

A requirement avoiding slopes greater than 15% as well as having inadequate, poorly drained soils and 17 properties (23% of total) would not be able to meet requirements due to insufficient lot size. Many of the 31 remaining properties (42%) had overlapping issues such as insufficient lot size coupled with steep slopes, flood plain, poor soils and/or being within limiting distances of watercourses.

Another review was then completed to determine the number of lots in the Proposed Service Area that could support an individual on-site septic system without the required 100 percent leach field reserve area available. This review determined that 23 of 73 properties (31% of total) could maintain an individual on-site septic system without the required 100 percent leach field reserve area available. Of the 50 remaining properties (68% of total) properties, 6 properties (8% of total) would not meet the 2012 NYSDOH Residential Onsite Wastewater Treatment Systems Design Handbook's strong recommendation to avoid the 100-year flood plain, 2 properties (3% of total) cannot avoid the 100' offset from streams, 5 properties (7% of total) would not meet the NYCWRR Part 75 and Appendix 75-A requirement avoiding slopes greater than 15% as well as having inadequate, poorly drained soils and 13 properties (18% of total) would not be able to meet requirements due to insufficient lot size. The 24 remaining properties (33% of total) had overlapping issues such as insufficient lot size coupled with steep slopes, flood plain, poor soils and/or being within limiting distances of watercourses. See Exhibit 6.3.a.A for the Septic Limitation Map w/o 100% Reserve Area. As a comparison to the Shandaken percentages above, see below table that outlines the percentages for previous CWMP projects:

CWMP II Septic Maintenance District Evaluation				
CWMP Hamlet	Number of Lots (Main Service Area Only)	Percentage of Properties that can Maintain a Conventional Septic System with 100% Reserve Area	Percentage of Properties that can Maintain a Conventional Septic System with and without 100% Reserve Area	Percentage of Properties that require an Engineered System
DeLancey	59	58%	73%	27%
Hamden	82	39%	56%	44%
Bloomville	108	13%	32%	68%
Boiceville	104	13%	32%	68%
Ashland	87	9%	17%	83%
Trout Creek	51	12%	24%	76%
Lexington	66	15%	15%	85%
South Kortright	48	6%	19%	81%
Shandaken	73	21%	31%	69%

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The properties with site constraints could accommodate a specially engineered system utilizing advanced treatment systems. An engineered system would include some type of advanced treatment system (pretreatment) ahead of the subsurface system, like a peat biofilter, sand filter, trickling filter, or aerobic treatment unit. Because the effluent from these advanced treatment systems is cleaner than the effluent from a septic tank, the subsurface system size could be reduced to fit on a smaller lot, or the system could be sited with a reduced separation distance to groundwater, surface water or bedrock, or be designed in a fill system, thereby allowing these lots with soil, slope, and other site constraints to support their own on-site treatment systems. A potential Hamlet of Shandaken Septic Maintenance District for the Proposed Service Area would require extensive site testing and analysis of each property during the preconstruction phase.

When these types of engineered systems are sited in poor soils or steep slopes, the systems are more likely to fail in a shorter period of time than a conventional septic system on good soils. In Shandaken, there are approximately thirteen (13) properties (18% of the total) that have slopes and/or soils as the most significant site constraint. While there is the potential for damage that would require repairs to an on-site system located in the 100-year flood plain in the event of an extreme flood, the life of a system sited in the 100-year flood plain is typically not otherwise significantly reduced.

However, due to the soils and significant slopes on the north side of New York State Route 28 and 42 in the Proposed Service Area, the lot sizes, the existence of a private well on each lot, the location of many properties in the 100-year flood plain, the close proximity of many properties to water courses, the majority (68%) of the properties in the Hamlet of Shandaken are not able to support a properly functioning, up-to-standards septic system even without allotting space for the required 100% reserve area.

It was observed that there are significantly more vacant lots within or adjacent to the Proposed Service Area for Shandaken, and that many of those vacant lots were on soils suitable for leach fields. If adequate nearby vacant lots could be identified, the properties with site constraints could be served by various types of on-site systems, including on-site systems with individual remote leach fields. The Septic Limitation Map was further evaluated and vacant lots were identified that could site remote individual leach fields (see Exhibit 8.2.A. SMD On-Site and Remote Systems Map).

In consideration of the above, a Septic Maintenance District is recommended as the preferred wastewater solution for the Hamlet of Shandaken.

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## SECTION 7

### **Proposed Hydraulic Loading**

Since each property within the Proposed Septic Maintenance District will receive their own on-site septic system, the flow for each residential property will be based on 10 NYCRR Part 75 and Appendix 75-A. The flow for non-residential properties will be based on 1988 NYSDEC Standards for intermediate sized sewage facilities. Each system will be designed to handle Average Day, Maximum Day and Peak Hourly flows.

See Exhibit 5.2.B for the Wastewater Flow Estimate for the Hamlet of Shandaken.

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## SECTION 8

### Septic Maintenance District Site Identification and Testing

#### 8.1. Septic Maintenance District Site A Testing

The NYSEFC Report identified one site, Site A, for a cluster septic system, one portion of the wastewater treatment option EFC identified for the Hamlet. The site is comprised of three (3) properties, tax map parcel numbers 5.17-1-12.1, 5.17-1-12.2, 5.13-3-4. The site is mainly located within the 100-year flood plain, but a small area along NYS Route 28, approximately 1.3 acres in size, could be used for a community cluster septic system site.

As part of previous work authorized by the Catskill Watershed Corporation, 3 deep tests and 3 percolation tests were performed on the site. Percolation test results ranged from 3 to 6 min/in and deep test pits showed a gravelly loam and sandy gravel with groundwater deeper than 7'-0". See Exhibit 8.1.A, Site A Stage 1 Testing. Based on this testing it was determined that Site A appears to be suitable for subsurface disposal. Further testing of the site is warranted to confirm this determination and what the final application rate would be.

However, the usable area of Site A is not large enough to accommodate all of the properties that require remote leach fields (See Section 9.1). Therefore, additional remote leach field sites are required.

#### 8.2. Identify Potential Sites for Remote Individual Leach Fields

The Septic Limitation Map was evaluated in detail to identify potential sites for individual remote leach fields. The resultant map, the SMD On-Site and Remote Systems Map (see Exhibit 8.2.A) revealed a clear demarcation of the soils in the Hamlet with the poorest soils and steepest slopes starting in the east and sweeping toward the northwest portion of the Hamlet, and with better soils located in the center of the Hamlet north of NYS Route 28.

There are a number of vacant lots located in the center of the Hamlet that have adequate soils to be able to support remote individual leach fields (See Exhibit 8.2.A. SMD On-Site and Remote Systems Map). Site A was identified and discussed in Section 8.1., above. Site A can support 11 remote individual leach fields. Site B is located adjacent to the proposed service area west of Linton Road and could host four (4) remote individual leach fields. Site C consists of two parcels that would need to be combined. This site is in the center of Hamlet and could support three (3) remote individual leach fields. Site D is a vacant parcel that is across NYS Route 42 from an occupied property currently owned by the same property owner and could host a remote individual leach field system for the

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occupied property. There are a total of 19 occupied properties that can be served by on-site septic tanks and remote individual leach fields on adequate sites in and near the proposed service area.

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## SECTION 9

### Wastewater System Alternatives and Discussion

#### 9.1. Wastewater Treatment System Preferred Solution

As described in Section 6, the preferred wastewater treatment solution for the Hamlet of Shandaken is on-site septic systems in a Septic Maintenance District.

There are 73 lots in the proposed Septic Maintenance District, with 55 of the lots currently occupied, and 18 currently vacant (see SMD On-Site and Remote Systems Map in Exhibit 8.2.A and SMD Parcel List in Exhibit 9.1.A).

To assist with more detailed analysis and cost estimates, four (4) categories of prescribed septic systems were identified and utilized, as follows:

Simple Conventional On-Site System that consists of a septic tank and a standard disposal system (gravity leach field that is constructed in native soil). There are 16 occupied lots that do not have site constraints. These lots could be served by Simple Conventional on-site systems.

Special Conventional On-Site System consisting of a septic tank, and a non-standard disposal system due to various site and soil restrictions. The non-standard disposal system could consist of cut-and-fill absorption beds, cut-and-fill leach fields, etc. There are 11 occupied properties that have constraints but could support Special Conventional on-site systems. One (1) of the lots is adjacent to a vacant lot owned by the same property owner; combining those lots would provide enough capacity to serve the combined lot with a Special Conventional on-site system. Ten (10) of these properties are limited because of slow soils and are located within the 100-year floodplain. It is possible to locate on-site septic systems on these properties if the bottom of the leach field is above the 10-year floodplain elevation. Engineering judgment and past experience with sites in similar locations indicates that these sites could support Special Conventional on-site systems without pretreatment. If the SMD option is chosen, a flood study will need to be conducted during the pre-construction phase to determine the 10-year floodplain elevation and confirm these findings.

Special Conventional System with Pretreatment as described above, preceded by a secondary treatment system that could consist of a manufactured filtration system, a single pass sand filter, or other type of pretreatment systems. These systems are used for lots where water quality is a primary concern, such as lots in close proximity to water courses, private wells, etc. There are nine (9) lots that would require an on-site Special Conventional

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System with Pretreatment due to proximity to water courses, and private wells.

Remote Leach Field consisting of an on-site septic tank and pump where the septic tank effluent is pumped via an individual force main to an individual off-site standard or cut-and-fill disposal system (power cost for pump to be provided by homeowner) (see Exhibit 9.1.B. SMD Typical Remote Leach Field).

Vacant sites were identified in the Hamlet that could host remote individual leach fields (see Exhibit 8.2.A). Site A was identified and discussed in Section 8.1. Site A can support 11 remote individual leach fields. Site B is located adjacent to the proposed service area west of Linton Road and could host four (4) remote individual leach fields. Site C consists of two parcels that would need to be combined. This site is in the center of Hamlet and could support three (3) remote individual leach fields. Site D is a vacant parcel that is across NYS Route 42 from an occupied property currently owned by the same property owner and could host a remote individual leach field system for the occupied property. There are a total of 19 occupied properties that can be served by on-site septic tanks and remote individual leach fields on adequate sites in and near the proposed service area.

In summary, there are 16 properties that could be served by Simple Conventional systems, 11 properties that could be served by Special Conventional systems, 9 lots that could be served by Special Conventional with Pretreatment, 19 lots that could be served by on-site septic tanks and remote individual leach fields, and five (5) vacant lots that will be served by on-site septic systems (see Exhibits 8.2.A., 9.1.A. and 9.1.B).

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## **SECTION 10**

### **Evaluate Preferred Solution**

#### **10.1. On-Site Septic Systems in a Septic Maintenance District**

The preferred wastewater treatment solution for the Hamlet of Shandaken is on-site septic systems in a Septic Maintenance District.

There are 73 lots in the proposed Septic Maintenance District, with 55 of the lots currently occupied. Accounting for 10% growth would add 5 more lots for a total of 60 lots. For those additional five (5) lots, it is assumed that they will be constructed upon in the future and those systems will need to be managed and repaired by the Septic Maintenance District, but that the initial construction of the on-site septic system will be completed by the property owner before being turned over to the District. Therefore, to ensure the Septic Maintenance District capital fund is adequate to repair or replace all existing systems and systems to be built and turned over to the District in the future, the recommended plan is to fund through the CWMP block grant a new-on-site septic system for the 60 currently occupied and potentially buildable vacant lots in the District.

Actual on-site system costs from the DeLancey Septic Maintenance District were analyzed and adjusted for inflation and used to develop costs for the on-site systems proposed for Shandaken (see Exhibit 10.1.B, SMD Basis of Cost for Septic Systems).

Existing on-site septic systems will be inspected, tested and evaluated by a qualified individual to determine if they are adequate for the wastewater flows for that property during the pre-construction phase. The properties will be categorized as failing, likely to fail in the future, or adequate. The systems identified as failing will have the necessary repairs or replacements designed as part of the pre-construction phase, and those replacement systems will be constructed during the construction phase. Based on the DeLancey experience, it is anticipated that approximately a third of the systems will be identified as failing and will be repaired or replaced in the pre-construction and construction phases. The vacant lots that are needed to accommodate all of the properties identified as needing remote leach field sites will be acquired by the Septic Maintenance District as part of the pre-construction phase.

The systems identified as either likely to fail or adequate will be monitored by the District, which will repair or replace them entirely at some time in the future when that will be deemed necessary. Any money remaining in the block grant after the initial inspections, design and construction of the necessary repairs and replacements will be invested by the Town for use in future repair and replacement work. After the initial capital project that will replace approximately a third of the systems, it is



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anticipated that the remaining two thirds will be replaced at a rate of one per year over a period of 40 years.

See Exhibit 10.1.A, Opinion of Probable Cost Estimate Breakdown – On-Site Septic Systems in a Septic Maintenance District. Also see Exhibit 10.1.B, SMD Basis of Cost for Septic Systems.

Capital Cost On-Site Septic Systems in a Septic Maintenance District	
TOTAL CONSTRUCTION* =	\$ 4,970,000
LAND ACQUISITION =	\$ 500,000
O&M* =	\$ 1,300,000
TOTAL COST	<b>\$ 6,770,000</b>
O&M Cost (Yearly)	\$ 24,000

\* Equals 3.33% inflation of estimated capital and annual O&M costs over 41 years with investment returns at 2%, based on building 20 systems in year one (1) and then one (1) system per year to replace all 60 systems once.

The O&M Cost (yearly) includes the cost for the SMD to administer and manage the system, monitor the systems, keep the books, pump out the septic tanks on a regular basis, check and clean the effluent filters on the septic tanks, manage minor repairs to the systems and do required maintenance on the pretreatment systems, including servicing pumps as necessary. Any needed repairs to the systems would come out of the capital fund.

The money allotted to the O&M fund accounts for construction inflation and will be invested by the Town at an assumed average return of 2%. The income gained each year from this fund will be used for operation and maintenance of the systems within the Septic Maintenance District. Since the operation and maintenance will be subsidized by the return on the investment of the O&M fund, it will be the decision of the community to determine if and when individual properties will be charged an annual fee.

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## 10.2 .Permits and Approvals Needed

As typical with a project of this size, many different regulatory and approval agencies would be involved in the project. The State Environmental Quality Review process (also known as SEQR) is required to be completed. In complicated cases, SEQR and permitting can take over a year to complete. A community wastewater management system in general should be viewed as a net environmental benefit to the community and should avoid, wherever possible, permanent negative impacts on the environment. A final design that takes these issues into consideration would likely shorten the SEQR and permitting process.

Permits from the Army Corps of Engineers (ACOE), NYSDEC, NYSDOT, NYCDEP, the County and Town may be required. Design approvals are required from NYSDEC, NYSDOH, NYCDEP, the Town and CWC. See Exhibit 10.2.A for the required permit and approvals inventory and the list of associated agencies.

## 10.3. Identify Additional Funding Sources

The Governor's Office of Small Cities has grants available for low to moderate income service areas and individual homeowners. If a service area is comprised of a majority of low to moderate income eligible property owners, then the municipality may apply for a grant to assist with the capital costs of the project. Even if the service area does not meet this requirement, a municipality may still apply to Small Cities to assist individual homeowners who are eligible with the cost of the installation of their laterals. This is a competitive grant program with an annual funding round and the maximum requested amount for a single focus application is \$400,000.

Lastly, the USDA RD has loans available for income-eligible senior citizens. These are individual applications to be completed and submitted by the homeowner.

## 10.4. Timeframe to Complete

The preconstruction phase deadline is December 31, 2016. This includes facility planning and final design, permitting, property acquisitions, easement acquisition, environmental review, design approval from NYCDEP and NYSDEC, and the development of construction drawings and documents for bidding. The deadline to start construction is December 31, 2016. The deadline to complete construction of the system is June 30, 2018, including final restoration, startup and closeout. The costs presented in this section are based on this schedule. Therefore, any significant delays could cause these costs to escalate due to inflation. Typically, once we have approval to begin design, the preconstruction phase takes 12 to 18 months to design, approve, and the project can be bid.

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## SECTION 11

### **Recommendations and Conclusions**

A Septic Maintenance District is recommended for Shandaken for the following reasons:

- Every property in the proposed service area can be served either by an on-site system, or with the purchase of vacant lots in the Hamlet, with on-site septic tanks and remote individual leach fields.
- The proposed Septic Maintenance District option allows for 10% future growth by budgeting for ultimate replacement of septic systems on five (5) vacant lots in the District.
- There are no costs to the residential and commercial properties, unless at its discretion the Town of Shandaken implements a user fee.
- Operation and maintenance of the system is less complex than for some technical wastewater treatment options.
- The establishment of a Septic Maintenance District relieves the property owners of worry about replacement of their system in the future because the on-site septic systems become the responsibility of the District.
- On-site wells on substandard lots will be protected by the installation of pretreatment of the wastewater before being discharged to the subsurface system. The pretreatment system treats the wastewater to secondary treatment standards.

However, there are these disadvantages with a Septic Maintenance District for Shandaken:

- Vacant lots and easements for the individual force mains will be challenging to acquire for the off-site individual leach fields in the proposed SMD.
- Change of use for properties may prove difficult or impractical under an SMD.

On-Site Septic Systems in a Septic Maintenance District could be implemented in the Hamlet of Shandaken with 16 properties that could be served by Simple Conventional systems, 11 properties that could be served by Special Conventional systems, 9 lots that could be served by Special Systems with Pretreatment, 19 lots that could be served by on-site septic tanks and remote individual leach fields, and five (5) vacant lots that could be served by on-site septic systems.

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Summary of Wastewater Treatment with Total Project Costs and O&M Costs	
TOTAL CONSTRUCTION* =	\$ 4,970,000
LAND ACQUISITION =	\$ 500,000
O&M* =	\$ 1,300,000
TOTAL COST	<b>\$ 6,770,000</b>
O&M Cost (Yearly)	\$ 24,000

\* Equals 3.33% inflation of estimated capital and annual O&M costs over 41 years with investment returns at 2%, based on building 20 systems in year one (1) and then one (1) system per year to replace all 60 systems once.

Exhibit A

Scope of Work

**SECTION I. SCOPE OF SERVICES**  
**B. RFP SECTION 2.2 STUDY PHASE**  
**1. SHANDAKEN CWMP**







## SHANDAKEN CWMP

*During preparation of this proposal, Lamont staff Chris Yacobucci and Judy Pangman conducted a condensed windshield survey of the Hamlet to confirm the number of residential and non-residential units, and to identify possible wastewater treatment sites. Julie Barown, P.E. reviewed the results of the windshield survey and available GIS and other mapping to become familiar with the Hamlet of Shandaken, and to identify potential issues and treatment sites. There appears to be numerous small and problematic lots with site constraints in the Hamlet. Should the Septic Maintenance District option not be feasible, there is a potential subsurface treatment site located near the Hamlet that has suitable soils and enough open space to accommodate a portion of the flow from the community that has the most unsuitable soils while the remainder of the community could have on-site septic systems. While this may not be the ideal situation for Shandaken, no other sites large enough to accommodate the flow from the entire community were identified, and the wastewater treatment plant alternative will likely prove unaffordable for this small community.*

### 2.2 STUDY PHASE

During this phase, the Consultant shall examine the technical feasibility, cost, planning and implementation issues for each Participating Community, using the Environmental Facilities Corporation's (EFC) Strategic Wastewater Planning Study, December 2000 and the Environmental Protection Agency's (EPA) Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems and the NYSDEC Design Standards for Intermediate Sized Wastewater Treatment Systems updated March 5, 2014 as a basis. The Consultant shall produce a written report for the CWC, DEP, and the Participating Communities detailing the findings of the Study Phase portion of the Scope of Work. The written report shall include the following.

1. Overall Task – The CWC and the Consultant shall develop an overall master plan for allocating Program Funds, along with recommended Block Grant Amount(s) for each of the five (5) Participating Communities, such that all recommended Projects can be accomplished within the limits of the Program Funds.

#### ***Deliverables:***

- *Attendance at a total of 10 monthly CWC meetings to review the project status for each community and coordinate projects (see Section II. Fees, Task 7).*
  - *Development and Presentation of overall Master Plan and Block Grant amounts to the Shandaken Town Board and residents of the Hamlet of Shandaken (see Section 2.2.3.I).*
2. The service area for the Study Phase for each identified community is delineated in EFC's December 2000, Strategic Wastewater Planning Study. If the project includes a community septic system, identify associated existing flow. The flow from the delineated service area may be adjusted from the flow estimated in Paragraph 122(c) of the Watershed MOA to equal existing flow within the agreed upon service area plus ten percent (10%).





***Deliverables:***

- *Flow Estimates (see Section II. Fees, Task 1).*
3. The Study Phase shall determine the preferred project for each community. In order to determine the preferred project, the Consultant will meet with the Communities, to insure their continuous involvement. The following describes the minimum services to be provided as part of this project that shall form the basis of the Consultant's cost proposal. The Consultant shall identify in the proposal any other services, tasks, steps, or phases that the Consultant proposes to provide as part of this project. The Consultant shall also identify any mandatory or required task that will need to be performed that may not already be in this Scope of Work.
- A. The Consultant shall proceed and cooperate with CWC, DEP, its contractors and subcontractors with respect to all program work.

***Deliverables:***

- *At CWC's discretion, attend one (1) Public Kick-off Meeting with the Shandaken Town Board, residents of the Hamlet of Shandaken, and CWC at the beginning of the Study Phase to introduce the program and project team. (As the Public Kick-Off Meeting was not mentioned in the Project Scope, it has been included in the Contingency line item (see Section II. Fees, Task 1)).*
  - *Project Management and Administration, including budget review and updates, Lamont team meetings, and ongoing communications (see Section II. Fees, Task 9).*
- B. Identify and evaluate alternate areas of service for Community Wastewater Management. This will include:

*Cost Savings Item*  
*The Public Kick-Off Meeting and the interim meeting proposed in Section 2.2.3.B. below could be combined as Lamont has a preliminary Septic Limitations Map and other data ready for presentation.*

1. Meet with the communities to obtain input on areas along and adjacent to the areas to be potentially serviced.

***Deliverable:***

- *1 Interim meeting with the Shandaken Town Board and Hamlet of Shandaken residents to review the preliminary findings and to get input on the Service Area (see Section II. Fees, Task 1).*
2. Meet with DEP and local Code Enforcement Officer to determine septic failures and replacement data.

***Deliverable:***

- *We propose calling DEP and the local Code Enforcement Officer to obtain this information, as this has been successful on past projects (see Section II. Fees, Task 1).*





3. Meet/contact the New York State Department of Transportation (NYSDOT) and County Highway Superintendent to verify ability to run infrastructure within State and County road rights-of-way. Identify issues/conditions that would have to be addressed in the construction and operation of infrastructure in State and County right-of-ways.

**Deliverable:**

- *Phone calls with NYSDOT and County Highway Superintendent (see Section II. Fees, Task 1).*

- C. Develop GIS (Geographic Information System) Data layers for the identified study areas and detail limiting site conditions which may include lot size, structures, soils, groundwater depth, DEP/DOH non-compliance issues, wetlands, floodplain, required setbacks (wells, property line, etc.), public water district.

**Deliverable:**

- *Septic Limitations Map including the GIS Data layers (see Section II. Fees, Task 1).*

- D. Subcontract the services of a qualified geotechnical testing type firm to obtain soil borings, percolation tests and deep test pits in areas of proposed infrastructure routes or at proposed sites of leach fields to verify existing subsurface conditions. Include an allowance, using unit rates for type of soil test used.

*Lamont Engineers' proposed approach for geotechnical testing is described in the Geotechnical Protocol in Section VIII. Other Information, Tab E.*

*Lamont Engineers was previously retained by CWC to perform geotechnical testing on a property in the Hamlet of Shandaken. A portion of this particular property was identified in the December 2000 Hamlet of Shandaken Strategic Wastewater Planning Study (as prepared by NYSEFC) as a potential Community Septic System site. The property was being considered for purchase through the DEP Land Acquisition Program. Knowing that the property had been identified in the NYSEFC Wastewater Study, DEP and CWC wanted to determine if the property had potential as a Community Septic System site prior to proceeding with the land purchase.*

*Lamont performed geotechnical testing (including percolation tests and deep test pits) on July 13, 2011. The deep test pits were excavated by Tom Kellogg (local contractor). The testing was witnessed by Hisashi Omichi of DEP. A total of three (3) percolation tests and three (3) deep test pits were performed on the site. Percolation test results ranged from 3 minutes 40 seconds to 5 minutes 32 seconds. The deep test pits showed a gravelly loam and sandy gravel with the water table being greater than 7'-0" deep. Based on this testing it was determined that the site is suitable for subsurface disposal.*

*Based on the testing previously conducted, we propose conducting additional Stage 1 testing at a potential on-site septic location or testing another type of soil for the Septic Maintenance District option during the Study Phase. The Stage 1 testing would include two (2) percolation tests and one (1) deep test pit. The deep test pit would also include*





*the installation of a groundwater elevation monitoring well so that groundwater fluctuations could be observed throughout the course of the study. Depending on the results of the Stage 1 testing, Stage 2 and Stage 3 testing may be required by DEP. We recommend that Stage 2 and Stage 3 testing (if required) be performed in the Pre-Construction Phase of the project and that the testing follow the attached Field Work Protocol for a Community Subsurface System Site (see Section VIII. Other Information, E. Geotechnical Protocol). (Nonetheless, the cost proposal for these stages of geotechnical testing is included in the Allowance section of our fee proposal in Section II. Fees.)*

***Deliverable (see Section II. Fees, Geotechnical Testing Allowance):***

- Stage 1 Site Testing including two (2) percolation tests and one (1) deep test pit, plus incorporation in the report of the above-mentioned previous testing.*
- Install groundwater elevation monitoring well in deep test pit when it is being backfilled.*
- Two (2), fifteen (15) foot deep soil borings in the Hamlet of Shandaken, if CWC deems necessary in the Study Phase.*

- E. Prepare a cost estimate to design and construct infrastructure along proposed routes, as applicable.

***Deliverable:***

- Cost Estimate for the Shandaken CWMP (see Section II. Fees, Task 3).*

- F. Compare and evaluate alternate routes and alternate service areas. Evaluations should include at a minimum, the following factors:

1. Number of properties serviced
2. Length of route for proposed infrastructure, if applicable.
3. Total cost to install lines and treatment systems, as applicable
4. Subsurface conditions along route
5. Timeframe to complete
6. Permits/approvals needed
7. Potential issues/problems
8. Identify additional funding sources or grant potential of project
9. Other factors

***Deliverable:***

- Evaluation of alternate routes and service areas (see Section II. Fees, Task 4).*

- G. Prepare a map showing location of each proposed service area.

***Deliverable:***

- Proposed Service Area Map (see Section II. Fees, Task 5).*

- H. Prepare a questionnaire and interview property owners in the proposed area detailing realistic options and anticipated costs. Determine resident and business interest as well as potential market value of undeveloped land. Develop a cost benefit analysis of the proposed project.





***Deliverables (See Section II. Fees, Task 6):***

- *Questionnaire and property owner interviews*
- *Potential market value of undeveloped land*
- *Cost benefit analysis*

- I. Prepare and submit to the individual towns, the CWC, and the DEP a letter report summarizing the Engineer's findings and recommendations on the preferred service areas and recommended wastewater management plan. This report should include an estimate to complete engineering design and oversight, construction and operation and maintenance.

***Deliverables:***

- *Letter Report (copies and digital copies to be provided as needed) (see Section II. Fees, Task 8).*
  - *Development and presentation of overall Master Plan and Block Grant amounts. At CWC's discretion, attend one (1) Meeting with the Shandaken Town Board and community to present the Final Letter Report. (As this meeting was not included in the Project Scope, it has been included in the Contingency line item (see Section II. Fees, Task 11)).*
4. There are two sub-categories in the Study Phase for wastewater management plans, the two primary project options are *Community Septic System(s)* and *Septic Maintenance Districts*. The conditions for a third possible option, a treatment plant, are described in the Introduction of the RFP.

***A. Community Septic System(s), the Study Phase shall:***

1. Identify possible sites for the construction of the community septic system(s);
2. Determine its feasibility by investigating available land and performing soil tests, percolation rate tests, and a groundwater mounding analysis;
3. Estimate the design and construction costs for each community septic system identified, including costs for the acquisition of necessary property, as well as legal and administrative fees;
4. Propose a draft annual operation and maintenance plan so that the community septic system(s), and the related sewerage collection system, continues to function properly for its projected useful life;
5. Project an annual budget for the costs of such operation and maintenance with a proposal for assessing charges to property owners (residential, business and municipal) within the proposed service area. Develop a sewer use fee schedule to provide adequate funding to implement such operation and maintenance plan;
6. Propose a project schedule with milestones for the design and construction.
7. Propose a plan for connecting existing houses and other structures within the service area to the community septic system(s), and estimate the costs, if any, to be paid for pursuant to the Participating Community Agreement; and
8. Identify any and all necessary permits and regulatory requirements that will need to be obtained or satisfied as a condition prior to the design, construction, installation, and operation and maintenance, including, compliance with the State Environmental Quality Review Act.





***Deliverable:***

- *Community Septic System Option Evaluation (see Section II. Fees, Task 8).*

B. *Septic Maintenance District*, the Study Phase shall:

1. Determine project's technical feasibility;
2. Propose a plan for pump outs and inspections of subsurface sewage treatment systems located within the district;
3. Propose a project schedule with milestones for the formation of the district and construction;
4. Estimate the costs to establish operate and maintain such district, including legal and administrative fees;
5. Estimate, to the extent feasible, the number of failing septic systems and substandard systems located within the district, and the costs of design and construction to rehabilitate, replace or upgrade the failing and substandard systems;
6. Propose a draft annual operation and maintenance plan so that subsurface sewage treatment systems located within the district, whether found initially to be functioning properly or whether rehabilitated, repaired or upgraded by the district following inspection, continue to function properly for the length of their useful life; and
7. Project the annual operation and maintenance costs of such plan and propose an amount for the Septic District Maintenance Allocation.

***Deliverable:***

- *Septic Maintenance District Option Evaluation (see Section II. Fees, Task 8).*

5. The CWC and the Consultant shall establish a project schedule which is a general outline for project development addressing public information and participation activities; special use district formation actions to include public notices, municipal board resolutions, public hearings and referendums or petitions, as appropriate; SEQR, SHPO, DEP, DOH, DEC regulatory review, and permit actions associated with wetlands, road or stream crossings, and other needed permits; proposed schedule for project design, bidding, construction and development of an Operation and Maintenance Plan.

***Deliverable:***

- *Project Schedule for the Shandaken CWMP (see Section II. Fees, Task 9).*



**SECTION I. SCOPE OF SERVICES**  
**C. RFP SECTION 2.3 – SECTION 2.6**







## 2.3 PRE-CONSTRUCTION PHASE

*We understand that on completion of the Study Phase, there will be a change order(s) for the Pre-Construction and Construction Phase engineering services. At that time, we will be very willing to enter into price negotiations for our services, as has been shown recently with our willingness to negotiate our price for completing the Lexington CWMP re-design services which were as a result of property acquisition.*

This phase shall begin after the DEP and the CWC approve a planned Project(s) and associated Block Grant Amount(s). The Pre-Construction Phase shall consist of the following items completed by the Town(s) and Consultant in cooperation with the CWC, and is scheduled to be completed for each approved Project:

1. Design final engineering plans for all approved Project(s) for each Participating Community consisting of complete plans and specifications for the planned projects, including, without limitation, complete final design, final cost estimate, bid documents for construction of the Project(s), all required regulatory approvals for the Project(s) under all applicable regulations (except those customarily obtained by the construction contractor during the course of construction);

*Lamont understands that this task will also include completing SEQR prior to the district creation, as well as submitting a Facility Plan, 65% design and 95% design to DEP and finalizing an Operation and Maintenance Agreement between the Town and DEP in order for the project to move into the Construction Phase.*

2. Prepare a Map, Plan and Report for the creation of a Community Wastewater Service District in accordance with and meeting the requirements of New York State Town Law §209-d and the requirements of DEC, DEP, and New York State Department of Audit and Control for the legal formation of each wastewater management district for the purpose of collecting rates and charges, if necessary, on district users to operate and maintain the project. In each Map, Plan and Report the Consultant shall:
  - A. Describe the boundaries of the proposed district in a manner sufficient to identify the lands included therein as in a deed of conveyance.
  - B. Detail the improvements proposed.
  - C. Detail the maximum amount of the proposed expenditure for the improvement.
  - D. Estimate the cost of hook-up fees, if any, and the cost of the district to the typical property and if different, for the typical one or two family home.
  - E. Describe the proposed method of financing to be employed.
  - F. Assist in filing with the Town Clerk's office for public inspection the Map, Plan and Report describing the same area, specifying the time and the place where the Town Board will meet and hold a public hearing to hear all persons interested in the subject.
  - G. State the maximum amount to be expended annually for such services.
3. Meet with the Individual Communities, as needed, to obtain input and direction on the form and content of the Map, Plan and Report.
4. The Map and Plan for the Community Wastewater Service District shall be consistent with, as far as possible, a comprehensive plan for wastewater developed pursuant to Section 17-1901 of the NYS Environmental Conservation Law.





5. If the Report shall contain recommendations for the establishment of two or more zones of assessment within the District, the Map and Plan shall show the boundaries of each zone and the estimated initial allocation of the cost of construction for the facilities recommended to be charged to each of the zones.
6. Prepare a draft final report that addresses all the requirements of Article 209-d of NYS Town Law and the requirements of the individual communities. Submit twenty (20) copies of each draft final report to CWC for distribution to the Communities, and DEP.
7. Present the Project at a Town public hearing to explain the Project and determine public interest. Each of the individual communities as required by §209-d of NYS Town Law, will hold a Public Hearing during this Phase.
8. Prepare and submit a Final Report that includes the final Plan and Map for the creation of the Community Wastewater Service District. Submit fifty (50) copies of the final Report to CWC.
9. Present findings of Final Report to each Town Board.
10. If the project includes a Community Septic System, the Participating Community must adopt a sewer use law that is at least as stringent as the model sewer use law then in use by New York State Department of Environmental Conservation to determine eligibility of a project for financing under the New York State Revolving Loan Fund Program; The Sewer Use Law shall be prepared by the Consultant for the Participating Communities Town Board(s).
11. Acquisition of land options, on behalf of the Participating Community, for all property interests, including easement interests, necessary for the completion, operation and maintenance of the project;

*Land acquisition begins during the site identification and testing phase with a willingness to sell /access letter sent to property owners in the Hamlets. Lamont suggests continuing the land acquisition process and obtaining property as soon as the Pre-Construction Phase has started.*

12. Assist the Town in management of the bid process on behalf of the Participating Communities for the construction of the Project(s);
13. Revision of the Final Engineering Plan, subject to CWC and DEP approval, if the bid(s) received for the Construction Phase exceed available funds under the Block Grant Amount for the Participating Community;
14. Revision, if necessary, of the final annual operation and maintenance plans and budgets developed during the Study Phase, as well as revision, if necessary, of the schedule.
15. A written commitment by the Participating Community in the form of a Town Board resolution to complete the Construction Phase; and
16. An accounting of the remaining Block Grant(s) balance(s) for each Participating Community.
17. If the project includes a Community Septic System, adoption by the Participating Community of an Operation and Maintenance contract with the DEP.

## **2.4 CONSTRUCTION PHASE**

This phase shall begin only after the CWC and the DEP have received a written commitment from the Participating Community that it will complete the Construction Phase, in accordance with the Participating Community Agreement. During the Construction Phase, the Consultant shall facilitate, in cooperation with the Participating Community and the CWC, performance of the following work:

1. Assist the Participating Community in awarding contracts based upon bids received for construction of the project, in conformance with the Final Engineering Plan;





2. For Septic Maintenance Districts, require that during the Construction Phase an initial pump-out and inspection will take place and, if necessary, the rehabilitation, replacement or upgrade of failing septic or substandard system as detailed in the Final Engineering Plan;
3. Assist in processing invoices for the disbursement of Program Funds.
4. Conduct construction inspection and oversight at the Project sites.

*Lamont understands that this Phase will also include the dirty water start-up, clean water start-up, Functional Completion submittal to DEP, contract close-out, and completion of as-built drawings and an Operation and Maintenance Manual.*

## **2.5 Operation and Maintenance Phase (per Section 2.1 Assignments)**

*Lamont understands this phase to include:*

- *Assist with operator training.*
- *Finalize Operation and Maintenance Budget, submit to DEP for approval*
- *Other tasks as determined by CWC.*

## **2.6 PROPOSED TIMETABLE**

**Pre-Bid Meeting**  
Proposals Due:  
Hired:

**Wednesday, April 9, 2014, 10 AM**  
Friday, May 2, 2014, 2 PM Consultant  
Friday, June 6, 2014

	<u>First two</u>	<u>Remaining three</u>
Complete Study Phase:	June 30, 2015	June 30, 2017
Complete Pre-Construction Phase	June 30, 2016	June 30, 2018
Complete Construction	June 30, 2018	June 30, 2020

*Lamont will ensure that the Pre-Construction and Construction Phase schedules are met. If desired by CWC, we will accelerate the schedule to complete the Study Phase for all five (5) communities in ten (10) months from the date of contract execution. This will allow CWC to evaluate the project program as a whole in relation to the allotted Program Funds to complete all five (5) CWMPs.*





# Lamont Engineers

ENGINEERS • PLANNERS • FACILITY OPERATIONS

October 16, 2015

Mr. Alan Rosa  
Executive Director  
Catskill Watershed Corporation  
PO Box 569  
Main Street  
Margaretville, New York 12455

RE: Request for Amendment to the  
Community Wastewater Management Program III (CWMP III) Consultant Agreement  
of July 28, 2014

Dear Mr. Rosa:

We write to request an amendment to our engineering contract for the Community Wastewater Management Program III (CWMP III) Consultant Agreement for the Study Phase Engineering Services.

The approach utilized successfully in the previous eight (8) CWMP projects, based on the 2004 and 2014 CWMP Requests for Proposals (RFPs), is summarized as follows:

1. Based on the fact that the on-site septic system alternative offers the most cost effective solution, both in capital costs and in operations and maintenance (O&M) costs, for rural community wastewater management, the Septic Maintenance District (SMD) is the first option considered in the study process. This is done through an analysis of constraining factors for on-site systems as illustrated on a septic limitations map for the community. If (and only if) lot size, soil characteristics, stream offsets and other constraining physical community-specific site attributes are favorable enough to allow utilization of an SMD with a low level of risk of failure, then the SMD is recommended, and study work is concentrated on development of the details of the SMD including concept design, capital cost estimates, O&M cost estimates and projected user fees. No work on other options is pursued.
2. On the other hand, if the risk of failure for an SMD, as expressed in the number and percentage of lots in the community that cannot support an adequate, up-to-standard on-site system (even without the normally required reserve area), then the SMD is not recommended, and the detailed study work for the SMD is not done, and the study instead progresses to the study of the community septic system option, which is the second most cost-effective solution. This is done primarily through a search for a suitable site for a community septic system, preferably owned by a willing seller (or condemnable by the Town). If such a suitable site is found, then the community septic system is recommended and study work is concentrated on development of the details of the community septic system including concept design, capital cost estimates, O&M cost estimates and projected user fees. No more work on other options is pursued.

☒ PO Box 610  
Cobleskill, NY 12043  
Tel: 518-234-4028  
Fax: 518-234-4613

[www.lamontengineers.com](http://www.lamontengineers.com)  
[lamont@lamontengineers.com](mailto:lamont@lamontengineers.com)

☐ PO Box 486  
Roxbury, NY 12474  
Tel: 607-326-3341  
Fax: 607-326-3346

Mr. Alan Rosa  
Executive Director  
Catskill Watershed Corporation  
October 16, 2015  
Page 2 of 3

3. If a suitable site cannot be found and obtained, then the community septic system cannot be recommended, and the detailed study work for that option is not done, and the study progresses to the study of a wastewater treatment plant (WWTP) option. As a WWTP is relatively easy to site, this effort involves identifying and comparing suitable sites, reviewing receiving stream requirements, and developing the details of the WWTP including concept design, capital cost estimates, O&M cost estimates and projected user fees. No more work on other options is pursued.

The need for a study scope change first began after draft reports had been prepared and at the time of a request for access to a NYC-owned land with a determination by NYCDEP and CWC that the cost of community septic systems (or wastewater treatment plants) for the last five (5) CWMP communities would be unreasonably high on a per household or per property basis, running into the \$150,000 to \$180,000 per property range as revealed in our draft study. The study assignment at that point changed from the previous approach to an effort to show what could be done with on-site or small cluster systems in all five (5) communities by conceptual design of engineered alternative on-site systems for sub-standard lots, and development of the details of the SMD including concept design, capital cost estimates, O&M cost estimates, and projected user fees.

In addition, an SMD may not accommodate future growth or changes of use. Under the New York City Watershed Regulations, a substantial alteration to a building's use may require the upgrade of a septic system to current standards for the new use. Most lots in the hamlets cannot support a fully compliant septic system for the current use, and certainly cannot accommodate a septic system for a different use. As a result, an SMD may not allow for future growth of a community. Where local zoning and land acquisition exemptions allow for growth and commercial businesses in the hamlets, an SMD may result in only the current uses being sewered, with no ability to provide for change or growth as provided for in the Watershed MOA Paragraph 122.

In the current situation, it will be necessary in the Study to develop three (3) options fully in order to provide the stakeholders and decision-makers a full understanding of the advantages and disadvantages as well as the detailed costs of more than one alternative system.

Our amendment addresses this issue by changing the scope of the study to include full development of three (3) options – the SMD, the community septic, and a WWTP rather than one (1) option. We have made a preliminary determination that this affects only West Conesville, Halcottsville, and New Kingston.

Also, we were directed by the Catskill Watershed Corporation to provide separate cost estimates for community system options where pretreatment may be required, and to revise the draft reports accordingly.

Mr. Alan Rosa  
Executive Director  
Catskill Watershed Corporation  
October 16, 2015  
Page 3 of 3

Please see the Scope of Work, Manpower and Cost Estimate for this work attached.

The original agreement is \$213,955. The total request for this amendment is ~~\$65,500~~ <sup>\$40,240</sup>. This amendment would make the total Study Phase Budget ~~\$279,455~~ <sup>\$254,195</sup>.

If you have any questions or comments, please do not hesitate to call me.

Sincerely,



Henry Lamont, P.E.  
Principal Engineer  
Lamont Engineers

cc: Timothy Cox, Corporate Counsel, CWC  
John Mathiesen, Environmental Engineering Specialist, CWC  
Judy Pangman, Lamont Engineers  
Mike Harrington, Lamont Engineers

R:\2014044\Agreements Proposals\SMD & Clusters Amendment\002o; CWMP III Study Phase Amendment  
Cover Letter .doc

# CWMP III Amendment #1

Consultant Fees for Study Phase Amendment for Revisions to Recommended SMD and Cluster Systems

Catskill Watershed Corporation

CWMP III's - Combined Total												
	Principal Engineer		Project Manager		Project Engineer		Sr. Eng. Tech		Engineering Tech		Admin Asst	
	HL	MDH	JP	GY	NW	MKS	MVC	MB	KS	DE's	Total	
1. Expanded SMD	12	12	60	180	0	0	0	0	0	0	0	0
2. WWHF Capacity	12	12	60	180	0	0	0	0	0	0	0	0
3. Pretreatment	4	4	24	72	0	0	0	0	0	0	0	0
Total Amendment (Not to Exceed)	28	28	144	432	0	0	0	0	0	0	0	0
Notes:												

Notes:

1. No changes to Shandaken or Claryville options (other than addressing pretreatment for Shandaken)

40,240

# CWMP III Amendment #1

Consultant Fees for Study Phase Amendment for Detailed SMD and Cluster Analysis

Sheldaken CWMP	HL	MDH	JP	\$100	CY	\$108	NW	\$87	MKS	\$81	MVC	\$72 MB	\$54	KS	\$60 Sube	DE's	Total
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
1. BMD & Conn System																	
2. WWTP Option																	
3. Pretreatment																	
Revisions to Reports	2	\$280	\$0	26	\$2,800	\$0	\$0		4	\$324		\$0	\$0		\$0		\$3,422
Total Amendment (Not to Exceed)	2	280	0	26	2800	0	0	0	4	324	0	0	0	0	0	0	3422

# CWMP III Amendment #1

Consultant Fees for Study Phase Amendment for Revisions to Recommended SMD and Cluster Systems

Calisill Watershed Corporation

West Conesville CWMP	HL	\$145		MDH	\$145		JP	\$108		CY	\$108		NW	\$37		MKS	\$51		MVC	\$72		MB	\$54		KS	\$60		Subs	DEs	Total
		Hours	Total		Hours	Total		Hours	Total		Hours	Total		Hours	Total		Hours	Total		Hours	Total		Hours	Total		Hours	Total			
1. SMD & Comm System	4		\$580	4		\$580	20	\$2,160	40		\$4,480			\$0	20		\$1,620			\$0				\$0					\$11,420	
2. SMD & Comm System	4		\$580	4		\$580	20	\$2,160	40		\$4,480			\$0	20		\$1,620			\$0				\$0					\$11,420	
3. Prepayment Revisions to Reports																														
4. Separate Prepayment in Reports and Cost Estimates																														
Total Amendment (Not to Exceed)	8	1160		8	1160		28	3024	72	7776			40	3480	40	3240		0	0	0	0	0	0	0	0	0	0	0	\$0	
																													\$0	

-80 00

\$11,420

## Consultant Fees for Study Phase Amendment for Revisions to Recommend SMD and Cluster Systems

[illegible]

# CWMP III Amendment #1

Consultant Fees for Study Phase Amendment for Revision to Recommend SMD and Cluster Systems

Credit III Worksheet Corporation

Hicksville CWMP	HL	\$145	MDH	\$145	JP	\$108	CY	\$108	NW	\$87	MKS	\$81	MVC	\$72 MB	\$54	KS	\$50 Subd	DEs	Total
1. SMD & Comm System	4	580	4	580	20	2160	60	6480		0	20	1620		0	0	0	0		\$11,420
2. <del>CWMP-Cluster</del>	4	580	4	580	8	864	12	1296	48	3456	20	1620		0	0	0	0		18,420
3. Pretreatment Revisions to Reports	2	290		\$0	18	\$1,944		\$0			4	\$324		\$0	\$0	\$0	\$0		\$2,568
Total Amendment (Not to Exceed)	10	1450	8	1160	46	4908	72	7776	40	3480	44	3564	0	0	0	0	0	0	22,988

13,978



# CWMP III Amendment #1

Consultant Fees for Study Phase Amendment for Revisions to Recommend SMD and Custer Systems

Cashill Watershed Corporation

New Kingston CWMP	HL	\$145		MDH	\$145		JP	\$108		CY	\$108		NW	\$87	MKS	\$81	MVC	\$72/MB	\$54	KS	500 Subs	DE's	Total
		Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
1. EMD & Comm System	4	550	4	550	20	2160	80	8480	80	8480	80	8480	40	3480	20	1820	0	0	0	0	0	0	0
2. WWT-Option	4	550	4	550	20	2160	80	8480	80	8480	80	8480	40	3480	20	1820	0	0	0	0	0	0	0
3. Precipitation Revisions to Reports	4	550	4	550	20	2160	80	8480	80	8480	80	8480	40	3480	20	1820	0	0	0	0	0	0	0
Separate Preliminary in Reports and Cost Estimates	4	550	4	550	20	2160	80	8480	80	8480	80	8480	40	3480	20	1820	0	0	0	0	0	0	0
Total Amendment (Not to Exceed)	8	1100	8	1100	28	3024	72	7776	72	7776	72	7776	40	3480	40	3240	0	0	0	0	0	0	0

80 00

\$11,420



Exhibit B

Participants List

**List of Participants / Hamlet of Shandaken CWMP III**  
**Shandaken (T) / Ulster (C)**  
**Catskill Watershed Corporation**  
**Community Wastewater Management Program (CWMP III)**

I. Catskill Watershed Corporation

1<sup>st</sup> – Tuesday – 1:00 PM - CWC Board Meeting – 15 day right to object

PO Box 569

905 Main Street

Margaretville, New York 12455

Phone: (845) 586-1400

Fax: (845) 586-1401

Website: [www.cwconline.org](http://www.cwconline.org)

1. Alan Rosa, Executive Director

Office Cell: (845) 532-6880

Home: (845) 586-3983

Personal Cell: (845) 399-9885

[alrosa@cwconline.org](mailto:alrosa@cwconline.org)

2. John Mathiesen, Environmental Engineering Specialist

Office Extension: 308

Office Cell: (845) 399-5144

[jmathiesen@cwconline.org](mailto:jmathiesen@cwconline.org)

3. Timothy Cox, Corporate Counsel

Office Extension: 304

Office Cell: (845) 853-6079

[timothycox@cwconline.org](mailto:timothycox@cwconline.org)

4. Barbara Puglisi, Economic Development Director

Office Extension: 317

[puglisi@cwconline.org](mailto:puglisi@cwconline.org)

5. Jim Martin, Finance Director

Office Extension: 315

[jimmartin@cwconline.org](mailto:jimmartin@cwconline.org)

II. Town of Shandaken

Fed Id #: 14-6002443

Town Meeting Hall

7209 Route 28

PO Box 134

Shandaken, NY 12480

Phone: (845) 688-5004

Fax: (845) 688-2041

Website: [www.shandaken.us](http://www.shandaken.us)

Board Meetings:

1<sup>st</sup> Monday of month at 7:00 pm

Officials:

1. Hon. Robert A. Stanley, Supervisor Office Hours: 7:30-3:30 M-F  
PO Box 134  
Shandaken, New York 12480  
Phone: (845) 688-7165 or (845) 688-7169  
Fax: (845) 688-2041  
E-Mail: [shandakensupervisor@yahoo.com](mailto:shandakensupervisor@yahoo.com)  
  
Patti Heinz, Secretary/Bookkeeper  
E-Mail: [pheinz@shandaken.us](mailto:pheinz@shandaken.us)  
  
Diane O'Donnell, Secretary/Bookkeeper  
E-Mail: [diane@shandaken.us](mailto:diane@shandaken.us)
2. Joyce Grant, Town Clerk/Tax Collector Mon - Fri 9:00 am – 4:00 pm  
PO Box 67  
Shandaken, New York 12480  
Phone: (845) 688-5004  
Fax: (845) 688-2041  
E-Mail: [townclerk@shandaken.us](mailto:townclerk@shandaken.us)  
Jacqui Guglielmetti, Deputy Town Clerk  
Amie Goodrich, Deputy Town Clerk (they have 2)
3. Councilpersons
  - a. Faye Storms, Councilperson (term exp. 12/2017)  
Email: [storms@shandaken.us](mailto:storms@shandaken.us)
  - b. Timothy Malloy, Councilperson (term exp. 12/2017)  
Email: [malloy@shandaken.us](mailto:malloy@shandaken.us)
  - c. Vincent Bernstein, Councilperson (term exp. 12/2015)  
Email: [councilmanbernstein@shandaken.us](mailto:councilmanbernstein@shandaken.us)
  - d. Al Higley, Jr. Councilperson (term exp. 12/2015)  
Email: [councilmanhigley@shandaken.us](mailto:councilmanhigley@shandaken.us)
  - e. Peter Disclafani (term starts 1/2016)
  - f. Gael Alban (term starts 1/2016)
4. Planning Board  
PO Box 134  
Shandaken, New York 12480  
Phone: (845) 688-5008  
Fax: (845) 688-2041  
Email: [planning@shandaken.us](mailto:planning@shandaken.us)

List of Participants / Hamlet of Shandaken  
Shandaken (T) / Ulster (C)  
Catskill Watershed Corporation  
Community Wastewater Management Program

- a. Don Brewer, Planning Board Chairperson
  - b. Art Christie
  - c. John Horn
  - d. JoAnne Kalb
  - e. Cliff Rabuffo
  - f. Allen Shiner
  - g. Kathy Jordan
  - h. Tracey Longhi, Planning Secretary
- Phone: (845) 688-5008  
Email: [shandakenbldg@gmail.com](mailto:shandakenbldg@gmail.com)

5. Eric Hofmeister, Superintendent of Highways                      Hours: 7:30-3:30 M-F  
PO Box 134  
Allaben, New York 12480  
Phone: (845) 688-9901  
Fax: (845) 688-2820  
Email: [highway@shandaken.us](mailto:highway@shandaken.us)

6. Town Building Inspector  
Warren Tutt  
PO Box 134  
Allaben, New York 12480  
Phone: (845) 688-5008  
Fax: (845) 688-9863  
Email: [wptutt@shandaken.us](mailto:wptutt@shandaken.us)
- Hours: 9:00 – 3:00 M-Thurs  
Fri – by appt

7. Heidi Clark, Chair  
Assessor  
Phone: (845) 688-5003  
Fax: (845) 688-2041  
Email: [clerk@shandaken.us](mailto:clerk@shandaken.us)

8. Town Attorney  
Paul Kellar, Attorney  
14 Pearl Street – PO Box 3536  
Kingston, New York 12401  
(845) 331-8900

### III. Ulster County

1. Ulster County Health Department  
300 Flatbush Avenue  
Kingston, New York 12401-2740  
Phone: (845) 340-3150
  - a. Dean N. Palen, PE, MBA  
Public Health Director  
Phone: (845) 340-3009  
(845) 340-3011



- b. Allan M. Dumas, III, PE  
Director of Environmental Sanitation  
Phone: (845) 340-3035
  - c. Shelly Mertens, P.E.  
Senior Public Health Engineer  
(845) 340-3035
  - d. Joel R. Miranti, P.E.  
Assistant Public Health Engineer  
Phone: (845) 340-3033  
Fax: (845) 3430-3045  
Email: [jmir@co.ulster.ny.us](mailto:jmir@co.ulster.ny.us)
2. Ulster County GIS/Informational Services  
Rick Umble, Geographic Information Technology Team Leader  
(845) 340-3004
3. Ulster County Planning Department  
PO Box 1800, 244 Fair Street  
Kingston, New York 12402-1800  
Phone: (845) 340-3340  
Fax: (845) 340-3429  
Website: [www.co.ulster.ny.us/planning](http://www.co.ulster.ny.us/planning)  
E-mail: [Planning@co.ulster.ny.us](mailto:Planning@co.ulster.ny.us)
- a. Roxanne Pecora, Chairperson, Planning Board
  - b. Richard A. Gerentine, Chairperson, Transportation Council
  - c. Dennis Doyle, Director
4. Ulster County Public Works Administration  
Lynda F. Bertling, Controller  
315 Shamrock Lane  
Kingston, New York 12401-2810  
Phone: (845) 340-3500  
Fax: (845) 340-3113
5. Environmental Management Council  
Rick Fritschler, Chairman  
PO Box 557  
Stone Ridge, New York 12484  
Phone: (845) 687-0267  
(845) 658-8090 (H)  
Fax: (845) 687-0520  
E-mail: [rfrits@aol.com](mailto:rfrits@aol.com)

6. Ulster County Development Corporation  
Chester J. Straub, Jr., President  
5 Development Court  
Kingston, New York 12401-1949  
Phone: (845) 338-8840  
Fax: (845) 338-0409  
Website: [www.ulsterny.com](http://www.ulsterny.com)  
E-mail: [develop@ulsterny.com](mailto:develop@ulsterny.com)
7. Cornell Cooperative Extension, Ulster County  
Lydia M. Reidy, Executive Director  
10 Westbrook Lane  
Kingston, New York 12401-3824  
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VI. Utilities

Exhibit C

Strategic Wastewater Planning Study: A Report of the New Sewage Treatment  
Infrastructure Program for Communities 8-22, Chapter 6, Report for Community #18  
Hamlet of Shandaken

**Strategic Wastewater Planning Study:  
A Report of the New Sewage Treatment Infrastructure Program  
For Communities 8 - 22  
December 2000**

**Chapter 6  
Report For Community # 18  
Hamlet of Shandaken**



Prepared For the  
New York City Department of  
Environmental Protection and the  
Identified Communities



Prepared by the  
New York State  
Environmental Facilities Corporation



**CHAPTER 6: REPORT FOR COMMUNITY #18, HAMLET OF SHANDAKEN**

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## Chapter 6: Report for Community #18, Hamlet of Shandaken

### **Overview**

This Chapter characterizes the existing conditions found within the Hamlet of Shandaken. It consists of a general description of the area, the existing wastewater problems and needs, a preliminary service area and flow, a range of potential solutions to consider in solving the existing need, and a range of costs for those solutions. Portions of the information presented below were constructed using the 1990 Census. Since the Census data is now somewhat outdated, it may be necessary to update this information in order to demonstrate project eligibility for certain funding sources.

### **Description of Area**

The Hamlet of Shandaken is located in Ulster County within the Town of Shandaken on NYS Route 28. The Town of Shandaken is sparsely developed, however, the Hamlet of Shandaken consists of a linear population density along NYS Route 28. At the intersection of Route 42 and NYS Route 28 development appears to be centered, then running in a linear manner to the north along Route 42. The hamlet area is situated adjacent to the Esopus Creek.

### **Population**

According to the 1990 Census, the population count for the Town of Shandaken is 3013. The Hamlet of Shandaken is not depicted in the 1990 Census as a Census Designated Place (CDP) which would break down information from the Town level to the Hamlet level. However, based upon a house count within the Preliminary Service Area and an assumption of 2.6 residents per household, the estimated population for this area is 185. See Figure 6.A for Preliminary Service Area and Lots with Potential Construction Constraints.

### **Housing**

The 1990 Census reports a total of 502 housing units for the Town of Shandaken. Approximately half of the units were built prior to 1936. The majority of these units have 2 or more bedrooms and one or more telephones, use fuel oil, have onsite wells, and dispose of wastewater onsite. The Hamlet of Shandaken has a public water system.

The housing count performed for this community consists of an estimated 71 residential units, 15 commercial/institutional units, and 2 vacant structures within the Preliminary Service Area. See **Table 6.1 Wastewater Flow Estimate**.

As a precautionary measure, it may also be helpful for the local government to identify a total average monthly cost associated with running a house within the potential service area (particularly the winter months due to heating costs). While this information was not available at the time of this report, it may be useful in determining whether an average family and community could afford a certain wastewater alternative or technology.

### **Local Economy**

The median household income for the Town of Shandaken was \$22,194 in 1989 dollars. At the time of this report sales tax totals for the Hamlet had not been obtained, therefore, the dollar amount spent within the Hamlet or Town per capita could not be described. However, it is suggested that this information be generated to show an approximation of how many dollars were spent concurrently within the Town of Shandaken and the Hamlet of Shandaken and what type of goods and services were purchased. The time of year should also be noted in order to gauge the impact that the tourism industry might have on the community.

There are several businesses currently in operation within Shandaken including a Carpenter's Shop, Motel, Fire Department, 2 Gas Stations, Church, Tackle Shop, Auto Shop, County Highway Department, Lumber Mill, Post Office, a Meat Cutters Shop. These businesses may be indicators of potential complimentary niches to consider for economic growth. The majority of workers travel to their place of employment by car, truck, or van. This may result in dollars being spent outside the local economy on their way to and from work. The lack of public services may limit future economic growth.

### **Land Use**

The land use pattern within the Hamlet of Shandaken has been developed in a linear fashion both along NYS 28 and Route 42. Development also appears to have occurred in a radial manner at this intersection.

The total land area for the Town of Shandaken is estimated to be 120 square miles. The predominant land usage's are Open Space (75%), low density residential >10 acres at (11%), and vacant land (8%). Additionally, the New York Natural Heritage Program's data base was researched and did not identify any threatened or endangered species in the potential service area. The Town of Shandaken currently administers its own Zoning and Subdivision regulations as well as the New York State Building Code.