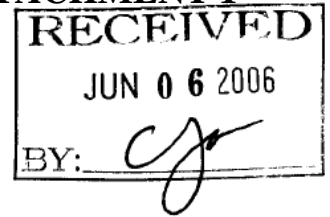


**ORANGE WATER & SEWER AUTHORITY***Quality Service Since 1977*

June 6, 2006

Cal Horton, Town Manager  
Town Hall, 2nd Floor  
405 Martin Luther King Jr. Blvd.  
Chapel Hill, NC 27514

**Subject: Clayton Road Pump Station Phaseout Project – Background and Information Regarding a Request for Modification of an Easement through the Town’s Pritchard Park Property**

Dear Cal,

We have completed design and are finalizing permitting of a sewer project that will permanently eliminate an existing wastewater pump station located at the intersection of Clayton Road and Audubon Road. We wanted to provide additional information in support of our May 17, 2006 request for modification to the existing OWASA utility easement through the Town’s Pritchard Park Property. A copy of our letter requesting the easement modification is included as Attachment #1.

**Project Background**

When practical, OWASA replaces pump stations with “gravity-flow” sewer lines because pump stations are subject to failure due to storms, power outages, equipment malfunctions, etc. Pump stations also cost more to operate and maintain than sewers that work with the simple force of gravity.

When a pump station fails to operate properly, untreated wastewater could overflow into the natural environment. Preventing and minimizing wastewater overflows, of course, is one of our highest priorities. Eliminating pump stations also helps to reduce odor and lowers traffic into the community for maintenance purposes. Because of its age, these operational and environmental impacts were of particular importance in our decision to remove the Clayton Road Pump Station.

We also considered economic costs in our decision. The existing pump station is nearing the end of its useful life. We anticipate that it will need to be replaced with a new pump station within the next two years at an estimated design and construction cost of \$400,000.

The cost estimate in Attachment #2 compares replacing the existing pump station with a new station or with a gravity sewer line. The estimate was done using present dollars and included

costs for design, construction, operation and maintenance of the two alternatives for a period of 20 and 50 years. The comparison shows that in the long term it will cost less to install, operate and maintain a gravity sewer line than a pump station. In addition, when placed into service this gravity sewer line will provide a nearby service connection for the Library's future expansion and may result in lower sewer service extension costs for the Town.

We started design of the sewer project in 2005 and have met with the Town's staff on three occasions to discuss the project. We also met with the Friends of the Library, the Library Board of Trustees, and a representative of the Chapel Hill Arts Commission to discuss our plans and to receive feedback.

Two of the meetings included a site visit with several Town staff members. In addition, we have provided written updates to property owners within 1,000 feet of the project site and have met on site with one property owner to discuss their concerns and adjusted our plans accordingly.

The design has been completed and we have received a Zoning Compliance Permit from the Town. Currently, we are in the final stages of obtaining other needed permits. We expect to bid this project within the next six (6) weeks and expect that installation of the sewer may begin sometime in late summer or early fall of 2006 and that the work may take four (4) to five (5) months to complete.

For additional background information, Attachment #3 contains questions and answers about this project.

### **Easement Modification**

In 1992, OWASA and the Town of Chapel Hill negotiated a sewer easement through the Pritchard Park property. As part of the final design and Zoning Compliance permitting for this project, our consultant and staff worked very closely with various Town departments to evaluate the alignment of the proposed gravity sewer line. In addition, we conducted a detailed tree survey and used it to help modify the existing alignment. The proposed alignment will minimize environmental disruption to the park property and includes protection and preservation of specific trees.

These modifications to the existing easement are included in the easement documentation presented to the Town on May 17, 2006. Consistent with the alignment agreed upon in our discussions with members of the Town's staff, our request included the addition of some new areas as well as for abandoning some areas of the existing easement of the park property.

Additional easement area has been requested on the portion of the park property located generally south of Library Drive between it and Estes Drive. We initially evaluated two (2) alignments from Library Drive to Estes Drive and then, at the Town's request, we evaluated three (3) additional alignments. The proposed alignment will have very little impact on Library access, Library Drive, and Library Drive landscaping during project construction. Attachment #3 includes a schematic of the proposed alignment location.

Letter to Mr. Horton

6/6/2006

Page 2 of 3

## **Conclusion**

This project is in our current and upcoming Capital Improvements Budgets and we would prefer to stay on our current schedule to complete the work this summer and fall. We hope that this information will assist the Town so that our easement modification request can be processed for the next Town Council meeting and approval can be provided to us as soon as possible.

Please let us know if you need additional information in support of our request.

Sincerely,

A handwritten signature in black ink, appearing to read "Ed Kerwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Ed Kerwin  
Executive Director

Attachments

**ORANGE WATER & SEWER AUTHORITY***Quality Service Since 1977*

May 17, 2006

Mr. Bruce Heflin  
Assistant Town Manager  
Town of Chapel Hill  
405 Martin Luther King Jr. Boulevard  
Chapel Hill, NC 27516

**Subject: Clayton Road Pump Station Phaseout Project – Request for Modification of Easement through Town’s Pritchard Park Property**

Dear Mr. Heflin,

As you know, we are currently designing a sewer project that will permanently eliminate an existing wastewater pump station, located at the intersection of Clayton Road and Audubon Road.

**Project Background**

When practical, OWASA replaces pump stations with “gravity-flow” sewer lines because pump stations are subject to failure due to storms, power outages, equipment malfunctions, etc. Pump stations also cost more to operate and maintain than sewers that work with the simple force of gravity and without electrical power.

When a pump station fails to operate properly, untreated wastewater could overflow into the natural environment. Preventing and minimizing wastewater overflows, of course, is one of our highest priorities.

We started design of the sewer project in 2005. Design has been completed and we are currently in the final stages of obtaining permits for this project. We expect to bid this project in June. We expect that installation of the sewer may begin sometime in late summer or early fall of 2006 and that the work may take four to five months to complete.

**Easement Modification Request**

In 1992, OWASA and the Town of Chapel Hill negotiated a sewer easement through the Pritchard Park property. As part of the final design and Zoning Compliance permitting of the project, our consultant and staff worked very closely with the personnel of various departments

**Letter to Mr. Heflin**  
**May 17, 2006**  
**Page 2 of 2**

of the Town of Chapel Hill to solicit feedback and comments about the alignment of the proposed gravity sewer line. Based on the comments received from Town's staff, we modified the alignment to minimize disruption to the park property.

These modifications are included in the attached easement documentation and are consistent with our prior discussions. As you can see from the attachment, our request is for the addition of some new areas as well as for abandoning some areas of the existing easement of the park property. Also included is a request of new easement on the portion of the park property located generally south of the Library Drive (see Easement Area #5 on Sheet 1 of 4 of Exhibit "A").

Please review the attached easement documents and let us know if there are any concerns. Otherwise, we would appreciate if this request can be processed for the next Town Council meeting and approval be provided to us as soon as possible. Thank you.

Sincerely,



M. Imtiaz Ahmad, P.E.  
Director of Engineering and Planning

Attachment

## Attachment #2

### Comparison of pump station and gravity sewer costs (estimate in 2006 dollars)

A gravity sewer has a useful life of 50 years.

<b>Pump Station and Force Main Costs</b>				
<b>Item</b>	<b>Cost</b>	<b>Frequency</b>	<b>Next 50 Years</b>	<b>Next 20 Years</b>
Capital Cost to replace the existing pump station	400,000.00	One Time	400,000.00	400,000.00
Annual Operations and Maintenance Cost	11,000.00	per Year	550,000.00	220,000.00
Pump Replacement Cost	10,000.00	every 10 years	50,000.00	20,000.00
Wetwell Rehab Cost	30,000.00	every 20 years	75,000.00	30,000.00
Capital Cost to Replace 450 Ft of FM	68,000.00	every 50 years	68,000.00	27,200.00
<b>Total</b>			<b>1,143,000.00</b>	<b>697,200.00</b>
<b>Gravity Sewer Costs</b>				
<b>Item</b>	<b>Cost</b>	<b>Frequency</b>	<b>Next 50 Years</b>	<b>Next 20 Years</b>
Design and Construction Cost for 2,100ft	695,000.00	One Time	695,000.00	695,000.00
Annual Maintenance Cost	1,500.00	per Year	75,000.00	30,000.00
Gravity Sewer Rehab Cost in 80 years	84,000.00	every 80 years	52,500.00	21,000.00
<b>Total</b>			<b>822,500.00</b>	<b>746,000.00</b>

## QUESTIONS AND ANSWERS

about OWASA's plans to install a new sewer through the Pritchard Park/PublicLibrary property so that the wastewater pump station at Clayton and Audubon Roads can be closed

### **What is OWASA planning to do?**

Install sewer pipes from a point near Clayton and Audubon Roads through the Town's Pritchard Park/Library property to Estes Drive.

Close the wastewater pump station near Clayton and Audubon Roads.

### **Why is the sewer project needed?**

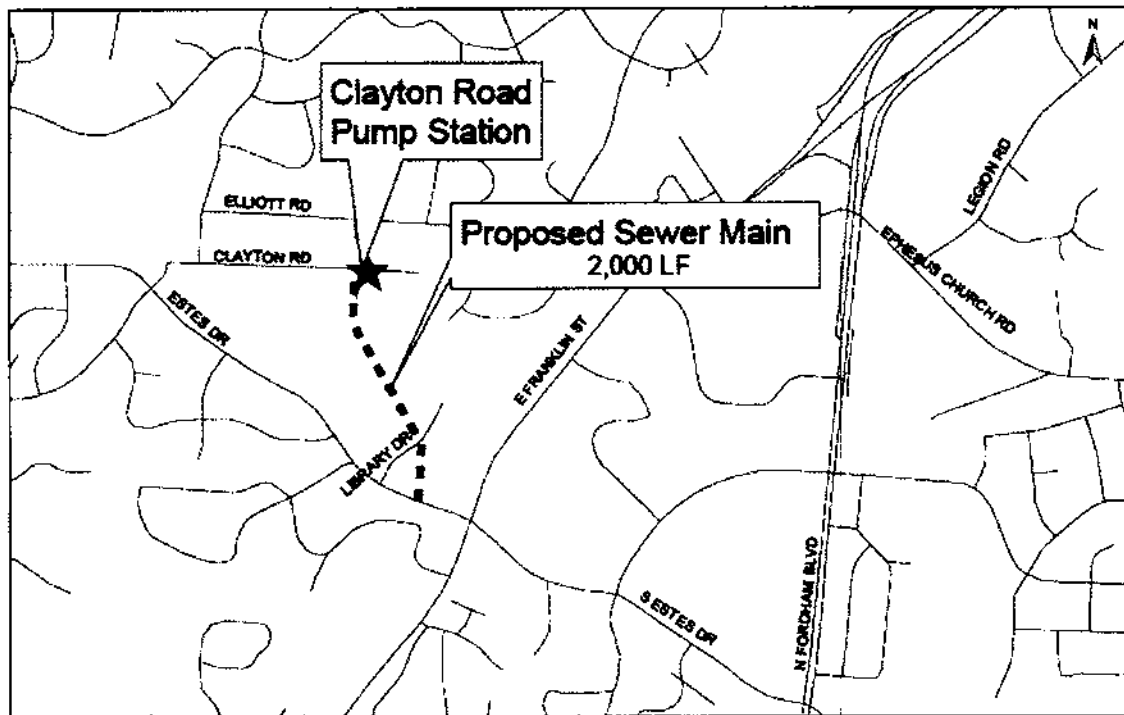
The existing wastewater pump station near Clayton Road operates with electricity generated from non-renewable fuels, and a pump station is less reliable than carrying wastewater through a pipe that works with the simple force of gravity.

Pump stations are vulnerable to failures in equipment and power supplies, and a failure could result in a spill of untreated wastewater into the natural environment.

In addition, pump stations have higher operating and maintenance costs than a sewer that works with gravity.

### **Where will the new sewer be installed?**

The map below shows the approximate location of the sewer. As indicated above, the sewer will extend from a point near Clayton and Audubon Roads to connect with an existing sewer in Estes Drive.



### When will the sewer be installed?

The specific timetable for construction is not yet decided. Design of the project has been completed. We are currently awaiting easements. We estimate construction may start in July or August, 2006.

### How will the sewer benefit the community? Will it benefit the Library and/or the Library Expansion?

- The sewer project will help protect the natural environment in the Bolin Creek drainage basin by reducing the risk of a wastewater overflow at the pump station.

Gravity sewers in this project and elsewhere in the OWASA system are a sustainable technology. We do not consider pump stations to be a sustainable approach because they require conventional electricity generated with non-renewable fuels.

- Closing the pump station, with its electrical use and costs, maintenance and replacement requirements etc., will lower OWASA's operating and maintenance costs, which are borne by OWASA customers. OWASA is a non-profit, public agency with cost-of-service rates that are set to cover the costs of its services.
- The new sewer installation will reduce future costs to the Town by reducing the length of the sewer service line that will be extended from the Library/Library Expansion to the OWASA system. Without the new sewer through Pritchard Park, the future sewer service line from the Library would need to be extended a greater distance to reach the OWASA sewer in Estes Drive.



### **How will the project affect people in the area including Library patrons?**

The sewer work will be visible from the Library and will involve some noise and dust.

OWASA does not plan any significant disruption of:

- access to the Library,  
the Library's service hours or
- transit service to the Library.

### **Will traffic on Library Drive be affected? How?**

The sewer project is not expected to affect traffic on Library Drive because the contractor will be required to bore under Library Drive for the sewer installation as discussed above. However, work along Estes Drive will affect traffic. A traffic control plan will be approved by the Town and the North Carolina Department of Transportation (NCDOT). The approved traffic control plan will specify all the safety and precautionary measures that contractor will have to implement to maintain the traffic.

### **How will the project affect the existing walking trail in Pritchard Park?**

The sewer work will be visible from the trail, access to the trail will be affected and we expect there will be times when the trail will be closed during construction for safety reasons. When work next to the trail is complete, OWASA's contractor will restore the trail for public use.

### **How visible will the sewer and manholes be?**

The manholes will be flush with the ground in landscaped and paved areas. In other areas, the manholes will be no more than 24 inches above the ground.

### **What process has been used to plan and design the project?**

In the 1980s, OWASA identified the need to eventually close the Clayton Road pump station as part of our overall planning for capital improvements. Therefore, the Town of Chapel Hill set aside an easement in the Pritchard Park/Library property in 1992 for extension of a sewer.

In recent months, OWASA and Town staffs have discussed the potential route of the sewer including places where the easement alignment will be changed to protect significant existing trees. Upcoming steps in the planning and design process will include finalizing the drawings and construction specifications for the project and obtaining permits and modified easements.

### **What will the sewer installation work involve?**

After the detailed design work, OWASA will select a contractor through a public bidding process.

The contractor will remove trees and other vegetation in area about 30 feet wide (possibly less in some places) as needed to provide access and room for equipment, materials, etc. during the sewer work.

Our contractor will install temporary fencing where needed to protect trees and roots near the construction area.

Our contractor will install about 2,100 feet of sewer pipes. In general, the contractor will dig a trench in a given work area, install pipes, fill the trench and then move to the next work area along the sewer route. The work will likely begin at the Estes Drive end of the project and progress toward Clayton and Audubon Roads.

For safety reasons, fencing will be installed around the work area as the contractor progresses.

At Library Drive, the contractor will bore under the road instead of digging across it. A special "casing" pipe will be put through the boring under Library Drive, and the sewer main will be put inside the casing pipe.

After the sewer pipes are installed, work areas will be regraded and otherwise restored.

When the new sewer is installed, our pump station will be closed. Some of the equipment will be saved for reuse at other stations.

### **How much will the work cost and who will pay for it?**

The project will cost about \$695,000, including our engineering consultant's fees and construction expenses. This is an estimate; actual costs will depend on bids and the specific quantities of pipe, etc. used in construction. As in most OWASA capital projects, OWASA customers will pay for the work through rates and fees.

### **What is a sewer easement?**

A sewer easement is a designated off-street area where we have the right to keep clear access, install, inspect, maintain, repair and improve sewer pipes, manholes, etc. The basic ownership of land covered by an OWASA sewer easement does not change, but OWASA has the right to use and clear the easement as indicated above.

Most of our sewer easements are 30 feet wide, and that is the width of our easement through the Town's Park/Libraryland.

### **When was the existing sewer easement granted to OWASA and why?**

The sewer easement was given to OWASA in 1992 because the Town and OWASA recognized the need to eventually close the pump station by installing a sewer.

### **Will the existing easement location be adjusted in some locations to help protect trees and other natural environmental assets?**

Yes, discussions to date with the Town staff have identified to change the location of the easement in a couple of places to save existing trees.

**Will the water pipe metal become corroded over time?**

In soils that are typical in the Chapel Hill-Carrboro area, corrosion of iron water and sewer pipes is not a significant problem.

**How long will the new sewer last before replacement will be needed?**

The new sewer pipe should last for 80 years or more. As the sewer ages, repairs or resealing of the pipe may be needed to keep rain and groundwater from entering and exceeding the capacity of the sewer.

**What are the purposes of manholes? What determines their height?**

Manholes serve two purposes:

To allow access into the sewer for inspections (which are done with a small videocamera), cleaning and clearing of obstructions such as roots, and special work such as resealing the inside of the pipe; and

to enable a change in direction of a sewer when it is installed. Individual sewer pipes are straight, and several pipes can be connected in a straight line; manholes are installed to enable a change in the direction of the sewer.

**Where will the pipe installation start?**

We expect that the sewer installation will begin at Estes Drive at a point just east of Library Drive. However, the actual starting point will be determined by the contractor.

**Will there a weight limit for traffic on Library Drive over the sewer?**

The ductile iron water pipe material can withstand the maximum traffic load expected on streets, roads and highways, as long as the pipe is installed as required by the specifications. When sewer pipes are installed in a boring under the pavement, they are further protected by encasing them in State-approved steel pipes, which are also designed to handle the maximum traffic loads expected on streets, roads and highways.

**What kind of groundcover will be in the sewer easement after construction?**

OWASA will work with Town on this question and is open to considering using an appropriate natural groundcover instead of grass. The groundcover will need to be a type that enables safe and timely access for various kinds of ongoing work including emergency sewer repairs as well as routine inspections and maintenance.

**How wide will the sewer trench and overall work area be?**

The trench width will vary from location to location and will be determined by the depth of burial of the sewer pipe. The overall work area will be generally restricted to about 30

feet wide. The contractor will not have permission to work outside of the OWASA sewer easement, except where a temporary construction easement is granted and where the contractor is working in the public street right-of-way.

**Will blasting or jack hammering be necessary?**

Based on information we have at this point, we do not see a need for blasting or jack hammering to remove rock. If large rock formations are found, blasting would be done if necessary and subject to approval by the Town's Fire Department, with liability insurance requirements, etc. With current technology and intensity controls, blasting is, of course, normally much quicker and less disruptive than jack hammering to break up rock.

**Is OWASA working with an arborist to plan the sewer route for minimal tree impact?**

Yes, as indicated above, OWASA has worked with Town staff including the Urban Forester in the Public Works Department.

**Whose approvals are needed for the project?**

The Town of Chapel Hill, North Carolina Department of Environment and Natural Resources (NCDENR) and the North Carolina Department of Transportation (NCDOT).

**How will the sewer project affect plans for the Park and Library properties?**

The sewer installation will occur in an area that is not planned for expansion of the Library Building or for future park facilities.

**How can I get more information about OWASA's plans?**

We invite you to contact OWASA's Engineering staff by calling 968-4421 or sending an e-mail to [webmaster@owasa.org](mailto:webmaster@owasa.org), or write to or visit OWASA staff at 400 Jones Ferry Road, Carrboro, NC 27510 if you have any questions or comments now or in the future.