ENVIRONMENTAL FINANCIAL ADVISORY BOARD

September 22, 2014

Mr. Ken Kopocis
Deputy Assistant Administrator
Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Mr. Kopocis:

The U.S. Environmental Protection Agency's ("EPA") Office of Wastewater Management requested that EPA's Environmental Financial Advisory Board ("EFAB") review its March 4, 2012 draft "Financial Capability Assessment Framework" (the "Draft Framework") to ensure that this document identifies appropriate examples of additional information that communities could provide to supplement the findings of EPA's two-part assessment process identified in the "Combined Sewer Overflows: Guidance for Financial Capability Assessment and Schedule Development" report (EPA 832-B-97-004; also referred to as the "1997 Guidance") as well as the information in EPA's 2012 "Integrated Municipal Stormwater and Wastewater Planning Approach Framework" document. Three specific questions were asked:

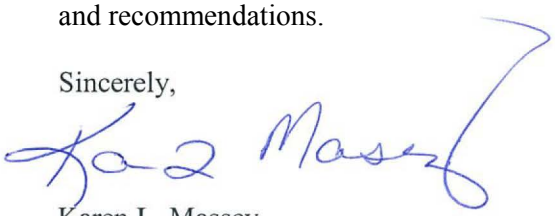
> "The utility of each type of additional information identified in the draft framework as well as potential challenges and concerns associated with the information;
>
> Recommendations of other metrics that could be considered for inclusion in the draft framework as a means to supplement the findings of the two part assessment process identified in the 1997 guidance; and
>
> Recommendations on how the additional information identified in the draft framework can be utilized to supplement the two part assessment process identified in the 1997 guidance."

Since the May 2014 request, EFAB has formed a workgroup, which has reviewed the request, analyzed various matters and developed the enclosed report. In response to the first question, we evaluated the existing framework (including both the residential indicators as well as the permittee financial capability indicators) and the examples of information. For the second question, we recommended ten (10) additional metrics – in conjunction with the existing metrics – for consideration in the financial analysis. For the third question, we proposed that two (2) of our recommended metrics be added to the current "Debt" indicator category and the remaining eight (8) recommended metrics be categorized into three new categories: (i) "Liquidity," (ii) "System Size/Diversity" and (iii) "Operational Strength." Furthermore, we recommend that the following qualitative factors be considered: (i) extraordinary considerations, (ii) additional system priorities and environmental/regulatory matters and (iii) small system considerations. This report has been approved by the EFAB membership.

EFAB commends EPA for developing the Draft Framework to improve clarity on acceptable approaches and methods to assess a permittee's financial capability and evaluate an appropriate schedule for compliance. With this report, our goal is to assist EPA in achieving this important objective.

EFAB also appreciates the continuing opportunity to provide financial advisory assistance to EPA on issues of national importance and looks forward to your response to our enclosed report and recommendations.

Sincerely,



Karen L. Massey
Chair, EFAB

Enclosure
cc: Gina McCarthy, Administrator, EPA
David Bloom, Acting Chief Financial Officer, OCFO
Michael Shapiro, EFAB Designated Federal Officer
Andrew Sawyers, Director, Office of Wastewater Management, OW

EFAB Analysis and Recommendations on: Draft Financial Capability Assessment Framework

September 16, 2014

Financial Capability Assessment Framework Analysis

I. EXECUTIVE SUMMARY

A. Introduction

This Report of Recommendations builds upon the prior Environmental Financial Advisory Board ("EFAB") recommendations to the United States Environmental Protection Agency (the "Agency" or "EPA") in May of 2007. These recommendations were requested by EPA as they considered whether to change the 1997 "Combined Sewer Overflows: Guidance for Financial Capability Assessment and Schedule Development" ("1997 Guidance"). In March of 2014, EPA developed a draft Financial Capability Assessment Framework ("Draft Framework") that built upon the 1997 Guidance and a 2012 document titled, "Integrated Municipal Stormwater and Wastewater Planning Approach Framework." The Agency requested that EFAB review the Draft Framework and provide comments. The specific charge from the Agency to EFAB included a review of: (i) the utility of each type of information identified in the Draft Framework as well as potential challenges and concerns associated with the information, (ii) recommendations of other metrics that could be considered for inclusion in the Draft Framework as a means to supplement the findings of the two-part assessment process identified in the 1997 Guidance and (iii) recommendations on how the additional information identified in the Draft Framework can be utilized to supplement the two part assessment process.

EFAB commends the Agency for developing the Draft Framework to improve clarity on acceptable approaches and methods to assess a permittee's financial capability and evaluate an appropriate time schedule for compliance. Much of the aim of the Draft Framework is a positive development for the regulated community/permittees. However, the Draft Framework continues to rely on the earlier 1997 Guidance, which we believe has some significant concerns related to the two-part test. We recommend that EPA use the Draft Framework as an opportunity to make revisions to the 1997 Guidance.

B. Analysis and Recommendations

Residential Indicator Analysis and Recommended Changes. EFAB believes that an analysis based primarily on the Median Household Income ("MHI") does not completely capture all important dimensions of financial capability and is frequently an oversimplification of ratepayer affordability. Thus, our recommended additions to this analysis include the following:

- ***Considering the Cost of Living and Any Income-Based Transfer Payments;***
- ***Including Drinking Water and Stormwater User Charges, Other Utility Rates/Fees, and Other Dedicated Charges; and***
- ***Considering the Housing Cost Burden of the Population That Is Renting or Owning.***

Permittee Financial Capability Indicators Analysis and Recommendations. Overall, EFAB believes that the three categories and six indicators of financial strength ("FS") provide useful information. However, we note that these indicators are more aligned with credit characteristics of obligations secured by property tax collections rather than user revenues and impact fees, which support most utility systems. (Please see the "Recommendations of Other Metrics" section below for our user revenue/impact fee metric recommendations.) Thus, we have provided recommendations below on five of the six indicators for utility systems supported by user revenues and impact fees:

- ***Bond Ratings (FS-1)*** *alone should not be a basis for evaluating financial capability since there is a positive ratings bias towards larger systems, and many smaller systems are unrated;*

- ***Overall Net Debt as a Percentage of Full Market Property Value (FS-2)*** *should include system "revenue debt" and other relevant indebtedness (such as unfunded pension liabilities and other post-employment benefit obligations);*
- ***A Community's Unemployment Rate (FS-3)*** *should also be analyzed on an absolute basis;*
- ***Property Tax Revenue Collection Rate (FS-5)*** *should be considered, as well as the system's revenue collection rate; and*
- ***Property Taxes as a Percentage of Full Market Property Value (FS-6)*** *should include wage taxes and sales taxes (which can be significant in certain jurisdictions), as well as all utility system user charges.*

Recommendations of Other Metrics. EFAB recommends several additional metrics for consideration in assessing financial capability. It is our position that these additional quantitative metrics, which we consider of "high" importance – in conjunction with the existing metrics – properly recognize the revenue-backed structure for most utility systems as well as measure the financial strength of the utility system. These additional metrics are summarized below.

Recommended Financial and Debt Metrics

LIQUIDITY	DEBT
• Days of Cash on Hand • Days of Working Capital	• Debt Ratio • Debt Per Customer
SYSTEM SIZE/DIVERSITY	**OPERATIONAL STRENGTH**
• Total Annual Operating Revenues • Number of Customers • Top Ten Customers as a Percentage of Total Revenues	• Overall Debt Service Coverage • Maximum Annual Debt Service ("MADS") Coverage • Combined Average Annual Utility Bill as Percentage of MHI

Additionally, the existing and recommended metrics should be evaluated not only on a current basis but also on a historical and, more importantly, projected basis.

Recommendations on How the Additional Information can be Utilized to Supplement the Two-Part Assessment Process. For the second part of the two-part financial assessment under the 1997 Guidance (i.e., analyzing the financial strength of the permittee), EFAB recommends that:

- **The Current Debt Indicator Category be Amended to Include the *Debt Ratio* and *Debt Per Customer* Metrics**; and

- **Categories for "Liquidity," "System Size/Diversity" and "Operational Strength" be Created to Include the Other Recommended Metrics (as categorized above): *Days of Cash on Hand, Days of Working Capital, Total Annual Operating Revenues, Number of Customers, Top Ten Customers as a Percentage of Total Revenues, Overall Debt Service Coverage, MADS Coverage, and Combined Average Annual Utility Bill as Percentage of MHI.***

C. Additional Qualitative Considerations

EFAB further recommends that several qualitative additional considerations be factored into EPA's overall analysis, including: (i) ***extraordinary considerations*** – which include municipal bankruptcies, natural disasters, adverse general financial market conditions, individual utility credit conditions, and legal and statutory considerations, (ii) ***additional system priorities and environmental/regulatory matters*** – which

involve incorporating the broader list of water and wastewater capital investment requirements from a operating and maintenance perspective and an environmental/regulatory perspective (such as stormwater/flood control, air quality, solid waste, superfund, greenhouse gas emission, urban heat factor mitigation and fracking) as well as the impact of these required projects as it relates to the ratepayers' financial capability, and (iii) ***small system considerations*** – since small systems often have additional challenges related to the small communities they serve, such as managerial competency, staffing consistency and data availability (i.e., providing complete and accurate data for the baseline 1997 Guidance indicators).

II. INTRODUCTION

A. Previous/Related EPA Guidance.

EPA issued the 1997 Guidance to provide a nationally consistent approach to allow entities to negotiate a reasonable and effective schedule for compliance with the Clean Water Act ("CWA") combined sewer overflow ("CSO") requirements. This document included a two-part test to determine the financial capabilities of the community:

- The first part of the test looked at the financial burden to individual customers, also referred to as the Residential Indicator ("RI"). The RI was based on a single metric – the cost per household as a percent of MHI.

- The second part of the test looked at the permittee's financial strength, which was evaluated based on six metrics in three general categories: (i) debt indicators, (ii) socioeconomic indicators, and (iii) financial management indicators.

The results of the two-part test were taken together and placed on a matrix to determine whether the community's financial burden was low, medium or high.

In 2006, the EPA's Director of the Office of Wastewater Management made a presentation to EFAB indicating that EPA was considering changes to the policy and asked EFAB to review the 1997 Guidance and provide comments to the Agency. An EFAB workgroup was formed and provided comments to the Agency in May of 2007. The basic comments expressed to the Agency were as follows:

- There were merits to having a two-part financial test that considered both the household financial burden and the permittee financial burden;

- The household indicator did not fully consider the breadth of factors that impact household finances, particularly in communities with a high proportion of disadvantaged customers;

- The heavy reliance on MHI may disguise the impacts of income distribution and poverty for many jurisdictions;

- In considering the permittee's financial condition, the 1997 Guidance relied on a limited definition of cost that excluded the impact of certain management strategies, such as asset management, proactive cash flow planning, and rate setting;

- Relying so heavily on financial burdens to residential customers might miss financial burdens placed on commercial or industrial customers who might be essential to the financial health of the utility;

- There might be good reasons to consider not only the total cost of the CSO project but also the cost of the rest of the water pollution control projects being borne by the community; and

- EPA should consider some of the advances in managerial capacity that have taken place since the document was written in 1997.

EFAB received a response back from EPA's Assistant Administrator indicating that the comments would be taken into consideration as EPA reviewed the 1997 Guidance and determined whether to make revisions to it.

In March of 2014, EPA developed the Draft Framework that built upon the 1997 Guidance and a 2012 document, titled, "Integrated Municipal Stormwater and Wastewater Planning Approach Framework". The Draft Framework was intended to clarify some aspects of the 1997 Guidance and to identify examples of additional information that could be submitted by communities to supplement the two-part financial assessment included in the 1997 Guidance. The additional information provided an opportunity for communities to develop a more comprehensive "picture" of their financial health during the process of considering the reasonable and effective schedule for compliance. EPA asked EFAB to review this Draft Framework, and that request is provided below in Section II.B.

B. Charge from the Office of Wastewater Management.

EPA's Office of Wastewater Management asked EFAB to review the March 4, 2014 Draft Framework and provide comment and insight on three specific issues.

- The utility of each type of information identified in the Draft Framework as well as potential challenges and concerns associated with the information;

- Recommendations of other metrics that could be considered for inclusion in the Draft Framework as a means to supplement the findings of the two-part assessment process identified in the 1997 Guidance; and

- Recommendations on how the additional information identified in the Draft Framework can be utilized to supplement the two-part assessment process identified in the 1997 Guidance.

C. Scope of Analysis.

While EFAB wishes to be mindful of the three specific charge questions provided by EPA, we believe there is a need to broaden our review in order to provide EPA with as comprehensive an assessment as possible. The scope of our analysis includes the following:

- Seeking Additional Considerations Beyond the Two-Part Approach: While the two-part approach has merit, we wanted to offer comment that goes beyond this approach and offers some alternatives or additions to it.

- Avoiding "Black Box"/Formulaic Approach: EFAB felt very strongly that we needed to avoid a black box or formulaic approach. Communities are site specific, and each one has its own unique set of circumstances. It is important that this aspect be considered within the Draft Framework.

- Honor Good Management Practice: We wanted to ensure that any decisions or policies would not negatively penalize a system, which is incorporating good management practice. It is important that EPA policies do not incentivize the wrong behavior.

III. ANALYSIS AND RECOMMENDATIONS

A. Utility of Additional Information in Draft Framework, Challenges and Concerns.

In order to provide the appropriate context for our comments and because an assessment of the "additional information" is not easily isolated from the existing analytical framework, we begin our analysis with the framework developed in the 1997 Guidance and the "Principles to Guide Financial Capability Assessment" section of the Draft Framework.

As communicated to EFAB, EPA is amenable to considering more comprehensive metrics to assess a permittee's financial capability and evaluate proposed implementation schedules for infrastructure investment; therefore, it is helpful that EPA is providing additional clarity on such acceptable approaches and metrics within its Draft Framework. EFAB is supportive of two key approaches contained in this document:

- Principle 1 builds the revised evaluation framework off of the 1997 Guidance by asking municipalities to provide the 1997 Guidance information with which they are familiar, as well as allowing them to submit additional financial and economic information. EFAB believes that this approach is reasonable.

- The Draft Framework's aim of working with communities to implement new approaches to achieve water quality goals at lower costs and in a prioritized manner is encouraging. Principles 3 and 4 from the Draft Framework, which state that all clean water costs and Safe Drinking Water Act ("SDWA") obligations will be considered in the evaluation of a community's financial capability, are extremely positive developments that should be welcomed by all communities.

However, many of our comments herein and in EFAB's 2007 submission address potential concerns with the 1997 Guidance; if EPA agrees with these comments, the Draft Framework might be rewritten to include a number of changes to the 1997 Guidance.

1) Evaluation of Existing Framework – Phase One: The Residential Indicator ("RI").

In the 1997 Guidance, the first phase of evaluating financial capability is developing a RI of clean water obligations relative to MHI. While Principle 2 of the Draft Framework – which states that "Financial capability is on a continuum", rather than being assessed in "rigid" categories of low, medium and high – is reassuring, an analysis based primarily on MHI does not completely capture all important dimensions of financial capability and is frequently an oversimplification of ratepayer affordability. EPA might consider lessening the RI's reliance on a community's overall MHI for the reasons outlined below. In addition, EPA may wish to drop the "medium" category to reinforce the notion of a continuum between "low" and "high" levels of financial capability.

MHI Understates the Rate Burden on Low-Income Households. While MHI is a readily available statistic from the U.S. Census Bureau ("the Bureau"), even at the detailed level of each census tract, MHI varies among a community's neighborhoods and throughout the service area of the utility system. As utilities are usually charged with setting a single rate for their entire service area, using the aggregate MHI means that in some neighborhoods, the burden is much greater than it is in others. Likewise, the urban areas served by larger utilities may demonstrate greater disparity in income levels than smaller and more homogeneous service areas, and MHI does not give a breakdown of how many households have income below the poverty threshold. Therefore, some consideration should be given to using an alternative

household income metric based on a community's less wealthy census tracts or utilizing the Bureau's information on the "Share of Aggregate Income Received by Each Fifth" of the population.

MHI Does Not Adjust for the Impact of Cost of Living Differences or Income-Based Transfer Payments. MHI does not take into account the relative costs of living, such as federal, state and local taxes; shelter, as defined by rent or home ownership costs; healthcare; clothing; groceries; other utilities; and work or childcare related expenses. MHI also does not include financial and other support offered to low-income households. The Bureau has been working on evaluating a Supplemental Poverty Measure ("SPM") that will account for such factors. EPA should follow these developments and consider the information the Bureau is gathering and how it might be applied to develop a readily-available, alternative metric to MHI.[1] An example of this would be the AR-20 methodology developed by Dr. Manuel P. Teodoro of Texas A&M University, which considers the above referenced living costs and focuses on those households without access to the other assistance programs.[2]

MHI Can Be Variable. MHI may decline rapidly in times of economic hardship. For instance in 2008, MHI in the U.S. was $52,029; while in 2010, it had declined by 3.8% to $50,046. Meanwhile, the costs of upgrading and maintaining a clean water system are fixed, so when income declines, the CWA costs comprise a greater percentage of each household's income. Therefore, a certain amount of cushion should be accounted for in the financial capability analysis, so that the clean water cost burden does not exceed the target percentages in the event of an economic downturn.

MHI-Based Guidance May Produce Unrealistic Rate Recommendations. The current MHI metric translates to a threshold that many communities would not realistically or politically ever attain from their ratepayers and other revenue sources, particularly when drinking water obligations are also considered. The 2012 American Community Survey (1-year estimates) states that the MHI in the United States is $51,371. If clean water funding were required to reach the level at which wastewater rates were equivalent to 1.5% of MHI, which would only be a "mid-range" indication, and drinking water expenditures were required to the level at which drinking water rates were equivalent to 2.5% of MHI (a commonly used drinking water affordability metric and one that EPA formally uses in evaluating water treatment variances), the median household in the United States that earns $51,371 would have to pay more than $2,055 per year for water and wastewater service to surpass this MHI-based affordability metric – see Exhibit I below. This would be more than double the current average annual single-family charge of $987 for water, wastewater and stormwater charges combined, as reported in a recent study[3]. An increase of this magnitude for any community may be unrealistic, and it would impose a significant financial burden for many families to double their current annual water and wastewater payments. The suggestion that such a high cost burden would be expected before the level of implementation requirements would be considered high is of concern to most permittees and communities.

[1] U.S. Census Bureau, The Research: Supplemental Poverty Measure: 2012, https://www.census.gov/prod/2013pubs/p60-247.pdf

[2]Davis, Jon P. and Manuel P. Teodoro. 2014. "Financial Capability and Affordability," in *Water and Wastewater Financing and Pricing, Fourth Edition,* ed. by George Raftelis, New York: Taylor & Francis (p. 443-465). This chapter provides an extensive discussion of this topic and specifically on page 455 discusses the AR-20 methodology.

[3] New York City Municipal Water Finance Authority Water and Sewer System Second General Resolution Revenue Bonds Fiscal 2015 Series AA Official Statement. Comparative Annual Water and Sewer User Charges, page 36. http;//nycbonds.org/NYW/pdf/2015/NYW_2015_AA.pdf

Exhibit I: Estimated Annual Water and Wastewater Fee Calculations (based upon Financial Capability Matrix and 2012 MHI)

		Clean Water (CW) Residential Indicator			Drinking Water (DW) Affordability Threshold	Combined Mid-range CW + DW Indicators
	2012 MHI	Low (Below 1.0%)	Mid-Range (b/w 1.0 & 2.0%)	High (Above 2.0%)		
		0.9%	1.5%	2.1%	2.5%	4.0%
U.S.	$51,371	$462	$771	$1,079	$1,284	$2,055

MHI-Based Measures Do Not Address the Needs of Commercial and Industrial Ratepayers. With regards to the cost of obligations that are considered in the numerator of the Residential Indicator, EFAB has previously suggested in a report to EPA that the infrastructure implementation cost be projected in charges for use by various types of dwelling units. Also, this earlier report addressed the fact that residential use comprises only a portion of most utilities' customer base; commercial and industrial customers are usually also significant users. Therefore, the cost of infrastructure obligations should also be considered relative to the impact they will have on commercial and industrial charges.[4]

MHI Can Result in System-Size Bias. Larger systems frequently serve large communities that often have robust, diversified economies. Though these economies often exhibit higher overall MHI, they may also have many lower-income households. The previously referenced AR-20 is one method that allows for a more "targeted" identification of lower-income or "at-risk" households.

2) Evaluation of Examples of Information Related to Residential Indicator That Will Be Considered.

In this discussion, EFAB evaluates each of the examples of information related to the Residential Indicator as "RI example [X]", with the corresponding number listed in the Draft Framework. As suggested in the Draft Framework, considering income distribution by quintile or geography (*RI example 1*) and poverty rates and trends (*RI example 2b*) will help address the first concern regarding the use of an aggregate MHI factor. However, the costs of living and transfer payments should be considered, as noted above. Likewise, if a community has been able to implement a differential rate structure based on income (*RI example 2a*), the results of such structure could be presented. But a differential rate structure should not be required, as some utilities may have legal restrictions against implementing such a structure and, even for those that do not, a differential rate structure would be politically difficult and nearly impossible to implement from an administrative perspective, in terms of having the utility track income data and apply it in its billing system. Furthermore, rate structures based upon income levels will likely be met with legal challenges regarding adherence to cost of service principles and EPA User Charge regulations.

Evaluating historic, current and projected rates relative to household income metrics (*RI example 3*), especially when rate projections reflect the impact of CWA compliance obligations, will provide a more

[4] See EFAB's Comments on EPA Document: Combined Sewer Overflows-Guidance for Financial Capability Assessment and Schedule Development, May 2007

complete assessment of their financial burden. However, simply focusing on wastewater rates would mask the financial burden of essential water services. A further suggestion is to include drinking water rates and stormwater fees as well as household tax expenditures tied to water services, such as water-service-designated property tax and sales taxes in the description of *RI example 3*. While water and wastewater rates are the dominant revenue source for most utilities, there are many examples where non-rate household charges are quite significant. For example, households in Atlanta pay extremely high water and sewer charges, as well as a special 1% sales tax that goes to the water and sewer system. Households in Chicago also pay water and sewer charges and a significant amount of supplemental property tax that is directed to the wastewater system. Failure to take into account the full suite of water and sewer revenue source risks underestimating the financial burden of all water-related services in a particular community. Similarly, information on water and sewer usage for various classes of ratepayers (*RI example 4*) would be useful when the rates are based on volumetric charges, but it would seem that the preferable metric for EPA to consider might be the financial aspect of the usage or the average annual charge based on the rates over time multiplied by the quantity of water consumed (or wastewater disposed).

Finally, information on the percent of households that own versus rent (*RI example 5*) is an interesting factor, but for a financial assessment, the analysis should be taken one step further to evaluate the housing cost burden of the population that is renting or owning. The Bureau provides two statistics that are readily available and might be considered: "Gross Rent as a Percentage of Household Income" and "Selected Monthly Owner Costs as a Percentage of Household Income". These statistics include the average utility costs and mortgage or insurance costs, where applicable. Additionally, even if the property is rented, the cost of water and wastewater service may still be borne by the property owner. Sometimes this cost can be passed along to the tenant; in other instances, such as with rent-subsidized or rent-controlled properties, the cost of service cannot be fully passed to the renter, which means that the utility costs may comprise a greater portion of the building's annual budget. Any information that is available with regard to the burden that such rent prohibitions may place on entities such as low-income housing developments should be considered.

3) Evaluation of Existing Framework – Phase Two: Permittee Financial Capability Indicators.

The second phase of the financial capability analysis in the 1997 Guidance considers six indicators of financial strength (that are organized into three categories): (i) bond ratings (FS-1), (ii) overall net debt as a percentage of full market property value (FS-2), (iii) unemployment rate (FS-3), (iv) median household income (FS-4, also discussed in Section III.A.1), (v) property tax revenue collection rate (FS-5), and (vi) property taxes as a percentage of full market property value (FS-6). While providing useful information, many of these measurements are more closely aligned with credit characteristics of obligations secured by property tax collections rather than the user revenues and impact fees more typically supporting the operations of utility systems. Below, we analyze each of these indicators.

Bond Ratings (FS-1) Alone Should Not Be a Basis for Evaluating Financial Capability. Strong bond ratings alone do not indicate that a system has affordable rates; the rates charged to customers are usually considered by rating agencies in their credit evaluations, but they are by no means the driving factor of credit ratings. Bond ratings are based on many other factors, some of which are recommended as metrics in Section III.B. Furthermore, strong ratings do not necessarily indicate sufficient capacity to take on additional debt, and a system should not be unreasonably required to undertake projects and incur debt to the level at which its credit ratings would be negatively impacted. As we have already discussed, *there is a positive ratings bias towards larger systems due to the fact that larger systems often have a more*

diverse customer base from which revenues are collected and more sophisticated financial and operational management structures in place, together with economies of scale. In fact, one of the most significant rating factors with utility credit ratings is the size of a particular system. Larger systems can attain economies of scale and breadth of users that are much more difficult for smaller systems to realize. Furthermore, many smaller systems are unrated. Finally, an over-reliance on bond ratings to determine financial capability would effectively penalize higher rated systems with more aggressive compliance schedules, which may lead to the unintended deterioration of a *system's credit worthiness.*

Overall Net Debt as a Percentage of Full Market Property Value (FS-2) Is a Useful Ratio to Consider. However, the overall net debt should not exclude system "revenue debt" tied to the water and wastewater systems, as specified in the 1997 Guidance. Many water and wastewater systems in the U.S. are not funded by general obligation bonds, but rather are funded by the revenues of the utility itself. Therefore, *this calculation should include the system "revenue debt" together with all other relevant forms of indebtedness* (e.g., direct loans and lines of credit). Moreover, *a system's unfunded pension liabilities and other post-employment benefit obligations should also be considered as relevant to the total debt calculation.* Finally, *other municipal debt that is related to a community's infrastructure and part of the community's debt burden should also be considered.* This is discussed in more detail in Section III.B below.

A Community's Unemployment Rate (FS-3) Is Helpful in Evaluating Financial Capability. The 1997 Guidance unemployment indicator benchmarks a community to the U.S. average. This is an oversimplified comparison, as during periods of economic downturn, the community may have a high unemployment rate that maintains a low variation from the national average. *Therefore, the consideration of the unemployment rate should also be analyzed on an absolute basis.*

The Property Tax Revenue Collection Rate (FS-5) Is a Good Variable to Consider. However, in many communities, water, wastewater and stormwater systems are funded by the water, wastewater, and stormwater rates, fees and charges. Therefore, the system's revenue collection rate should also be considered. Additionally, it should be kept in mind that, in addition to property owners' ability to pay, the collection rate is influenced by the community's payment enforcement capabilities, as further discussed with *FS example 5* below.

Property Taxes as a Percentage of Full Market Property Value (FS-6) May Be a Good Metric for Communities (where the wastewater costs are funded by General Obligation debt). However, as noted above, in many communities, the water and wastewater system is funded by its own rates, fees and charges. Additionally, in some communities, a significant portion of the municipal tax burden is from wage taxes or sales taxes. Since the revenue sources supporting each utility vary, to capture the community's financial capability, *this metric should be calculated as the full burden of property taxes plus system charges plus other local taxes (e.g., wage taxes) as a percentage of the full market property value.* This is discussed in more detail in Section III.B below.

4) Evaluation of Examples of Information Related to Financial Strength That Will Be Considered.

The additional metrics that will be considered under the Draft Framework will result in a more complete analysis. However, additional clarity on what is intended by the wording of the examples could be provided, and a few of the examples seem like they could be consolidated. The following paragraphs contain EFAB's assessment and suggestions. In this discussion, we refer to each of the Draft

Framework's proposed financial strength examples as "FS example [X]", with the corresponding number listed in the Draft Framework.

Population trends or projections (*FS example 1*) and service area labor market indicators, such as unemployment data and trends (*FS example 2*) are useful in evaluating the overall financial picture of a community and its ability to bear future compliance costs. Rate or cashflow models (*FS example 3*) and planned and historical rate or fee increases (*FS example 6*) would also be helpful, particularly as outlined in Section III.A.2 above with regards to *RI example 3*. Additionally, as indicators FS-2, FS-5, and FS-6 above are related to property taxes, *FS example 3* and *FS example 6* should also include mention of such taxes, as well as the other charges noted in the discussion of FS-6 above. Additionally, if there was a purpose in separating *FS example 3* and *FS example 6* into two separate examples, it would be helpful to clarify such specific purpose; if not, perhaps the two could be combined into one example. Likewise, it would be helpful to know what is intended by rate impact studies (*FS example 4*), and how this is related to or different from the discussion above for *RI example 3* and *FS examples 3* and *6*.

Data and trends on late payments and uncollectible accounts, etc. (*FS example 5*) are useful data points to consider; however, as noted above in relation to the discussion of the property tax revenue collection rate (FS-5), the trends on late payments and uncollectible accounts are influenced by each community's payment enforcement capabilities. In some communities, there are legal restrictions to the types of enforcement actions that can be levied against certain property types; therefore, any related information that a permittee could provide should be considered. Likewise, state and local legal restrictions on property taxes and other revenue streams (*FS example 7*) are important to consider when evaluating financial capability, particularly if a community is close to reaching its tax and/or debt limits.

Other costs or financial obligations, such as those that relate to drinking water, that affect both the revenue capacity (*FS example 8*) and the debt of the permittee should also be considered, as noted in the discussion of indicators FS-2 and FS-6 above. Finally, while evaluating bond ratings by themselves as part of the financial capability analysis is not recommended, evaluating the circumstances that may affect a permittee's bond rating (*FS example 9*) would be a valuable analysis. A recommendation of other metrics that are evaluated by the rating agencies and might be useful to this analysis is provided Section III.B of this document.

In addition to the proposed additional metrics, EPA might consider information related to the permittee's full capital investment program ("CIP"), including infrastructure investments required by state and local regulators and those required to keep the system in a state of good repair. A complete understanding of the CIP is important in the review of the rate forecasts noted in *RI example 3* and *FS examples 3, 4* and *6*. Additionally, a full understanding of the CIP will be useful when reviewing the timeline of implementation plans noted in the Draft Framework's Principle 5.

5) Availability of Information.

One of the most significant challenges with the information reviewed in the 1997 Guidance and the Draft Framework will be each permittee's ability to obtain the data and present such metrics to EPA. Gathering all of the information noted above is a considerable task, and many permittees may not know how to obtain all or parts of the information. Even for sophisticated utilities, navigating the various data sources can be difficult; for instance, the Bureau adjusts its information data sets over time and frequently reconfigures its website. One way that EPA might help communities overcome these difficulties would be by drafting a model financial capability assessment document with source footnotes, or EPA might be

able to keep an updated set of links to appropriate websites on its website. Alternatively, if there are a few filings that EPA finds to be exemplary, perhaps those permittees would allow their filings to be used as examples. Also, while some of the information referenced herein may be available to communities that have obtained ratings from the rating agencies, smaller and less sophisticated permittees may not have the same level of access. Therefore, it could be helpful for EPA to make a staff resource available to answer permittees' questions on how to gather the needed data and analyze these indicators.

B. Recommendations of Other Metrics.

As previously stated, it is our recommendation that EPA incorporate additional factors in its evaluation criteria that are more closely associated with each permittee's identified revenue streams and that more fully incorporate financial measurements reflecting the operating and financial strength of each utility, as further discussed below.

1) **For utility systems supported by debt obligations from general obligation tax pledges, we recommend also including total full property valuation as an additional comparative measure, since this metric indicates the available taxable resources securing these obligations.**

2) **For those utility systems supporting operations and debt service obligations from user revenues, we would recommend including measures more typically associated with revenue bonds** (as currently utilized by the rating agencies)**.**

Outlined in the table below are additional financial and debt metrics, which we consider of "high" importance. Other than ***Total Annual Operating Revenues***, ***Number of Customers***, and ***Top Ten Customers as a Percentage of Total Revenues*** which are straightforward metrics, the other metrics included in Exhibit II are defined below.

Exhibit II: Recommended Financial and Debt Metrics

LIQUIDITY	DEBT
• Days of Cash on Hand • Days of Working Capital	• Debt Ratio • Debt Per Customer
SYSTEM SIZE/DIVERSITY	**OPERATIONAL STRENGTH**
• Total Annual Operating Revenues • Number of Customers • Top Ten Customers as a Percentage of Total Revenues	• Overall Debt Service Coverage • Maximum Annual Debt Service ("MADS") Coverage • Combined Average Annual Utility Bill as Percentage of MHI

Definitions and Calculations of Certain Suggested Financial and Debt Metrics.

***Days of Cash on Hand*:** Current unrestricted cash and investments plus available restricted cash and investments (if available for general system purposes), divided by operating expenditures minus depreciation, divided by 365. Days of cash on hand represents an important measure of liquidity, indicating a utility system's financial flexibility in meeting near-term or unanticipated obligations.

Days Cash on Hand = ((Current Unrestricted Cash & Investments + Available Restricted Cash & Investments) ÷ (Operating Expenditures – Depreciation)) ÷ 365

***Days of Working Capital*:** Current unrestricted assets plus available restricted cash and investments (if available for general system purposes), minus current liabilities payable from unrestricted assets, divided by operating expenditures minus depreciation, divided by 365. Another measure of liquidity, Days of Working Capital indicates a system's capacity to meet near-term obligations.

Days of Working Capital = ((Current Unrestricted Assets + Available Restricted Cash & Investments – Current Liabilities) ÷ (Operating Expenditures – Depreciation)) ÷ 365

Debt Ratio: Long-term debt less debt service reserves, divided by the sum of net fixed assets plus net working capital (Moody's). Total amount of utility long-term debt divided by unrestricted net assets (Fitch). A measurement of leverage, a utility's Debt Ratio indicates existing levels of debt relative to a system's equity. For the rating agencies, a favorable debt ratio is below median levels.

$$\text{Debt Ratio (Moody's)} = \frac{\text{(Long Term Debt – Debt Service Reserves)}}{\text{(Net Fixed Assets + Net Working Capital)}}$$

$$\text{Debt Ratio (Fitch)} = \frac{\text{Long Term Debt}}{\text{Unrestricted Net Assets}}$$

Debt Per Customer: Total amount of utility long-term debt divided by the total number of utility customers. Debt per Customer provides another measurement of leverage, indicating the amount of outstanding debt relative to a system's size.

$$\text{Debt Per Customer} = \frac{\text{Total Utility Long Term Debt}}{\text{Total Number of Utility Customers}}$$

Overall Debt Service Coverage: Current-year net revenues available for debt service divided by current-year total debt service. An indicator of risk and financial strength, this ratio measures the amount of coverage provided by net revenues of current year debt payment obligations. At minimum, this ratio is expected to meet rate maintenance covenants, and a favorable ratio would exceed median levels, providing assurance that net revenues, after the payment of operation and maintenance expenses, are sufficient to pay debt service obligations with some additional margin.

$$\text{Overall Debt Service Coverage} = \frac{\text{Current Year Net Revenues Available for Debt Service}}{\text{Current Year Total Debt Service}}$$

Maximum Annual Debt Service ("MADS") Coverage: Current-year net revenues available for debt service divided by projected total MADS. An indicator of risk, this ratio measures coverage of the highest fiscal year of annual debt service obligations by current year net revenues. This indicator provides an indirect indication of system growth or rate increases that are required to meet future debt service obligations. It can also expose escalating debt service structures. A favorable ratio is above median levels.

$$\text{Maximum Annual Debt Service Coverage} = \frac{\text{Current Year Net Revenues Available for Debt Service}}{\text{Projected Total Maximum Annual Debt Service}}$$

Combined Average Annual Utility Bill as Percentage of MHI: Average monthly residential bill for combined water, wastewater and stormwater utilities times 12, divided by the most recent yearly MHI as reported by the U.S. Census Bureau. A measurement of affordability, a favorable ratio would be below median levels.

$$\text{Combined Avg. Annual Utility Bill as a Percentage of MHI} = \frac{\text{(Average Monthly Combined Utility Bill * 12)}}{\text{Most Recent Yearly MHI}}$$

3) Key metrics should be evaluated not only on a current basis but also on a historical and more importantly, projected basis.

In addition to measuring these ratios under current conditions, it remains critical to review future projections, provided this information is available, under likely rate increase and capital planning scenarios.

C. Utilizing the Additional Information to Supplement the Assessment Process.

In all, we believe that the metrics recommended above will provide EPA with a richer picture on a permittee's ability to comply with the CWA. In analyzing the recommended metrics, EPA can compare each of the metric results to the corresponding rating agency medians as well as to the rating agency medians by system size/classification. The median information is available on a subscription basis from each of the major rating agencies.[5]

To incorporate our recommended metrics into the second part of the two-part financial assessment under the 1997 Guidance (i.e., analyzing the financial strength of the permittee), EFAB recommends that:

- **The Current Debt Indicator Category be Amended to Include the *Debt Ratio* and *Debt Per Customer* Metrics;** and
- **Categories for "Liquidity," "System Size/Diversity" and "Operational Strength" be Created to Include the Other Recommended Metrics (as categorized above): *Days of Cash on Hand, Days of Working Capital, Total Annual Operating Revenues, Number of Customers, Top Ten Customers as a Percentage of Total Revenues, Overall Debt Service Coverage, MADS Coverage, and Combined Average Annual Utility Bill as Percentage of MHI.***

IV. ADDITIONAL QUALITATIVE CONSIDERATIONS

In addition to the various quantitative measures discussed above, we also believe that it is important to analyze some of the qualitative measures including: (i) extraordinary considerations, (ii) additional system/project priorities and environmental/regulatory matters, and (iii) small system considerations, as further discussed below.

A. Extraordinary Considerations.

There are certain extraordinary conditions that should be taken into account during the assessment process in addition to the financial capability assessment metrics outlined above. Examples of such extraordinary conditions include municipal bankruptcies, natural disasters, and limited funding access due to adverse general financial markets or individual utility credit conditions. Certain utilities may also be subject to legal or statutory restrictions that preclude the issuance of debt. Such extraordinary conditions may preclude a utility from funding its capital improvement program, including consent decree projects, for a period of time.

[5]The timeframe for this will vary depending upon the scope of the extraordinary condition and the remedies available to correct the condition. Following is a brief discussion of each of these extraordinary conditions.

- **Municipal Bankruptcies.** The recent municipal bankruptcies by the City of Detroit, Michigan and Jefferson County, Alabama are examples of extraordinary conditions that have affected the ability of the wastewater utilities in these communities to access the capital markets and fund their capital improvement programs. Several smaller systems around the country have also been subject to Chapter 9 proceedings. The reasons for municipal bankruptcy vary but generally are related to large debt loads per capita, unfunded pension liabilities, significant capital improvement programs, and/or communities facing significant financial challenges, including a declining population and economic base as well as high poverty levels. EPA should continue to address these situations by working with the communities and the bankruptcy courts to develop a consent decree schedule that works within the projected financial capability of the utility as outlined in the overall bankruptcy plan that is approved by the court.

- **Natural Disasters.** Natural disasters are similar to municipal bankruptcies in that they can significantly disrupt a utility's operations and ability to execute consent decree requirements over a period of time. For example, major hurricanes impacted New Orleans and communities in New Jersey and New York over the past decade. Flooding conditions in the Midwest have periodically impacted water and wastewater utilities as well. Unlike municipal bankruptcies, however, such natural disasters may have a lesser credit impact on the utility, including its capacity to access the capital markets. For example, utilities may have adequate property and casualty insurance and FEMA funding to repair or replace damaged infrastructure. The major issue for these utilities is the timing of receipt of these funds. Utilities' first priority following these events is to ensure the provision of services to its customers. Likewise, funding for operations and capital needs must to be directed to these areas, which may delay the implementation of consent decree related projects. Once the system is restored, the utility may be in good financial condition to implement its consent decree according to the financial metrics outlined in the previous sections. However, to the extent that the utility's customer base is significantly reduced for a prolonged period of time by the natural disaster, the utility's financial capacity may be adversely impacted, which should be taken into account.

- **Adverse General Financial Market Conditions.** The financial crisis of late 2008 to 2009 significantly impacted the ability of utilities and other issuers of municipal bonds to access the capital markets, which are an important funding source for most utilities. For a brief period of time in late 2008, the municipal markets were virtually closed. At various other periods during this timeframe, funding costs were very high due to limited institutional investor demand for municipal bonds. As a result, there were limited debt issuance and financing options available to most utilities. If a financial crisis in the future results in limited market access for a long period of time, this could impact the ability of utilities to comply with their consent decree project schedules.

- **Individual Utility Credit Conditions.** Even when general financial market conditions are good for most issuers of municipal bonds, these market conditions may still preclude certain utilities from accessing the capital markets. At times, for example, below or low investment grade issuers have not been able to access the capital markets or have been able to access the markets only at very high interest rates. This is due to the fact that the market for high yield tax-exempt bonds is relatively limited. Bond funds and other investors that purchase these bonds may have limited capacity when they are

[5] www.moodys .com, www.globalcreditportal.com and www.fitchratings.com

experiencing cash outflows from investors due to redemptions. This periodically occurs when there are credit events in the marketplace related to high yield bond sectors. When these events occur and credit spreads widen significantly, lower rated utilities may not have the debt capacity to fully fund their capital programs including consent decree projects. If the period of widening credit spreads persists for a long time, this could impact the ability of these utilities to comply with their consent decree project schedules.

- **Legal and Statutory Considerations.** Finally, there may be legal or statutory constraints on the ability of utilities to issue debt to fund consent decree projects. Such utilities may issue general obligation bonds, for example, and are subject to statutory debt limits as well as voter authorization requirements. If the utilities are up against these limits, they may not be able to issue debt for a period of time until they are able to comply with the limits or change the statutory requirements. Voter authorization may not be achieved initially or may be delayed due to procedural matters. Other utilities that issue revenue bonds may not always be able to comply with their additional bonds tests or other financial and/or legal covenants to issue additional bonds to fund these projects. This may occur due to statutory or administrative procedures necessary to raise rates to comply with these tests. All of these considerations may result in delays in accessing the capital markets to fund consent decree projects.

B. Additional System/Project Priorities and Environmental/Regulatory Matters.

Communities are facing significant utility system capital needs and priorities. In its latest Infrastructure Report Card, the American Society of Civil Engineers gives the nation's wastewater and drinking water systems a grade of "D." Correcting the deficiencies in the water infrastructure will be extremely costly. We need look no further than the American Water Works Association report: *Buried No Longer: Confronting America's Water Infrastructure Challenge, February 2012,* which estimated the underground water system capital needs through 2035 at $1 trillion. Furthermore, there is nearly $1.8 trillion through 2050 for underground water system needs; this is to say nothing about the above ground needs in water and both under and above ground needs in the wastewater sector.

In addition to basic infrastructure needs, many parts of the country are experiencing the need to secure additional water resources. Utilities from Florida to California are turning to many non-traditional avenues to secure these necessary water supplies at per-acre-foot prices that are significantly greater than historic investment levels. Whether associated with reclaimed water, desalination sources, or dams and reservoirs, the future water resource needs will be materially more expensive than in the past. This will result in "strained" financial resources and magnify the importance of coordinated efforts in evaluating water and wastewater obligations regarding measures of financial capability and the timing of enforcement actions.

When the "above" and "under" ground investment needs are coupled with these water resource needs, it is clear that any financial capability assessment framework must allow for and consider the non-regulatory water and wastewater investment requirements of utility providers and the implications these costs will have on affordability. It is important to consider both the ability of local utility providers to raise the needed capital and the ability for the end users and ratepayers to pay for their service, including the debt from the required capital investments.

Any financial capability assessment should incorporate the broader list of water and wastewater capital investment requirements over an extended period if a realistic assessment is to be made of impact of regulatory-related capital investments and the impacts these investments will have on the financial credibility of the utility and the financial capacity of its ratepayers.

In addition to the water and wastewater capital needs faced by many utilities and the communities in which they operate, additional environmental and regulatory matters will also result in financial challenges that should be considered in the assessment framework and in the timing of any enforcement actions, such as: (i) stormwater/flood control, (ii) air quality, (iii) solid waste, (iv) superfund, (v) greenhouse gas emissions, (vi) urban heat factor mitigation, and (vii) fracking.

Local governments and their utilities will be facing significant financial challenges resulting from these environmental needs, as well as other non-utility infrastructure needs such as streets, buildings, parks, etc. Considerations around the timing of enforcement actions should allow for/recognize these environmental-related capital investment needs and the resulting impact on the ability of citizens and ratepayers to meet these needs in an affordable manner.

C. Small System Considerations

EPA defines small systems as those serving fewer than 10,000 people and with a flow of less than 1 million gallons per day.[6] According to the 2008 Clean Water Needs Survey, small systems accounted for approximately 69% of the nation's centralized wastewater treatment and collection facilities and served approximately 10% of the nation's population.[7] These systems include both small communities and rural wastewater districts. All systems, regardless of their size, are held to the same permitting and regulatory standards with the ultimate goal of improving water quality and public health. Some small systems are extraordinarily healthy and are on the same par as well run large systems. However, many small systems are affected by the inability to generate sufficient revenues and have limited debt capacity, which creates financial and operational challenges. Additionally, many of the nation's small systems serve populations that are aging, on a fixed income and/or declining in numbers. Thus, there is little or no variability of class. Therefore, looking at income distributions or user charge structures among income classes alone may not be an appropriate indicator.

The principles set forth in the 1997 Guidance and the Draft Framework are intended to provide a reference point to aid all parties in negotiating reasonable and effective schedules. Several of the indicators included in both documents are related to general obligation debt. However, this debt is not always reflective of the manner in which many small systems fund their infrastructure needs. Often times, small systems are nonrated. These systems often address infrastructure improvements via the use of system revenue instead of general obligation measures. As small systems access financing through the bond market or low interest loan programs such as the State Revolving Fund or the United States Department of Agriculture Rural Development loan program, they generally pledge system revenues and occasionally augment that pledge using special assessments or taxes. In many instances the system is a distinct and separate entity from a town, city or municipality, and therefore, property taxes do not support the development of water or wastewater infrastructure.

Small systems often also lack managerial competency and staffing consistency. Many small systems have part-time managers and finance staff, which focus on the highest priority actions needed to keep the system running, such as billing and maintaining functioning systems. Their employees, while generally dedicated, may have limited higher education and/or high staff turn-over rates. Additionally, small systems often do not have sophisticated accounting programs, and, if they do, staff may not be financially savvy enough to utilize the program to the fullest. Many small systems also do not have the financial ability to hire a financial

[6] Wastewater in Small Communities–Basic Information- http://water.epa.gov/type/watersheds/wastewater/basic.cfm
[7] 2008 - Clean Water Needs Survey - http://water.epa.gov/scitech/datait/databases/cwns/upload/cwns2008rtc.pdf

advisor to conduct rate impact studies, trend analysis, or to develop additional data or conduct detailed analysis supporting residential or financial strength data as recommended by the Draft Framework.

Much of the background data necessary to develop the baseline 1997 Guidance indicators and several of the metrics within the Draft Framework can be found via the Bureau, American Community Survey, and/or state commerce departments. However, it should be noted that data provided at national, regional, or county levels are estimates that may not adequately reflect the system or user base. Additionally, to develop many of the 1997 Guidance indicators, the data must be manipulated and compared to specific system or user information. An option for small systems could be for EPA or a contractor to develop a computer program, which has regional information such as population data, income data, and unemployment rates re-populated. The small systems would only be required to enter very specific data, such as current rate structures, population served, debt obligations, and planned water/wastewater improvement costs. The database or program could then calculate some of the basic residential and financial strength indicators for the small systems.

A goal for EPA when addressing small systems through the regulatory process should be to help such systems build their financial capacity and managerial capabilities. The key would be to work with small systems early in the regulatory process in advance of enforcement action. Programs such as those developed by the Rural Community Assistance Partnerships[7] and the Environmental Finance Centers[8] focus on small system asset management, managerial capability, and financial planning. If dedicated financial or technical assistance from EPA could be targeted to small communities through these types of programs, small systems would be on the right path for sustainable management and ultimately primed to be able to meet CWA goals.

V. CONCLUSION

At EPA's request, EFAB has reviewed the Draft Framework that builds upon the 1997 Guidance and a 2012 document titled, "Integrated Municipal Stormwater and Wastewater Planning Approach Framework." A summary of our analysis and recommendations is repeated below.

Residential Indicator Analysis and Recommended Changes. EFAB believes that an analysis based primarily on MHI does not completely capture all important dimensions of financial capability and is frequently an oversimplification of ratepayer affordability. Thus, our recommended additions to this analysis include the following:

- ***Considering the Cost of Living and Any Income-Based Transfer Payments;***
- ***Including Drinking Water and Stormwater User Charges, Other Utility Rates/Fees, and Other Dedicated Charges; and***
- ***Considering the Housing Cost Burden of the Population That Is Renting or Owning.***

Permittee Financial Capability Indicators Analysis and Recommendations. Overall, EFAB believes that the three categories and six indicators of financial strength provide useful information. However, we note that these indicators are more aligned with credit characteristics of obligations secured by property tax collections rather than user revenues and impact fees, which support most utility systems. Thus, we have provided recommendations below on five of the six indicators for utility systems supported by user revenues and impact fees:

- ***Bond Ratings (FS-1)*** *alone should not be a basis for evaluating financial capability since there is a positive ratings bias towards larger systems, and many smaller systems are unrated;*

- ***Overall Net Debt as a Percentage of Full Market Property Value (FS-2)*** *should include system "revenue debt" and other relevant indebtedness (such as unfunded pension liabilities and other post-employment benefit obligations);*
- ***A Community's Unemployment Rate (FS-3)*** *should also be analyzed on an absolute basis;*
- ***Property Tax Revenue Collection Rate (FS-5)*** *should be considered, as well as the system's revenue collection rate; and*
- ***Property Taxes as a Percentage of Full Market Property Value (FS-6)*** *should include wage taxes and sales taxes (which can be significant in certain jurisdictions), as well as all utility system user charges.*

Recommendations of Other Metrics. EFAB recommends several additional metrics for consideration in assessing financial capability. It is our position that these additional quantitative metrics, which we consider of "high" importance – in conjunction with the existing metrics – properly recognize the revenue-backed structure for most utility systems, as well as measure the financial strength of the utility system. These additional metrics are shown below and described in Section III.B.2.

Recommended Financial and Debt Metrics

LIQUIDITY	DEBT
• Days of Cash on Hand • Days of Working Capital	• Debt Ratio • Debt Per Customer
SYSTEM SIZE/DIVERSITY	**OPERATIONAL STRENGTH**
• Total Annual Operating Revenues • Number of Customers • Top Ten Customers as a Percentage of Total Revenues	• Overall Debt Service Coverage • Maximum Annual Debt Service ("MADS") Coverage • Combined Average Annual Utility Bill as Percentage of MHI

Additionally, the existing and recommended metrics should be evaluated not only on a current basis but also on a historical and, more importantly, projected basis.

Recommendations on How the Additional Information can be Utilized to Supplement the Two Part Assessment Process. For the second part of the two-part financial assessment under the 1997 Guidance (i.e., analyzing the financial strength of the permittee), EFAB recommends that:

- **The Current Debt Indicator Category be Amended to Include the *Debt Ratio* and *Debt Per Customer* Metrics;** and

- **Categories for "Liquidity," "System Size/Diversity" and "Operational Strength" be Created to Include the Other Recommended Metrics (as categorized above): *Days of Cash on Hand, Days of Working Capital, Total Annual Operating Revenues, Number of Customers, Top Ten Customers as a Percentage of Total Revenues, Overall Debt Service Coverage, MADS Coverage, and Combined Average Annual Utility Bill as Percentage of MHI.***

Furthermore and in addition to the recommended metrics, EFAB recommends that several qualitative considerations be factored into EPA's overall analysis, including: (i) ***extraordinary considerations*** – which include municipal bankruptcies, natural disasters, adverse general financial market conditions, individual utility credit conditions, and legal and statutory considerations, (ii) ***additional system/priorities and environmental/regulatory matters*** – which involve incorporating the broader list of water and wastewater

capital investment requirements from an operating and maintenance perspective and an environmental/regulatory perspective (such as stormwater/flood control, air quality, solid waste, superfund, greenhouse gas emission, urban heat factor mitigation, and fracking) as well as the impact of these required projects as it relates to ratepayers' financial capability, and (iii) ***small system considerations*** – since small systems often have additional challenges relating to the small communities they serve, such as managerial competency, staffing consistency and data availability (i.e., providing complete and accurate data for the baseline 1997 Guidance indicators).