Rogers Road Area Sewer Project Community Meeting

Thursday, March 1, 2018 6:00 – 7:30 PM
Faith Tabernacle Oasis of Love Church

Purpose/Background

The contractor for the Historic Rogers Road Sewer Extension Project has located underground utilities, cleared some of the construction easements, and installed silt fencing and sewer pipe for approximately 30% of the project. The contractor is now ready to install pipe along the portion of the project that is on the south side of Tallyho Trail. The contractor has identified that the sewer installation in this area will require low-intensity underground blasting to remove larger rocks in preparation to install sewer pipe underground. As such, the Rogers Road Project Team, consisting of Orange County, the Town of Carrboro, the Town of Chapel Hill, and OWASA, hosted a community meeting on March 1, 2018 to communicate the current construction progress, identify the expected rock removal work to occur in upcoming phases, receive community feedback, and answer any questions that residents in the impacted community may have. About 40 community members attended. Four Town of Carrboro staff members were present: Patricia McGuire, Planning Director, Martin Roupe, Development Review Administrator, Lieutenant Scott Walker, Town of Carrboro Fire Department, and Captain Walter Mills, Town of Carrboro Fire Department. One Town of Chapel Hill staff member was present: Judy Johnson, Planning and Development Services Operations Manager. Three Orange County staff members were present: Travis Myren, Deputy County Manager, Perdita Holtz, Planning Systems Coordinator, and Christopher Sandt, Staff Engineer. Two OWASA staff members were present: Allison Reinert, Utilities Engineer, and Vishnu Gangadharan, Engineering Manager for Capital Projects.

This document summarizes the topics discussed during the community meeting held on March 1, 2018 at the Faith Tabernacle Oasis of Love Church in Chapel Hill.

Overview of Current Construction Progress

Approximately 30% of the Rogers Road Sewer has been installed as of March 2018. Weather, underground rock, and other coordination items have delayed some progress on the overall sewer installation. The contractor is currently working off of Eubanks Road near the Orange County Animal Shelter, along a portion of Purefoy Drive, and to the west of Sandberg Lane. The areas north and south of Tallyho Trail have been cleared and are anticipated to be the next active phase of construction. All of the 3.5 miles of sewer to be installed as part of this project is still expected to be completed by Summer 2018. However, the final completion date is dependent on delays due to weather or other unforeseen conditions.
Overview of Potential Blasting Activities

The contractor has identified low-intensity underground blasting as the most applicable mean and method to install sewer pipe south of Tallyho Trail due to the presence of rock. The rock has been tested, by the contract documents, to be non-rippable. Non-rippable rock is rock that cannot be removed by mechanical methods such as excavation or jack hammering. This type of blasting would be limited to a very small area within the center of the cleared easement. Conceptual blasting plans have identified small 4-foot-wide by 6-foot-long areas within the center of the 30 foot easement as the locations for blast holes. The blasting holes would be located along the easement south of Tallyho Trail due to the presence of rock along that entire corridor. Blast bore holes will be approximately 3 inches to 4 inches in diameter and will be drilled into the rock layer. The blast bore holes will contain the blasting agent, blast cap, stone, and dirt, and will be topped with blast mats on the ground surface to protect the surrounding area from any potential flying debris. Controlled blasting will be done in conformance with an engineer-approved blasting plan and all required rules, regulations, and permits. Energy in the blast will be used to break up rock underground. The remaining energy from the blast dissipates into a limited area surrounding the blast site. Per the contract documents as well as all applicable local, state, and federal regulations, controls are put in place to monitor the energy of the blast and the remaining energy that dissipates from the controlled blast site.

Blasting seismographs will monitor ground vibrations and peak particle velocities (PPVs) during all blasting operations. Seismographs will be located between the blasting operations and the nearest structure. The contract documents limit PPVs to a maximum of 1.25 inches/second. As a comparison, published data has identified PPVs of 5.4 inches/second to be capable of causing minor damage to structures. Crack monitors will also be used on structures within the monitoring zone, which has been set at 500 feet from the blasting holes, that have existing cracks prior to the blasting operations. Additionally, pre- and post-blast surveys will be conducted on structures within the monitoring zone by an independent third party licensed engineering firm. Surveys will include color video and color photographs of exteriors and interiors of above ground structures. Crack monitors may also be placed on façade cracks if present prior to blasting. All property owners that will be included within the 500 foot radius from expected blasting operations and receiving a pre- and post-blast survey will be contacted by the contractor. A map of the properties eligible for a pre- and post-blast survey as part of this phase of the project is attached to this meeting summary document, and will be available online at http://www.owasa.org/installing-sewers-to-serve-the-historic-rogers-road-area. We ask for your cooperation if you are contacted for a pre-blast survey. Also please note that the pre-blast surveys will not be provided to the homeowner or property owner but the homeowner or property owner may be able to request a copy of the pre-blast survey for an additional fee.

The community’s safety – both to persons and property – is of utmost importance to the Rogers Road Project Team, our contractor, and their blasting subcontractor. As such, the contract documents and applicable regulations and permits require secure construction entrances and audible blast warning signals and ‘all clear’ signals. Additionally, no blasting agents will be stored on site during blasting operations and no blast holes will be left loaded overnight. Clearly marked signs will be posted in the areas where blasting is expected to occur.

Our contractor and their blasting subcontractor will try and minimize any inconveniences caused by the blasting operations. Blasting can occur between 9AM and 5PM, Monday through Friday, but typically the blasting will not occur before 10AM nor after 2PM. Due to the magnitude of rock that needs to be removed, it is expected that blasting operations south of Tallyho Trail could take up to 6 weeks to
complete. As with all other construction activities, blasting is subject to weather conditions and will not be performed during any thunderstorms or threat of lightning and will also be minimal on cloudy days. Blasting in future phases of construction in other areas of the Rogers Road Community may also be possible but are unknown at this time.

Construction impacts could include noise (similar to a thunderclap or low flying plane), and dust and dirt (similar to current construction activities). Residents will be notified prior to any blasting activities occurring. Blasting will not occur before all of the proper permits have been acquired by the blasting subcontractor and all of the required pre-blast surveys have been conducted.

**Summary of Community Q&A**

Q&A at the March 1, 2018 community meeting focused on the following items. Questions are shown in **BOLD**, Answers are shown in *italics*.

- **Impact of blasting on groundwater sources**
  
  The project team is continuing to investigate available published (peer-reviewed) research providing applicable, region-specific information related to non-commercial blasting operations similar to what is proposed with the Rogers Road sewer project. One source of information for frequently asked questions related to blasting, made available by the International Society of Blasting Engineers, can be found here: [http://explosives.org/frequently-asked-questions/](http://explosives.org/frequently-asked-questions/).

- **Impact of blasting on wells and septic systems**
  
  The project team is continuing to investigate available published (peer-reviewed) research providing applicable, region-specific information related to non-commercial blasting operations similar to what is proposed with the Rogers Road sewer project. One source of information for frequently asked questions related to blasting, made available by the International Society of Blasting Engineers, can be found here: [http://explosives.org/frequently-asked-questions/](http://explosives.org/frequently-asked-questions/).

- **Monitoring of blasting on wells**
  
  Seismographs will be placed between the blasting site and surface structures, based on the requirements of the blasting permit. The project team is continuing to investigate available published (peer-reviewed) research providing applicable, region-specific information related to non-commercial blasting operations similar to what is proposed with the Rogers Road sewer project. One source of information for frequently asked questions related to blasting, made available by the International Society of Blasting Engineers, can be found here: [http://explosives.org/frequently-asked-questions/](http://explosives.org/frequently-asked-questions/).

- **Requirement to connect to the new sewer system and any associated fees**
  
  Property owners will not be required to connect to the new sewer system. Property owners may choose to connect and sewer service will be initiated once the OWASA connection fees are paid and the homeowner has connected their onsite home plumbing system to the public sewer main. Additional information about the fees and opportunities to receive assistance from Orange County and the Towns will be forthcoming in July 2018 when OWASA connection fees are anticipated to be reduced upon Board approval.
• Impact of creek crossings on the ability to connect to the sewer system

During design, sewer lateral cleanouts were located in areas that would allow for a connection to the public sewer system per OWASA’s policy. If you have questions or concerns about whether or not your home will be able to connect to the Rogers Road Sewer extension, please call Allison Reinert, Project Manager at 919-537-4229 or areinert@owasa.org.

• Blasting permit requirements and who will issue the permit

Blasting permit requirements for this phase are defined by the Town of Carrboro Fire Department. The Town of Carrboro is the jurisdiction with final authority over the blasting permit for blasting south of Tallyho Trail. The blasting permit process is not a public meeting type of process but the impacts on residents based on the permit requirements (i.e. pre-blast surveys) will be communicated to residents.

• Recourse if blasting affects wells, septic systems, or other structures, and statute of limitations on recourse

We do not anticipate any damage to personal property from the blasting operations but should any damage occur, there are protocols in place in the contract documents to cover damages that are proven to have been caused by the blasting operations and are within the construction warranty period.

• More specifics on exact locations of blasting operations within the easement south of Tallyho Trail

The current blast plan indicates that all areas south of Tallyho Trail in the 30 foot easement may receive some level of blasting due to the presence of rock. The exact locations of blast holes will be specifically located to achieve the necessary rock removal and minimize any impacts to private property.

• Displeasure from the community that blasting has not been mentioned prior to this public meeting

Design phases for underground utility work, such as sanitary sewers, typically include only limited rock profiling. Full rock profiling is done during construction because it is expected to be completed by the contractor. The contractor determines the means and methods of sewer installation and the contractor for the Rogers Road sewer project has determined that blasting is the best method.

• Notification of properties receiving pre-blast surveys

A radius of 500 feet has been established by the Town of Carrboro. Properties within the 500 foot radius will be contacted for coordination of the pre-blast surveys. A map showing the affected properties for this first phase receiving a pre-blast survey is attached to this meeting summary document, and will be available at http://www.owasa.org/installing-sewers-to-serve-the-historic-rogers-road-area.
• More specifics on what is included in a pre-blast survey; are wells and septic systems included in the surveys

Based on the requirements of the blasting permit, only above ground structures will be included in pre-blast surveys.

• Notification prior to blasting operations

The neighborhood will be notified prior to any blasting operations via the requirements of both the contract documents and the blasting permit.

• Installation options other than blasting

Hoe-ramming (i.e. jack hammering) was evaluated as an option, but some of the rock is too hard to be hoe-rammed and hoe-ramming would be significantly louder (a constant loud noise) and would disturb the community for a much longer duration as opposed to blasting.

• More specifics on the blasting subcontractor’s experience

The subcontractor is licensed and insured and has been in business since 2004. They have worked with utilities in the City of Raleigh, and cities throughout North Carolina, South Carolina, and Virginia. They have worked in a variety of different conditions.

• Impacts of blasting on underground gas

During the design phases the project team did not find any natural gas (methane) based on geotechnical borings completed to date.

• More specifics on how the perimeter will be secured during blasting operations

The subcontractor will have personnel secure the perimeter before any blasting operations. There will be subcontractor crews with flags and signage throughout the area to ensure that only approved persons are within the blast area.

• Concurrent pipe and blasting operations

It is possible that pipe installation in this area will be occurring simultaneously with blasting operations. Pipe installation would occur along the area south of Tallyho Trail as long as the blasting operations had progressed to a safe distance ahead, within the approved and permitted area for blasting, for pipe installation crews to be working in the same area.

• Sounds that the community will hear during blasting operations

The community will hear a siren or air horn before the blast as a warning, then the blast will sound similar to a thunderclap or low flying plane, and then an ‘all clear’ siren or air horn will signal the end of that particular blast. Several blasts could occur during the day.
Rogers Road Project Team Next Steps

Rogers Road Project Team will:

- Follow up with additional information for the community as new information about the blasting permit status and blasting operations is available.
- Respond quickly to all community concerns and questions.

This document summarizes the topics discussed during the community meeting held on March 1, 2018 at the Faith Tabernacle Oasis of Love Church in Chapel Hill. There have been subsequent inquiries by community members since the March 1, 2018 community meeting was held, and we continue to research all subsequent matters presented.

The Rogers Road Group welcomes all additional comments, questions and concerns related to the Rogers Road Sewer Expansion Project and looks forward to working with the neighborhood as we improve the sewer infrastructure in this community.

Meeting Summary Prepared by:

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Allison Marie Reinert, P.E
OWASA
Utilities Engineer, Rogers Road Sewer Extension Project Manager

Distributed: March 16, 2018

Attachment 1 – PowerPoint from March 1, 2018 Community Meeting
Attachment 2 – Exhibit A: 500-ft Pre-Blast Survey Notification Map
Historic Rogers Road Neighborhood Sewer Project
Community Information Meeting

March 01, 2018
Agenda

1. Current Construction Status
2. Blasting Information
3. Questions
Blasting Information

Current area planned for blasting as part of sewer installation construction

Large quantity of rock in the depth where the sewer pipe is going to be installed is driving the need for blasting
Conceptual Blasting Layout

Blasting location relative to easement
Conceptual Blasting Layout

30 foot easement width

6 foot blasting area length

4 foot blasting area width
What does a bore hole look like?

- Ground Surface
- Dirt layer above rock
- Rock layer to be removed
  - Blast Cap
  - Blasting Agent
  - #78 Stone (like driveway gravel)
  - Dirt
  - Blast Mats

Note: Not To Scale
Controlled Blasting

• Energy in the blast is used to break up the rock layer
• There is a limited area to apply energy from blasting – blast holes are small
• The remaining energy dissipates into a limited area surrounding the blast site
• Controls are put in place to monitor the remaining energy that leaves the blast hole
How is the blast monitored?

• Blasting seismographs monitor ground vibrations and peak particle velocities
• Blasting seismographs will be placed between blast locations and the nearest structure during all blasting operations
• Crack monitoring will be done on existing nearby structures with existing cracks documented prior to blasting
Peak Particle Velocities (PPVs)

- Minor damage observed for PPVs of 5.4 inches/second
- Major damage observed for PPVs of 7.6 inches/second

OWASA limits the maximum PPV to 1.25 inches/second
Pre and Post Blast Surveys

• Contractor is required to have pre-blast surveys conducted on structures by an independent third party licensed engineering firm within the permitted distance.

• We ask for your cooperation in allowing the third party engineering firm completing the survey and the monitoring to access your home and your property.

• Pre blast survey could include color video and color photographs of exteriors and interiors.

• May will also include installation of crack monitors on façade cracks.
Required Safety Procedures

• Construction entrances will be secured and guarded from the time of the “five minute blast warning” until the “all clear” via an air horn or siren
• No explosives will be stored at the site
• Clearly marked signs will be posted

• Holes will not be left loaded overnight
Time and Duration of Blasting South of Tallyho

• Blasting can occur between 9AM and 5PM
• Typically the earliest blast would be around 10AM and the last blast of the day would be around 2 PM (this is subject to change)
• It is expected to take up to 6 weeks to complete the blasting in this area – depending on weather
• Blasting in future phases of construction is also possible but unknown at this time
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Greene Tract
Conceptual Planning
• 164 acres
  • 60 acres owned by Orange County
  • 104 acres jointly owned by Orange County and Towns of Chapel Hill and Carrboro
• Interest in possibly locating a mix of affordable and mixed-income housing, limited non-residential uses, and a future elementary school on the site.

• Staffs have been working on conceptual plans to get the conversation started.

• Conceptual plans presented to elected officials for feedback at January 30 Assembly of Governments meeting.
  • (Agenda materials available on County’s website)
• BOCC discussed at February 20 meeting
  • (Agenda materials available on County’s website)
• Staff will conduct a walking tour of the site for elected officials and other interested parties, including community members
  • Date/time is currently being determined but will likely be March 22 or 23
  • Please sign up to receive an e-mailed notification if you’re interested in possibly attending
Exhibit A: 500-ft Pre-Blast Survey Notification Map

- Sewer Alignment
- 500-ft Pre-Blast Notification Buffer
- Building Footprints
- Parcels

Orange County Planning and Inspection
BC 3/16/2018