

Section 1 Approach

Background

The area of the Upper Taunton River Watershed has experienced significant growth over the past decade, and will continue to grow in the next several. The communities are located within the fast growing belt along Interstates I-95, 495 and State Route 24 between Boston and Providence. From this location the communities are able to offer their citizens access to two major metropolitan cities, job opportunities both in those cities and in local industry, proximity to the recreational resources of Cape Cod and affordable housing.

Although blessed in many ways, the region is beset by a number of vexing water infrastructure issues. Communities are finding it increasingly difficult to dispose of their wastewaters in an environmentally acceptable manner. High groundwater conditions throughout the basin limit effective use of on-site disposal. Because of location at the headwaters of the Taunton River system, the impacts of the communities’ treated wastewater discharges are magnified and local rivers, which are small in comparison to plant discharges, can easily be overwhelmed. Indeed, the Environmental Protection Agency (EPA), in its most recent permit issued to the City of Brockton, forbade Brockton from serving any more surrounding towns because of the impacts of this discharge on the Taunton River Watershed, especially during periods of extreme low flow.

And when towns turn to community-centered, land-based alternatives, the lack of public land with suitable characteristics for use as a disposal site immediately constrains their plans. For example, two towns – Easton and East Bridgewater – have recently completed multi-year sewage planning studies. These studies found no complete sewage disposal solutions that could be implemented easily, or with any degree of certainty.

In addition to the Town of Easton and East Bridgewater, the CDM team has conducted water and wastewater infrastructural-related work for most of the planning area municipalities. This included recent wastewater system planning for Mansfield and Norton, water and wastewater system infrastructure design and construction for Brockton, and long-term drinking water system consulting for Abington, to name a few selected communities.

Where current first-hand relevant wastewater experience is lacking for a community, the project team has spent the time needed to collect “intelligence” on those communities. This included acquiring planning reports and meeting with Town and State officials to better understand details on the levels of wastewater planning, and when such planning was completed. Such reviews were completed for the following:

Town	OCPC Files	City/Town Files	Personal Contact
Abington	✓		✓
Avon	✓	✓	✓
Bridgewater	✓	✓	✓
Foxboro		✓	
Raynham			✓
Taunton		✓	✓
West Bridgewater	✓	✓	✓
Whitman	✓		

Through these reviews, we have developed an understanding of:

- The status of wastewater planning
- The level of detail of wastewater needs analysis
- Current and projected wastewater flows



- Inter-municipal issues
- Investigations and/or site selection for groundwater disposal of effluent
- Relative importance of existing on-site system problems and community needs for economic development
- Wastewater Infrastructure Assets

There is substantial wastewater infrastructure in the communities that represents several decades of investments by local, state and federal governments and the private sector. And most of the major plants do now, or soon will, produce very high quality water, a fact that will become increasingly important for alternatives involving reuse. The purpose of this study is to determine if options exist that can utilize this infrastructure in a regional context, to develop cost effective wastewater solutions, while at the same time addressing critical environmental concerns. At its core, this is a study of disposal options, and inter-town cooperation and collaboration for mutual benefits, since much treatment capability already exists.

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Project Approach

The key challenges of this project are to conduct an effective evaluation of disposal alternatives, while building consensus among key stakeholders of a vision of the way forward for the region. This will require a very effective outreach program, but it will also mean that solutions will need to be initially developed around sub-regional, inter-community relationships that already exist, and build from these. New inter-community relationships may also need to be created. Larger scale solutions that integrate these regions may develop in the course of the study, but our team believes it prudent to start with existing sub-regional relationships.

The study region subdivides itself into three main geographies for wastewater planning – one region centered on Brockton and its wastewater system, another on Mansfield and its wastewater systems, and one covering the southern portion of the study area, including Taunton, Raynham and Bridgewater. Several communities, including Easton, East Bridgewater, Norton, and West Bridgewater straddle two or more of these regions, and solutions to their wastewater issues could conceivably include one or more of the subregions.

By its nature, this study must consider disposal options that are outside the norm because conventional treatment and discharge solutions, and local treatment and discharge options have so far been found wanting in several communities. It is also likely that no single option will serve to satisfy all needs: it is likely that multiple disposal options will need to be incorporated into the final plan. Amongst the options that will need to be considered are:

- **Recycle and reuse of reclaimed water.** The major plants in the region are now or will soon be capable of producing Class A reclaimed wastewater as defined under the Department of Environmental Protection (DEP)'s emerging reuse regulations. Class A reclaimed water can be used for options involving wholesale and retail reuse for irrigation. This needs to be considered, both as a way of "keeping water local," and to

serve as “distributed disposal” of highly treated effluent.

- **Groundwater disposal through dedicated subsurface systems.** Several communities have undertaken searches for dedicated subsurface disposal systems, and have found that there are limited lands available for this purpose. This study will need to inventory these sites, and to search for additional sites that may be able to accommodate large volumes of effluent. Certain of the Study Area Communities have never undertaken such a search. For those communities, existing information, including surficial geology mapping, SCS data, GIS mapping, aerial photographs and work products for Municipal Water Asset Studies will be used for initial site screening.

- **Wetlands augmentation.** Given the high degree of treatment provided in the region, options involving wetlands augmentation, especially in the deep summertime must be considered. This would have the benefit of improving baseflow and enhancing wetlands functionality. This option could take the form of constructed wetlands adjacent to existing systems, or direct discharge into existing systems. The most likely candidate would be a discharge into the Hockomock Swamp, and special consideration of its status as an Area of Critical Environmental Concern must be fully taken into account.

- **Relocated discharge.** Because of the sensitivity of the receiving waters, relocation of a discharge



Wetlands Augmentation



Rapid Infiltration Basins at the Plymouth Wastewater Treatment Plant

downstream is an option that will need to be considered. This could be considered on a year-round, or a seasonal basis, and in conjunction with other seasonal alternatives.

- **A “no-action” alternative.** The no-action alternative would mean that communities would pursue those locally based solutions that have already been identified and can be implemented without benefit of regional resources. In some cases this could mean inter-town solutions, such as already exist between Mansfield, Norton and Foxboro, which have been recently studied for future expansion, and/or Bridgewater, acting alone to address its future wastewater needs.

In addition to the above basic options, it will be important to evaluate “fix-it-first” strategies, as well as seasonal discharges as a component part of several plans. “Fix-it-first” approaches will optimize the use of existing infrastructure. The impact of the plant discharges is the most detrimental in the summer months, when other flows are naturally low, and wastewater can make up a significant fraction of the flow in the Rivers. At other times of year wastewater flows are a much smaller fraction of total flow, and it is likely that wastewater can be discharged without adverse impacts. Seasonal discharge plans will be an important component of options for reuse and wetlands augmentation, as these options provide for disposal primarily in the deep summer months.

The number of options that could be developed for

14 communities, aligned across three different geographies, with up to five disposal options is staggering. For this reason we propose a two step approach for developing the upper Taunton Plan, both done in close coordination with the Technical Advisory Committee (TAC), the Taunton River Watershed Study and other key stakeholders in the region. The essential elements of the two steps are as follows:

Step one involves the development of basic background information on each community, including needs assessments, flow and load projections, inventoried disposal sites, potential disposal sites, water balance issues. With this information, a long list of options will be developed for each of the three geographies. As a starting point we will use each of the disposal strategies identified above as the primary means of disposal of additional effluent (above and beyond current permitted discharges) from that subregion, with the other options being considered on a case by case basis.

For example, in the Brockton region, one alternate could include, as its primary means of disposal wetlands augmentation. Under this option wastewater would be treated at the Brockton Plant, discharges to the Salisbury Plain River not exceeding current permit limits would continue, and locations for wetlands augmentation would be identified for the primary disposal of flow in excess of the allowable Salisbury Plain discharge. But, since water quality sufficient for discharge to the Salisbury Plain River is also appropriate for land application and for wholesale (golf course, nursery, etc) and retail (residential) reuse, opportunities for these disposal practices and uses along the route to the wetlands could be considered. Similarly, an option for relocating the Brockton discharge would be considered, with consideration of the potential for effluent reuse, wetlands augmentation and land disposal along the alignment of the new discharge pipe.

Once the longlist has been developed, we will convene meetings of the TAC for each subregion to present this initial list of options, and the rationale

behind the options. At these meetings we will refine the options, which will then be subject to further evaluations.

In the second step, each of the refined options will then be subjected to feasibility level evaluations of their technical, environmental, financial and institutional practicality. Conducted in concert with the TAC, this evaluation phase will define the set of options for further consideration in Phase 2 of the Study.

We believe that this two step approach will be important to the ultimate success of the project:

- It will invest the TAC in the development of the alternatives, thus ensuring that local preferences are incorporated to the maximum degree possible
- It provides a clear record that all alternatives have been considered at some level of detail – a fact that may become important in the development of the scope for the EIR – we want to avoid receiving a MEPA certificate that calls for additional options evaluation; by reflecting local preferences, it maximizes the likelihood of public acceptance.

Through this process the alternatives will become the “communities’ alternatives,” not the “consultant’s alternatives.” More specific detail on our approach is included in the following sections.

Task 1 – TAC Development and Coordination

Institutional and geo-political issues present perhaps the most significant obstacles to regional initiatives. Our team will work with the Old Colony Planning Council (OCPC) and Massachusetts Department of Environmental Protection (DEP) to form and support a TAC that includes key community officials. To help the TAC work efficiently and effectively, the group will be streamlined in size. Regina Villa Associates (RVA)’s recent experience with the Aquaria Water Pipeline Project Pipeline Committee has shown that a successful advisory committee combines executive

level town staff, such as town administrators, and Department of Public Works (DPW) staff who are responsible for the day-to-day management of a community's sewer and water infrastructure. Administrators can focus on and lend their expertise to institutional issues, while DPW staff will help with operational considerations. In addition to town staff, Wheaton College will be invited to participate on the TAC because it owns a treatment facility within the project area.

Create and Staff a Technical Advisory Committee

Our team will work with OCPC and DEP to create a TAC. We will support the TAC and coordinate meetings, develop agendas, prepare meeting summaries, assist with meeting facilitation, and provide project information and updates to OCPC for posting on the organization's website. TAC meetings will be scheduled to coincide with key project milestones so the team can present preliminary information and receive comments for consideration before proceeding to the next phase of work. Meetings will be sponsored and facilitated by OCPC, with assistance from the project team. Project information will be posted on OCPC's website, perhaps in a password protected section or FTP site, for easy, remote access by TAC members. Information will also be distributed using OCPC's email network/list.

Because this evaluation project and the Bridgewater State College (BSC) watershed study are inextricably linked, we will also explore the idea of holding joint meetings with the TAC and the BSC Study's Steering Committee to share information, ensure a coordinated approach and prevent unnecessary overlap. This linkage will also assume that the Southeastern Regional Planning & Economic Development District (SRPEDD) has an active role in the future of its member communities.

Public Outreach Program

In addition to the TAC, we recommend that a public outreach program be developed for the project, which is coordinated with BSC watershed study outreach activities. This is important to build on and leverage the efforts and resources of both projects.

Based on the goals and strategies listed above, our team will undertake a number of activities to share information about the planning project, collect public questions and comments, and respond to issues that arise:

- In consultation with the TAC, OCPC and DEP, we will coordinate public meetings in three sub-regions of the project area at key milestones to share information with stakeholders and receive comments and other important input. Local cable stations will be invited to attend to film the proceedings for later broadcast. Both the general public and interested stakeholders will be invited to participate in these events.
- We recommend other outreach activities, such as establishing a listserv to share information with stakeholders throughout the communities of the region, posting information on OCPC's website, and preparing written materials such as a newsletter and project updates that can also be distributed by email and posted on the website.
- Our team will work with the TAC, OCPC, SEPEDD, and DEP to reach out to local and regional press by scheduling editorial board meetings and periodic briefings for reporters. In our experience, increasing the amount of information on regional wastewater problems in local media reinforces the need for planning and solutions.



Failed septic tank

Task 2 – Community Needs

The 14 communities in the Upper Taunton River Basin study area differ significantly in their existing wastewater infrastructure, and therefore the wastewater management needs of those individual communities can be expected to differ significantly. The purpose of this task is to gather basic information about the wastewater needs of individual communities, and the wastewater infrastructure assets they can bring to possible regional solutions.

The study area communities can generally be separated into three categories based on their existing infrastructure:

- Communities that are principally (or entirely) sewerred (e.g. Brockton, Whitman).
- Communities that are partially sewerred (e.g. Bridgewater, Norton).
- Communities that have no or minimal public sewerred (e.g. Avon, East Bridgewater, Easton, Sharon, West Bridgewater).

Wastewater management needs for municipalities that are principally sewerred generally are focused on the restoration and upkeep of those existing facilities. This includes projects like facility repair, improvement and modernization projects for wastewater treatment facilities and pump stations, and sewer system (pipeline) repair, rehabilitation and improvement projects, including projects for the control and elimination of infiltration and inflow.

Wastewater management needs for municipalities that are unsewerred are generally focused on the need for new wastewater infrastructure. Most communities have some needs for wastewater infrastructure to provide off-site solutions to properties that are poorly suited to on-site (Title 5) wastewater disposal. In many cases these wastewater needs are related to existing properties that have functional problems (failures) or environmental impacts related to marginal on-site systems. Some communities also identify

wastewater management needs related to desired economic development in areas served by on-site systems, but due to the desire to achieve higher/better use of land, would be better served by public sewerred.

Those communities that are partially sewerred may have needs related to both existing wastewater infrastructure and the need for new infrastructure. Considerations for these communities may include “flow trade-offs” to allow capacity for further connections (for example, infiltration/inflow reduction to allow new sewer connections).

An effective wastewater management plan for the Taunton River Basin must recognize all types of wastewater needs in order to provide broad value across the planning area. The consideration of needs for rehabilitation of existing infrastructure alongside needs for new infrastructure will assure a best capture of needs for all study area communities, and best provide a consistent basis for support of project recommendations within the basin. It will therefore be important that the needs evaluation work performed as part of this study include a capture of all significant types of wastewater management needs.

The intent of this study will be to take advantage of existing information that each individual city or town has compiled relative to wastewater management. The inherent problem in relying on existing data is that the communities are at different points in the planning process – some have completed detailed comprehensive wastewater management plans, while others have not yet begun any significant wastewater planning. Our approach in this study will be to compile wastewater needs information from available local planning documents (a task that we have commenced to some degree as part of our proposal reconnaissance work completed to date).

The current status of wastewater planning documents for each community is summarized in the Table 1-2.

Summary of Wastewater Planning Status for Communities in the Study Area	
Community	Wastewater Planning Status
Abington	Sewered Community - WWFP Completed 1986
Avon	Draft CWMP Report Sections Completed 2004
Bridgewater	CWMP Completed 2001
Brockton	Sewered Community -Facility Plan/ Capital Planning Ongoing
East Bridgewater	CWMP Completed 2006
Easton	CWMP Ongoing
Foxboro	CWMP Completed 2005
Mansfield	CWMP and Capital Planning Ongoing
Norton	CWRMP Completed 2005
Raynham	CWMP/EIR To Be Completed
Sharon	Some Site-Specific Wastewater Planning
Taunton	Sewered Community CWMPs Completed 2003
West Bridgewater	Limited Scope PER Completed 2006
Whitman	Sewered Community -Master Plan/ Capital Planning Ongoing

Table 1-2
Summary of wastewater planning status for communities in the study area.

In addition to the individual communities, there are a number of public, quasi-public and/or institutional entities located within the planning area that may need to be considered separately from the municipalities. The major examples of this are properties and facilities owned by the Commonwealth of Massachusetts – including significant parcels controlled by the Department of Conservation and Recreation (DCR) and Department of Corrections (DOC), among others. There are also key institutional facilities, including educational facilities such as Wheaton College and correctional facilities such as MCI-Bridgewater, which have significant individual wastewater challenges that should be considered in the regional plan. We will work with DEP in seeking to

identify key regional entities that should be included in discussions beyond the municipal planning level, with the intent that the needs summary process be inclusive of all large flow governmental/institutional properties and facilities.

We propose a two part approach to the development of community specific wastewater infrastructure needs:

For every community we will compile from available documents relevant information concerning their specific needs and infrastructure. This will include treatment plant sizing, treatment levels, existing flow and load data, projected sewer needs areas, identified land application disposal sites, estimated future flows, and information concerning institutional arrangements between communities. This information will be organized into a comprehensive inventory of needs.

This inventory will undoubtedly identify additional information that will need to be gathered for every community, to bring each community up to a common level of understanding. To fill in these data gaps we will visit each community to acquire the additional wastewater needs information.

Based on our reconnaissance at this time, we believe that the most significant additional work will need to focus on Sharon and West Bridgewater, communities where comprehensive assessments of future needs have not yet been undertaken. Our methodology for addressing future sewer needs for these towns will be to acquire readily available information on Title 5 compliance, areas of high groundwater, areas with poorly drained soils, density of development, GIS mapping, and discussions with local officials (including public works, planning and boards of health representatives). Initial findings will be ‘Proofed’ with Town Board of Health agents to use as a basis for generating sewer needs areas maps for each community. These areas will be depicted on sewer service area maps for the communities in the project area.

Armed with existing and proposed sewer service area maps, we will generate projected wastewater flows for the following:

- Existing Sewered Areas-Existing Flows
- Existing Sewered Areas-Future Flows
- Future Sewer Service Areas-Existing Flows
- Future Sewer Service Areas-Future Flows

To generate future flows, we will rely on projections extrapolated from OCPC and SRPEDD data.

These reviews should provide some basic wastewater needs data for those communities lacking detailed data, keeping in mind that we only need to develop an estimated flow sufficient to size regional alternatives. Together, the data culled from existing community plans and the newly collected/generated data will allow us to provide a regional depiction of the status of wastewater needs in a Regional Wastewater Needs Summary.

We will utilize the collected data in the Regional Wastewater Needs Summary to qualify and quantify, to the extent possible on a planning-level analysis:

- The areas of each community with needs for new sewer infrastructure, and the associated wastewater treatment/disposal capacity required to address those needs
- The infrastructure management needs to restore/update existing sewer infrastructure (including WWTFs) in for each community.

The information in the summary will form the basis of the subsequent screening of alternatives for possible solutions to the area's wastewater challenges.

Task 3 – Alternatives Development and Evaluation

Introduction

This task presents The CDM team's specific

approach to the development and evaluation of regional alternatives. As discussed above, this involves a multi-step process conducted in close collaboration with the TAC to define and then refine a list of options that will be carried into the Phase 2 EIR process. This task begins with the collection of supplemental data to support the development of alternatives, and then proceeds through the formulation and evaluation of alternatives with the TAC.

The focus of this task is the development of disposal alternatives for current and future wastewater flows, for it is disposal that presents the most difficult wastewater management challenge. Local rivers are small and have limited assimilative capacity. Simple solutions, such as relocating outfalls to regions with more adequate dispersion, are not favored, because this disrupts what would otherwise be the natural water balance of an area. This compels a relatively high level of treatment requirement, and has forced communities to look for local, available land application sites within their own boundaries. In many instances, these efforts have failed to find complete solutions, or have resulted in solutions that are very expensive.

This study will look at the full range of disposal alternatives, building on existing infrastructure to the maximum extent feasible. Alternatives to be considered will include:

- Simple solutions, such as outfall relocation, acknowledging the inherent problems associated with this approach, and putting it into the context of an overall water balance of the watershed.
- Searches for additional recharge area in communities not yet surveyed, and in ownership that has not, as yet, been evaluated, such as state owned lands.
- Development of alternatives for treated water reuse – which also serves as a method of disposal. This could incorporate “wholesale” reuse by golf courses, nurseries, and industrial parks for irrigation, as well as “retail” residential reuse, a practice that is becoming increasingly common throughout the US.

- Wetlands augmentation: given the high degree of treatment provided in the region, options involving wetlands augmentation, especially in the deep summertime must be considered. This would have the benefit of improving baseflow and enhancing wetlands functionality. This option could take the form of constructed wetlands adjacent to existing systems, or direct discharge into existing systems.

We will develop alternatives using these disposal techniques separately for each of three geographies: Brockton and its associated communities; Mansfield and its associated communities and Taunton and its associated communities. Certain communities, such as Easton may be part of more than one subregion. For each of these regions we will develop basic flow forecasts – including sensitivity allowances to account for uncertain future conditions. Using design guidelines and criteria developed as part of this project we will then formulate alternatives for consideration by the TAC.

In an alternatives development workshop with the TAC we will review the options for concurrence by the TAC. We will prepare written descriptions of the options, provide supporting graphics and explanations as to how why these alternatives were developed. The purpose of this first workshop will be to get general agreement on the alternatives to be evaluated.

Once the alternatives have been defined, we will evaluate the alternatives using screening criteria that have been developed with the TAC. We expect that the criteria will be mostly qualitative, although we will attempt to quantify the relative cost differences between alternatives using local costs for treatment and transport of wastewater.

The list of criteria to be used needs to be developed jointly between the TAC and The CDM team. Below are some of the criteria that will be considered when establishing the list of alternatives to be considered in Step II:

- Does the alternative meet the long-term goals of the study with regard to providing adequate wastewater treatment and disposal?

- Does the alternative enhance the concept of “keeping water local?”
- Does the alternative incorporate approaches or technologies not employed successfully elsewhere or in the Commonwealth?
- Does the alternative allow for expansion to address future regulatory changes?
- Is the alternative environmentally sound?
- Will the alternative require local regulatory variances that may make it undesirable to the public?
- Will construction of the proposed alternative be such that mitigation measures will likely not be possible thus creating an unacceptable project to the residents and business owners?
- Do institutional considerations argue against further consideration of the alternative?
- Are the costs reasonably comparable to the costs of other alternatives?
- Does the alternative provide environmental benefit to the entire Taunton River Watershed?
- Does the alternative provide “win-win” opportunities for all of the involved communities when all evaluation factors are weighed?
- Are potential growth issues acceptable and/or controllable.



Using the above criteria, and others developed in concert with the TAC, a set of feasible and practical alternatives, plus the “no action” alternative will be selected for each subregion for further evaluation in Phase II. A memo will be prepared that documents the selection of the alternatives.

The specific steps that will be undertaken to accomplish the alternatives development and evaluation are as follows:

Collect Additional Data

Development of the alternatives will require additional information that is not normally part of the wastewater planning that communities undertake. In conjunction with the inventory described in Task 2 we will also obtain the following information on a community by community basis:

- Large scale reuse opportunities, such as golf courses, industrial parks and nurseries
- Potential land application sites not previously evaluated, including state lands
- Summer/Winter water use statistics, to determine the potential for residential reuse opportunities.
- Significant wetlands systems that could be used with wetlands augmentation for effluent disposal.

Create Guidelines for the Development of Alternatives

Basic design criteria for the creation of alternative will be developed, including minimum levels of treatment necessary to support various uses, application rates for land disposal systems, limitations on wetlands augmentation, requirements for minimum levels of dispersion for assessment of relocated outfalls and seasonal discharges and redundancy requirements associated with each alternative.

Develop Initial Set of Alternatives

For each of the three geographies, identify the no-action (current status) alternative; develop estimated flows and loads for treatment works, and

create alternatives for each of the disposal methods (land application, reuse, wetlands augmentation and outfall relocation). Develop each alternative so as to maximize the opportunities for other disposal approaches. Describe the alternative and discuss with the TAC for the purpose of developing agreement on the viability and benefits of alternatives. Discuss and agree on criteria for the evaluation of alternatives.

Evaluate Alternatives

Using criteria developed in conjunction with the TAC, develop a written assessment of the options. Qualitatively describe the impacts of the options on key issues. In conjunction with the TAC, identify the options most worthy of consideration for use in Phase II of the Study, along with the no action alternative.

Develop Technical Memo

Develop a technical memo to support the selection of the alternatives for Phase II. Describe the process followed, the alternatives evaluated and the results and rationale for the conclusions.

Task 4 – Develop and Submit ENF

The major deliverable for this project is an ENF suitable for filing with the MEPA office. The purpose of the ENF will be to provide sufficient information on key issues such that the interested public can understand how the proposed alternatives were developed, and so that Secretary of Environmental Affairs can issue a certificate that clearly focuses the next phase of the Study. Because the project is expected to evaluate a wide of range of options that have not been commonly used in Massachusetts or the Northeast, it is expected that the document will generate significant local and regional interest.

The scope for the ENF task will be integrated also into Tasks 2 and 3 as this project will require a coordinated effort to identify and evaluate regional wastewater issues and solutions in the Upper Taunton River Watershed. Environmental planners and scientists will work closely with water resources engineers to identify possible alternatives,

develop applicable screening criteria, objectively screen alternatives and evaluate feasible alternatives identified in the screening process. It is suggested that this process, in addition to meeting MEPA regulations and guidelines, also be coordinated with federal alternatives analysis guidelines established for Section 404 of the Clean Water Act and NEPA implementation guidelines. By doing this, the alternatives analysis will also satisfy federal agencies permitting requirements for the future permitting phase for implementing identified project elements.

To ensure this project is developed in a manner consistent with state and federal requirements, the approach includes a joint “pre-application” meeting with federal and state agency staff to describe the project, review potential regional solutions, and to seek input on the proposed actions and perceived challenges to the proposed actions. This will provide guidance moving forward through MEPA review. Another option to garner agency input is include state and federal agency staff on the TAC. Meeting with agencies prior to submitting the ENF will allow us to acknowledge those concerns and address them in the ENF so that agency comments on the ENF are focused on critical project elements with the goal of receiving a well defined and focused scope for the DEIR.

The CDM team will prepare an Environmental Notification Form (ENF) per MEPA regulations for the Upper Taunton River Regional Wastewater Evaluation Project. It is assumed that an Environmental Impact Report (EIR) will be required by MEPA, and is identified as a Phase II activity. The scope of this work involves scheduling a “pre application” meeting with state and federal agencies prior to completing the ENF so that those concerns can be incorporated in the alternatives assessment and addressed in the ENF. A single ENF will be prepared for this project with the major focus of the ENF being the alternatives analysis that has been conducted to identify a workable set of feasible alternatives for further evaluation in greater detail in the EIR.

The ENF document will be prepared to address all

relevant issues in compliance with the MEPA requirements and will address the following issues:

Project Description and Permitting.

Description of the basic project purpose, description of the evaluation project, and identification of the federal, state and local environmental permits anticipated for the feasible alternatives to be presented in the ENF.

Alternatives Analysis.

The alternatives analysis conducted as part of Task 3 will be described in detail, relying in large part on the Task 3 alternatives screening report.

Existing Conditions Evaluation.

The following factors will be described/evaluated to identify conditions within the watershed, in compliance with MEPA regulations and NEPA guidelines.

- Land Use
- Built Environment
- Geology
- Sensitive Receptors
- Wildlife Habitat
 - Rare, Threatened and Endangered Species
 - Core Biohabitats
- Wetland Resources
- Hockomock Swamp ACEC
- Water Supply
- Wastewater, Storm Water and Water Quality of the Taunton River
- Transportation and Roadways
- Energy
- Air Quality
- Oil and Hazardous Materials Contamination

- Historic and Archaeological Resources
- Environmental Justice

Future Conditions Evaluation.

This section will focus on water use and wastewater generation and disposal for the 20-year horizon for the feasible alternatives and no-build alternatives.

Impact Analysis.

The impacts to the natural and built environments, as listed above for item number 3, will be identified and evaluated for the feasible alternatives, as applicable. Direct and indirect impacts will be identified. These impacts will be compared to no-built alternative to qualitatively and/or quantitatively evaluate the impacts or change in conditions to the Taunton River.

Mitigation Measures.

Based on the identification and evaluation of impacts to the natural and built environments, a package of measures to mitigate direct and indirect impacts will be preliminarily developed for the feasible alternatives. This section will also address Executive Order 385 (Planning for Growth) as part of the indirect impacts and mitigation.

ENF Submission and MEPA Consultation Session.

The CDM team will submit the ENF to MEPA and distribute it pursuant to the MEPA Regulations. Following submission of the ENF, the CDM team will prepare for and attend a MEPA Consultation Session in support of the project.

MEPA Follow-Up.

Upon completion of the MEPA review period, The CDM team will collect and collate copies of the ENF Comments and bind them with the Certificate on the ENF for the DEP. The CDM team will prepare a detailed scope of work and budget for the Phase II study and Draft EIR based on the Secretary's Certificate on the ENF.

Task 5 – Prepare Reports and Memoranda

Each of the tasks identified as part of the scope include the development of individual reports to document the findings and conclusions of the task. As part of this task we will consolidate the reports into a single unified document. This can be used in conjunction with the ENF to provide information to interested parties.

The report will be prepared in two steps – first in draft form for circulation to the TAC and others for review and comments. In conjunction with the development of the draft report, we will hold a meeting with the TAC to present the report, and to receive initial comments. Upon receipt of all comments we will develop the final version for delivery with the ENF.

Task 6 – Coordinate with Taunton River Watershed Study Team

The ongoing Taunton River Watershed Study includes components related to wastewater, drinking water and stormwater issues throughout the entire watershed. The Upper Taunton River Regional Wastewater Evaluation Project includes 14 of the 43 cities and towns in the Taunton River Watershed.

Weston & Sampson (W&S) is actively involved in the watershed study as a sub-consultant to Horsley Witten Group, Inc. W&S's role is focused on assisting in the development of water budgets through compilation of information related to public and private wastewater and drinking water systems throughout the watershed. Data verification and development of water use estimates and wastewater flows for representative municipalities are some of the tasks to be completed by W&S based on first-hand knowledge of existing municipal infrastructure in the watershed.

In addition, W&S will have a representative at most of the Taunton River Watershed project meetings including stakeholder and steering committee meetings and “charrettes” specifically related to

water and wastewater issues. As such, Weston & Sampson will have up-to-date information related to the entire Watershed Management Plan activities and development, with a focus on wastewater and drinking water infrastructure. The focus will be on Task 3 - Water Budgets and Smart Growth, that include “Data Collection and Evaluation” and “Water Budget” tasks. With our team’s in-depth knowledge of water infrastructure-related issues in most, if not all, of the planning area communities, we are positioned to minimize or eliminate overlap of work effort and data gaps between the two regional studies.

For budgeting purposes, it will only be necessary to have a representative at scheduled Taunton River Watershed Study stakeholder meetings to provide information relative to the Upper Taunton River Regional Wastewater Study, and to provide limited follow up effort in order to respond to issues raised during the coordination meetings .

With regard to the coordination and review of the water balance model design, The CDM team will provide an independent review of the assumptions, analysis and model results for representative sub-watersheds in the Upper Taunton Wastewater Plan communities. This will also include a “reasonableness check” of the GIS-derived watershed maps and reporting for the same sub-watersheds.

Task 7 – Additional Work

The scope of work presented above provides for all of the components presented in the RFP. While not strictly additional work – and requiring no budget beyond that presented in our price proposal, we believe that the effort put towards TAC Coordination deserves special remarks. We are cognizant that the resources allotted to this task are significant, and certainly more than a barebones approach might otherwise involve. But we firmly believe that local buy-in, which can be obtained only through extensive education of key stakeholders is critical to pulling together a successful project. The involvement and investment of local officials will be central to ensuring that the project moves forward expeditiously, especially if

the solutions involve innovative approaches, or encroach on lands or interests previously considered taboo.

In addition to this work, we believe that it would be prudent to earmark the monies available to the project above our estimated costs for the conduct of site specific investigations to confirm the viability of large tracts of land potentially available for land application. While such investigation would not be fully determinative of the suitability of sites, making provision for some such could possibly reduce the uncertainties associated with land disposal options.