typically the case, by a division of the county public works or highway department. The principal disadvantage to this approach is that all actions relative to solid waste management must be channeled through and acted on by the entire County Legislature. Furthermore, budget and cost data for solid waste management maybe mixed with highway or other DPW funds thereby causing financial accountability problems.

Article 5-A of the County Law also provides that a county may establish a district to manage solid waste within its jurisdiction, as an administrative unit or agent of the county. Establishment of such a district has the advantage of placing solid waste management on an equal, or greater, footing with other county departments. It allows for a specialized staff that has the expertise and power to plan and administer solid waste management facilities. The district is governed by an administrative board which is appointed by the County Executive and confirmed by the County Legislature. This board is granted certain powers and duties to promulgate rules and regulations for the operation and management of its facilities, and the ability to establish a budget and set user fees to cover the operation and maintenance costs of its facilities.

While each of these options has its own advantages and disadvantages, so does public/county ownership and operation in general. First, the county has the ability to acquire lands through its powers of eminent domain. Further, the county is not subject to local municipal land use regulations if the project substantially advances a public good or purpose. Each of these factors are critical to the siting of solid waste

management facilities. Another advantage to a truly integrated management system is the authority of the county government to pass uniform laws to address solid waste management throughout its jurisdiction. Finally, the county's bonding ability generally results in lower costs for facilities through packaging of multiple projects into single, larger, less expensive bonds and the lower interest rates that they enjoy.

There are also ceratin disadvantages to a county in managing solid waste facilities. These include additional administrative and legal responsibilities in the form of compliance with environmental construction, operating, monitoring and closure regulations. Finally, ownership and operation of solid waste management facilities could place the county in a competitive situation with private sector vendors.

2. County Solid Waste Management Authority. Article 9 of the NYS Public Authorities Law allows the establishment of a Public Authority by act of the state legislature to manage solid waste. This law grants Authorities a broad scope of powers independent of the County Legislature, including the power to independently bond for capital improvements and retire such debt through revenues. In Chemung County, the County Charter also requires that the consideration of a Public Authority be put before the voters in a referendum.

A solid waste management authority is a local purpose government. It is governed by a board which is appointed by the county. Authorities are not subject to the statutory debt constraints imposed by state statute on general obligation bonds. One key advantage to the Authority is their ability to issue revenue bonds. With the exception of this independent bonding power, the general powers of an Authority do not vary significantly from a County Solid Waste Management District. Each of these bodies has the power to implement an integrated solid waste management system.

Chemung County considered establishing a Solid Waste Management Authority at the out-set of its involvement in solid waste management in the early 1970's. At that time, the County Legislature had serious reservations regarding the autonomous nature of the Authority and opted to establish a County District. The CCSWMD has successfully operated the county's solid waste management facilities since its inception. The Chemung County Legislature has never failed to provide the capital financing for new or expanded facilities as requested by the CCSWMD.

3. Joint County And Local Municipal Ownership. A third alternative institutional approach allowable under NYS General Municipal Law involves the county entering into intermunicipal agreements with one or more municipalities. Under this approach, the county and the participating municipalities would jointly construct and operate various solid waste management facilities. This alternative would create a partnership in solid waste management, rather than a service provider and client

relationship and as a result, increasing the local governments' level of participation, and presumably, level of support and commitment to the success of the solid waste management efforts. It allows for an allocation of costs in the inter-municipal agreement based on relative contributions of solid waste, waste composition, growth potential or other criteria. It will also spread the financial and environmental risks among a number of benefiting communities.

The one drawback to this approach is that it assumes a direct municipal involvement in solid waste management on the part of a town, village or city; that the local municipality provides such service directly to their constituents. Such is not the case in Chemung County. The county has been the sole manager of solid waste for the past eighteen years. There are no municipal solid waste management or disposal facilities in operation. With the exception of the City of Elmira, even the collection of solid waste is handled by private vendors. There are, in effect, no advantages to the municipalities to enter into such agreements. Further, there are potential disadvantages to the county in that such an approach would necessitate a lower municipal level review and consensus/approval of actions.

4. Joint County And Private Ventures. Under the provisions of the General Municipal Law, the county can enter into joint ventures with private firms to own and/or operate all or portions of various solid waste management facilities. This approach can take a variety of institutional relationships including the following:

- County ownership of land and structures - process equipment owned and/or operated by private vendor
- County ownership of land - private vendor constructs, owns and operates facilities
- County ownership of land, structures and equipment - private vendor operates facilities

The advantages and disadvantages to this approach also vary depending upon the actual arrangement. The advantages to such an arrangement for a private vendor include the fact that, in general, the county can facilitate the acquisition and consolidation of lands under its eminent domain powers. Additionally, the county has the power to supersede local land use controls, if for a substantial public purpose, and thus facilitate the siting of needed solid waste management facilities. Further, the county has access to alternative funding mechanisms such as general obligation bonds. The advantages to the county of contracting in some fashion with the private vendors include, the potential of acquiring proprietary process technology, relief of daily operation and maintenance responsibilities, acquisition of experience/ expertise, economies of scale/cost savings and a long-term service commitment.

There are also disadvantages in that such a long-term contractual arrangement could, by its nature, limit the flexibility of the county to respond to changing conditions. Also, the private vendor could seek to reduce the financial risks through increased contractual costs.

5. Private Ownership And Operation. Private ownership and operation of solid waste management facilities is characterized by a diversity in size, scale and scope of operations; from small individual scrap salvage firms to major national corporations. In assessing the solid waste stream in the county, it appears that there are some aspects of this stream that are, could or perhaps should be managed by the private sector. Local firms and/or institutions may be willing and capable of accepting and managing wastes with a minimum of county involvement. One such example is infectious wastes. The two hospitals operating in the county currently maintain private incinerators for the disposal of infectious wastes. One of the facilities even accepts these wastes for disposal from private physicians. Each of these facilities is pursuing either an upgraded incinerator (as necessary to meet new more stringent air quality regulations) or joint contracting with other state hospitals for the ultimate disposal of these highly specialized wastes.

A second example of private ownership is Central Recycling Co-op, a private firm that operates a returnable container redemption facility. This facility has been in operation for over five years and effectively and efficiently handles the returnable deposit (bottle bill) containers that are not a portion of the waste stream. The CCSWMD will contract with this firm, in the operation of their MRF, to handle such containers that are removed from the waste stream at the MRF and milling station.

There are companies on the national level that provide private ownership and management of solid waste facilities. They can provide established technical and managerial expertise to successfully initiate and maintain facilities. The potential benefits associated with private ownership and operation of solid waste management facilities may include the following:

- Accelerated completion time frames - through design build contracting, expertise in permitting and regulatory compliance, etc.
- Expedited capital financing
- Cost saving incentives - private financial responsibility
- Economies of scale associated with a large management firm
- Avoidance of direct responsibility and liability for on-going environmental regulatory compliance

While it does appear that there are certain aspects of the county's solid waste stream that can and should be effectively managed by the private sector, in order to provide for an effective and reliable, integrated solid waste management approach, one that will of necessity include mixed municipal solid waste, the county will need to play a direct role in the development and on-going operation of these facilities. The county should continually evaluate its solid waste stream to determine those elements that might most effectively be managed by the private sector.

As a result of the county's long standing involvement in solid waste management, Chemung County currently owns and operates all solid waste disposal and management facilities under its jurisdiction. There are no other public (municipal) or private integrated solid waste management facilities in operation and/or planned for the county. Although the authority exists for the county and/or municipalities to enter into inter-municipal agreements that could satisfy the institutional requirements of an integrated system, with no municipal entities now involved in solid waste management, the county is the most appropriate level of government to address such an integrated solid waste management system. This somewhat limits the field of alternative institutional arrangements to county ownership and operation via a district or authority, and/or private ownership and operation.

A similar argument can be made regarding private involvement versus continued county management. The county did recently evaluate the appropriateness of contracting for services/operation of a portion of its solid waste management facilities, namely the MRF. However, given their long standing and successful track record with the operation of the milling station, the policy decision was made to operate this facility in house with county rather than private forces. The fact that the county currently owns all of the solid waste management facilities also significantly reduces the opportunity for return to a private vendor by limiting their contract to service/operation with no potential for charging facility ownership costs.

This leaves the only potentially appropriate option to the existing county ownership and operation via the CCSWMD to be establishment of a County Authority. Such an authority would be an autonomous agent, not an agent or arm of the County Legislature as is the current district. The only significant difference in powers between the existing district management approach and an authority is the authority's ability to bond directly, without having legislative involvement. Currently, the CCSWMD must now request that the Chemung County Legislature bond any new and/or increase in facilities. Further, to establish such an authority would require a referendum under County Charter and action by the state legislature. Enactment of an authority was considered as an alternative at the time that the district was established. At that time, the County Legislature had serious reservations about

creating such an autonomous body. Their final decision was to establish the county district which would act as an agent or arm of the legislature.

In the CCSWMD's eighteen year history, the County Legislature has never failed to provide the bonds/financing necessary to meet the district's operational and capital improvement needs. Thus, this power does not appear to be so critical to the success of the integrated system's implementation to warrant a change in the management scheme. Especially a change that would not likely be politically acceptable to the County Legislature.

B. *Financial Assessment/Evaluation of Alternatives*

All solid waste strategies involve two financial issues; sources of capital funding - to construct facilities, and operation and maintenance funds including debt service cost allocation among those benefiting from the project. To be effective, an integrated solid waste management plan must address each of these financial issues as discussed below.

1. General Obligation Bonds. General obligation bonds are a frequently used vehicle for financing public improvements. Under this bond, the full faith and credit of the issuing municipality is pledged to the bond repayment. The local government's ability to levy property taxes may be used to meet the bond obligations regardless of revenues to be generated by or the performance of the facility being financed by the bonds. This gives the municipality an ad valorem basis of repayment and keeps the risk lower and hence usually results in a lower interest rate.

Other aspects of general obligation bonds may impact their applicability with regard to solid waste management facilities. They are generally subject to a county's constitutional debt limit; an amount of total outstanding debt which may equal no more than seven percent of the assessed valuation within the issuing jurisdiction. The costs of solid waste management facilities could restrict the county's ability to issue debt for other necessary capital projects. Also, state law limits the county's flexibility in structuring debt under general obligation bonds. Debt must be structured such that the highest annual debt burden occurs in the initial years. This may place a burden on a new facility whereby higher debt service costs occur when it is operating below design capacity and with fewer users to offset the costs.

2. Revenue Bonds. Revenue bonds are another capital funding mechanism. However, unlike general obligation bonds, they do not have the full faith and credit of the issuing municipality. Repayment is assumed to come solely from the net revenues available from the project funded. As the repayment is linked directly to the performance of the financed facility, interest rates tend to be somewhat higher than those associated with general obligation bonds.

Revenue bonds also have certain limitations which may impact their applicability in financing solid waste management facilities. This type of bond may only be issued to a public authority, which must be created through a special state legislative action.

Revenue bonds may also give a county certain flexibility in financing. They are not considered to be a direct obligation of the issuing government and therefore do not effect its debt limitations. Also, debt repayment may be structured in such a manner as to limit the initial costs of facility operation, thereby allowing deferral of repayment until full facility operation and a larger number of users is available to share the cost.

3. Tax Exempt Industrial Development Bonds. Industrial development bonds (IDB's) are a form of revenue bond issued by an industrial development agency on behalf of a municipality or private enterprise that will provide some public good or service. Such public good or service generally takes the form of new jobs, additional tax base and/or sales tax revenues. The size, cost and nature of the facilities to be financed will dictate whether the issuing agency is the County IDA or the NYS Department of Economic Development.

4. Lease Financing. As a final capital financing option, a county may, under Sections 103 and 120w of the General Municipal Law, obtain indirect capital financing for solid waste management facilities via lease or purchase lease agreements. Under this arrangement, a private firm or corporation would finance and build the facilities and in turn lease them to the county. Such leases would not impact the county's debt limit, and their terms could be tailored to the projected/anticipated revenue stream associated with the facilities. All such agreements are subject to public contracting laws/limitations and local government financial management regulations.

While all of these are viable financing mechanisms for the county's use in capital projects, general obligation bonds have proved to be the best option in past projects for Chemung County. This is due, in part, to the inherent low risk nature of these bonds, the county's excellent bond rating and low debt ratio. All these factors combine to result in the county's ability to procure low interest rates for its bonds. In order to access the other public bonding mechanisms, it would be necessary for the county to establish a Public Authority through an act of the state legislature and/or to find a private investor who is willing and able to construct new facilities.

As noted earlier, the CCSWMD owns and operates all solid waste management facilities in the county. Over the past eighteen years, the district has been able to obtain bonding from the county for over 25 million dollars in facility improvements and/or expansions. In this time, the district has effectively operated and managed these facilities as a form of an integrated solid waste management system. The district also has the authority necessary to implement additional facilities and programs as warranted. Absent major

changes in this situation, the county will continue to use general obligation bonds to finance capital expenditures and thus utilize an ad valorem tax to retire debt.

The second aspect of financing relates to the cost allocation and recovery methods for operation and maintenance. Cost allocation and recovery financing methodology relates primarily to non-capital costs. The activities covered by such items include, operation and maintenance costs of all facilities, administrative costs, reserve fund costs for closure and post-closure of landfill facilities and debt service payments. For an integrated solid waste management system to function efficiently, it is important that these costs be attributed equitably among the users of the system so that all users (those benefitting from the system) pay their fair share of its costs.

There are three basic means of assessing or allocating these costs; an ad valorem tax basis, a user or tipping fee structure, or a combination of the two. While the ad valorem tax basis may be the easiest methodology to administer, it may not be equitable in that the costs distribution bears no relationship to the solid waste system use. This is particularly true for those entities that received past tax reductions as a development incentive. Furthermore, an ad valorem tax does not encourage any form of waste reduction, recycling or reuse.

A user charge or tipping fee, can be more equitable, if it has some basis in a unit of measure of use, whether it be volume of solid waste, weight or type of generator. Such a fee methodology is not only equitable, but it indirectly encourages waste reduction, reuse and/or recycling. This user or tipping fee charge system can also be made to encourage recycling by providing fee incentives (i.e. no charge or fee) to dispose recyclable items.

Finally, it is also possible to create an equitable cost allocation structure using a combination of ad valorem tax and user fee methodologies. The capital construction costs/debt service reduction can be equitably born by an ad valorem tax structure, while the actual operation and maintenance costs, etc. are paid by revenues from a user fee structure. This approach allows all those that could potentially benefit from the system to pay a share of its capital costs, while only those actually using the system would pay a proportionate share of its operational costs.

This combined approach has been used by Chemung County since the onset of its involvement in solid waste management. It has been found to be most effective in maintaining and financing on-going solid waste management capital facilities and operations in the county. The premise of the CCSWMD is that operation and maintenance costs must be assessed equitably among the various users of the system. To this end, the county has employed a weight based user charge rate structure. Weigh scales are in place at the milling station and the landfill to weigh wastes as they enter the facilities. Each user is billed at the rate per weight of material delivered to the facilities.

The total costs allocated within the Chemung County Integrated Solid Waste Management System will include costs for the operation and maintenance of all facilities, administrative costs, reserve fund costs for closure and post closure of landfill facilities, and debt service repayment costs. All but the debt service costs will continue to be allocated on a user fee basis, that is weight based and directly linked to the benefit derived by the user. Capital expenditures and associated debt service will be covered through general obligation bond sales and primarily retired through an ad valorem tax.

Finally it should be noted that Chemung County has made a significant financial commitment towards recycling. In addition to approving a $4.5 Million bond issue for the MRF, the CCSWMD has also set a policy to encourage recycling by assessing no tipping fee charges for recyclable materials.

C. *Existing 1991 CCSWMD Budget*

1. Revenues. As previously indicated, the major source of revenues for the district's budget come from ad valorem taxes and tipping fees. Other sources of revenue include sale of recyclables, transfer of unexpended funds, earnings on investments, state grants (such as for this study) and other revenue. A summary of the revenue for the CCSWMD's 1991 budget is presented below:

REVENUE SOURCE	BUDGET AMOUNT
Ad Valorem Taxes	$1,089,246
Tonnage & Garbage Fees	2,550,000
Sale of Recyclables	200,000
Other Funds	300,000
Transfer of Unexpended Funds	871,322
Earnings on Investments	40,000
State Aid	25,000
TOTAL REVENUES	$5,125,568

Currently the district disposes some 105,000 tons of waste per year including foundry sand and sewage sludge. Hence, the average cost per ton to manage this waste is slightly less than $49 per ton.

2. Expenses. The 1991 CCSWMD budget includes the following appropriations:

APPROPRIATION	BUDGET AMOUNT
Personal Services	$1,249,595
Equipment	387,700
Contractual	1,921,094
Debt Service Including Inter-Fund Transfer	1,567,179
TOTAL APPROPRIATIONS	**$5,125,568**

The appropriations are further broken down in the budget by the type of expense. Administrative expense includes salaries for management and office staff, equipment procurement and contractual which covers such items as office expenses, insurance, workers compensation, fringe benefits, consultant contracts etc. A summary of the administrative expense budget is shown below:

ADMINISTRATIVE EXPENSE	BUDGET AMOUNT
Personal Services	$ 135,938
Equipment	230,000
Contractual	356,229
TOTAL	**$ 722,167**

A second appropriation item that is delineated in the budget is transfer station expense. This includes salaries for transfer station attendants and various contractual items including transfer of these wastes by private contractor to the central milling station at Lake Street for processing. A summary of the transfer station expenses is as follows:

TRANSFER STATION EXPESNES	BUDGET AMOUNT
Personal Services	$ 65,000
Contractual	63,986
TOTAL	**$ 128,986**

Another major appropriation category that is itemized in the annual budget is landfill expense. This includes salaries for management, operators and laborers at the landfill, equipment procurement and contractual expenses such as equipment rentals and maintenance, utilities, fuel and oil, extra help, lab fees for monitoring wells, fringe benefits,

leachate disposal and an annual $75,000 contribution for future site closure. A summary of these expenses is presented below.

LANDFILL EXPENSES	BUDGET AMOUNT
Personal Services	$ 449,995
Equipment	150,000
Contractual	633,300
TOTAL	$1,233,295

Milling station expenses are also broken down for salaries of equipment operators, drivers and laborers. Contracted categories include equipment maintenance, utilities, fuel and oil, extra help, truck repairs, mill supplies, fringe benefits and tire replacements. A summary of these milling station expenses are shown below.

MILLING STATION EXPENSES	BUDGET AMOUNT
Personal Services	$ 385,609
Contractual	503,332
TOTAL	$ 888,941

The recycling portion of the budget assumed a six or seven month operational period for the MRF. Its budget includes new positions to operate the MRF in 1991. Contracted recycling expenses include equipment maintenance, purchase of recycling buckets, public education advertising, fringe benefits, startup contract for the MRF etc. A summary of this budget component follows:

RECYCLING EXPENSES	BUDGET AMOUNT
Personal Services	$ 213,053
Equipment	7,700
Contractual	364,247
TOTAL	$ 585,000

The final appropriation expense item is debt service payments on bonds. Currently the district appropriates $1,567,179 per year for debt service payments of which $806,000 is for principal payments. This budget does not include any bond payments for the $4.5 Million MRF. The major portion of the current debt service is for the landfill expansion projects which during the past three years have totaled some $6 Million.

Presented in Table V-1 is a summary of the CCSWMD's appropriations budget for 1991. As seen on this table, debt service payment is the largest category representing 30.6% of the budget followed by landfill, milling station, administrative and recycling expenses.

Table V-1. Summary of CCSWMD's 1991 Appropriations Budget

Appropriation	Budgeted amount($)	% of budget
Administrative Expense	$ 722,167	14.1
Transfer Station Expense	128,986	2.5
Landfill Expense	1,233,295	24.1
Milling Station Expense	888,941	17.3
Recycling Expense	585,000	11.4
Debt Service	1,567,179	30.6
TOTAL 1991 BUDGET	**$5,125,568**	**100.0**