

**Cumberland County Community Development Program  
2012 CDBG Planning Program Application  
Community Cover Page**

**Project Title:** Town of Naples Public Water Supply Capacity Development Study

**Community:** Town of Naples

**Contact Information: Name:** Derik Goodine, Town Manager

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**Amount of CDBG Funds Requested:** \$15,000

**Total Estimated Project Cost** \$53,100

**Name of Authorized Official:** Derik Goodine

**Signature of Authorized Official:**

A handwritten signature in black ink, appearing to read "Derik Goodine", written over a horizontal line.

### **Description of Community Problem**

The Town of Naples has installed 5,500+/- feet of public water lines and fire hydrants along its main street, Roosevelt Trail (Rt. 302) over the last two years as part of a MDOT Bridge replacement and main street reconstruction project. Currently, the water lines are being used for fire suppression only, but it is designed to be used as a public drinking water distribution system. The current capacity of water storage is limited to 20,000 gallon tanks on a hill behind the fire station which were originally used to rapidly refill fire vehicles at the fire station. These tanks are now supplying water to the new water lines. These water tanks, while cleaned and donated by Clean Harbors Environmental Services, were formally used for fuel storage.

The current water supply located on the fire station property is inadequate to properly supply enough water for complete fire fighting needs, and the water source (a well located at the fire station property), like most of the water in this area of the town, has unsafe levels of uranium in it making it unfit as a source for public drinking water. There is also a public salt sand shed as well as gasoline and diesel storage located at the site. The location of the tanks though, appears to be in the perfect high spot for a properly sized water storage tank (standpipe) to serve the needs of the community in this location, as well as provide appropriate water pressure in future expansion areas of the system.

**In order to move to the next phase of development of a public drinking water system, the Town needs to do a Water Capacity Development Study.** This study would locate an adequate water source (sand and gravel aquifer), define the boundaries of the proposed system, evaluate any treatment needs, and determine the user base that will have access to the system. This study will ultimately determine the source of the drinking water, pumping station needs, and the size of the water storage standpipe in order to provide the correct amount of water supply as well as ensure proper water pressure to the service areas.

Without the study, the system will continue to only operate as a limited capacity fire suppression system for the homes and businesses currently located along our main street.

The Town has invested over \$700,000 over the last two years on water distribution lines along the Rt. 302 Corridor. The reason the waterlines were installed along this corridor was due to a \$10 million bridge and road reconstruction project. With the road being torn up and rebuilt, it was the perfect time to install the water lines. The service area serves approximately 18 private residents and 37 businesses. The businesses range from: retail sales, restaurants, lodging, veterinary clinic, government, church, real estate and professional office buildings. The area served is also a major tourist attraction. These structures serve thousands of residents, visitors, and customers along our main street. The Town has been concerned for years about the quality of water being served by these structures, and the fact that the entire community is served by private sewage treatment systems. Several of the major users of water along this corridor have had to replace their sewage treatment systems a couple of times as well as install sewage holding tanks. Furthermore, uranium and radon are found in the soils and wells that have been tested in this area, and they are above the safe levels set by the State of Maine and EPA.

The Town has committed or spent most of its available financial resources on other infrastructure needs as part of the reconstruction of our main street. The use of CDBG funds will be used

along with available town funds, and utilizing the State of Maine Drinking Water Programs Capacity Development Grant. Should the grant from the State of Maine not come through, then we would supply the additional funding for that portion of the budget, most likely from another TIF District zone, if the water source is found to be in that part of the community. It is expected that drinking water source will be found in another area of town where uranium and radon have not been found to be a problem. **This study is urgently needed now; since the location of the drinking water source needs to be found at this time because many of the potential properties are up for sale. Locating the right parcel now, with an adequate water source can then be purchased and the area surrounding it protected from uses that would jeopardize water quality. Also, a Capacity Development Study is important for guiding fiscally responsible waterline expansions towards the water source. The study is the logical next step before further resources can be spent on this water system.**

### **The Planning Strategy**

Timing is important as part of any water capacity development study; since it involves several phases. The ground must be free of snow cover and not frozen. This is necessary due to the field observations that must be made as well as testing that needs to be done. The study project can be implemented as soon as the grant is awarded. Upon notice of the grant award and availability of the funds, advertising would commence for RFP's for the study. The study would then commence a couple weeks later after awarding the project to an engineering firm and would follow the phases listed below.

1. Studying the Distribution System current and future: This stage consists of evaluating and refining the proposed water system service areas and potential users, including residences and businesses and public buildings. Based on this delineation, the anticipated system demands, including average daily, maximum day, peak instantaneous demand (including fire flow requirement) and seasonal variability can be determined. Furthermore current development trends and zoning will be considered, and their impact calculated as well, to develop total system needs. In addition to this information, topography of the study areas will be used to determine ideal locations of water storage tank(s) to make sure that flows will meet ISO standards. Pumping station locations will also be determined from this information after later phase calculations are completed.
2. Ground Water Screening and Preliminary Work: This stage reviews all available geological information and mapping, and compares this to field observations to locate perfect potential water source targets. Potential site locations will be identified, and the Town will acquire Purchase and Sales agreements, if possible, with site owners to lock in real estate costs of the proposed targets to avoid price increases. This, of course, is because if P and S's were attempted after water capacity was identified on certain sites, then the price would surely go up for acquiring the real estate; thus to avoid this, the P and S agreements would be put into place. This would also allow us to gain access to potential sites for the testing to be done.
3. Ground Water Test Well Program: This part of the study will consist of seismic exploration of potential sites. The seismic surveys will locate what potential site or sites are suggested for further development through test well exploration. The next phase of this process is to drill wells on potential site(s) to target depths found by the seismic testing. Soils will be

recorded by the driller and sampled. Depth to groundwater will be estimated during the drilling; and then appropriately sized well screens will be installed and developed at agreed upon depths; when the wells have encountered suitable soil materials. Preliminary pump tests and groundwater samples will be done as well as testing rate of well yield and water quality. A report will be given to the Town detailing the field activities and findings and will provide recommendations for further work to develop the most promising site(s).

4. **Treatment Options Analysis and Cost Estimating:** This phase will consist of water quality and treatment recommendations, as well as alternatives that will take into consideration current and future regulatory requirements. Also as part of this phase, design criteria for the well and associated pumping equipment will be done taking into account current and future demand projections. The adequacy of the aquifer and proposed well to satisfy current and future demands will be based on water supply adequacy from the pump test information from phase 3 above. Based on the required system components and the design criteria of each, cost estimates will be developed for each of the various alternatives. Costs estimates will include design and construction phase engineering and permitting and construction costs. It will also include estimated costs of operations and maintenance of each alternative.
5. **Preliminary Engineering Report:** This is the final phase of the study. This will include a preliminary summary of the findings and recommendations resulting from the evaluations in the previous steps. This will include the preliminary design alternatives, demand projections, proposed water system components, and cost estimates relative to each alternative. This will also include preliminary drawings to describe the various identified options. This will then be presented to the Town for comments and questions, and then a final preliminary report will be presented to the Town for review and comment. Revisions will be made answering any additional questions by the Town, and then a final Preliminary Engineering Report will be drafted and include information suitable for presentation to the public at a town meeting for seeking approval for development of the water supply system.

It is expected that the final report in phase 5 above would be available around late fall of 2012. The Selectboard has endorsed this application for this CDBG Grant. Also several developers and citizens have expressed interest in the expansion of the Town of Naples waterlines for fire protection as well as for drinking water needs. The time to do the study is now.

#### **Community Readiness**

The community is ready to start this study as soon as financing (grants) is in place. The discussion of this study as well as future expansion of the water system is regularly discussed at televised meetings of the Naples Selectboard. There has been no opposition to Naples water lines projects to date which is shown by the investment we have already made over the last couple of years. Matching funds have been discussed earlier in this application and are shown in detail in the budget form attached to this application. The planning tasks to be undertaken were developed with the help of a couple of engineering firms as well as discussions with Portland Water District officials. At least one engineering firm and town officials will be available to manage the project if it is funded.

**Planning Grant Budget**

<b>Cost Category</b>	<b>CDBG Funds</b>	<b>Municipal Funds</b>	<b>Other Funds</b>	<b>Total</b>
Consultant Services	\$15,000	\$28,100	\$10,000	\$53,100
Administration		Administration will be donated		\$0
<b>TOTAL COSTS</b>	\$15,000	\$28,100	\$10,000	\$53,100