Questions from Second Public Meeting
for Proposed Emergency Well at Speers Road
on 6-21-2017

QUESTIONS RELATED TO THE PROPERTY

Q1: Why and how did the City purchase the Speers property? Why was this parcel chosen?

A: The City conducted studies of four different areas throughout the Urban Growth Boundary of Santa Rosa. The Speers site was one of the top recommended sites from the Rincon Valley study because it was vacant and also met the following criteria:

- Proximity to City Water System pressure zone - The Speers site is located within the City's Water System Master Zone S-6. This zone, as discussed in the City's Groundwater Master Plan, requires up to three new emergency wells to meet the health and safety needs of current and future customers in this area.
- Close to existing water and sewer utilities
- Property size (approximately 15,000 square feet)
- At least 1500 feet from Rodger's Creek Fault
- Underlying geology is likely to contain groundwater
- Accessibility from a paved City roadway to allow easy access by the drilling rig.
- 75' set back from creeks
- Away from soil or groundwater contaminated sites
- Environmental Considerations - The site does not contain rare plants or endangered species

Q2: Why didn't the City pick sites that don't have so many private wells nearby?

A: The Santa Rosa Urban Growth Boundary has an average of 58 known wells per square mile. It is very difficult to find locations where groundwater is accessible, that meet the well siting criteria, and do not have private wells nearby.

Q3: Why didn't the City use other City owned parcels?

A: The City is exploring multiple sites within the Urban Growth Boundary of Santa Rosa and is currently working on installing new emergency wells at two city sites – A Place to Play park and the Oakmont Treatment Plant. We need 10-20 emergency wells to meet the health and safety needs of our community in the event of a catastrophic emergency and the City is exploring all properties as potential sites for emergency wells. It is a City priority is to install emergency wells at currently owned City property, however, few currently owned City sites meet the well siting criteria. Some of the emergency wells will need to be located on non-city properties to meet the health and safety needs of our community in the event of a catastrophic emergency.

Q4: When was the Speers property annexed?

A: The parcel [APN # 183240019] was annexed in 1995 along with two nearby parcels (Recorders Certificate number 544-39 dated November 13, 1995).

Q5: What is the zoning for the Speers property? What are the designated uses for the site? Are any uses prohibited? Isn't it illegal to build on that property?

A: The property is zoned RR-40, Rural Residential (very low density residential). Permitted uses for RR-40 zoning include the list below. Per City Zoning Code, some uses may require additional permitting. Generally speaking, uses not listed are prohibited.

- Agricultural and open space (ag accessory structures, animal keeping, crop production, crop processing, plant nursery)
- Recreation, education and public assembly (community garden, golf course/country club, library, museum, health/fitness, meeting facility, equestrian facility, park, playground, school)
- Low density residential (ag employee housing, community care facility, emergency shelter, mobile home park, multi-family dwelling, dorms, mixed use residential, rooming/boarding house, second dwelling unit, single-family dwelling, supportive housing, transitional housing)
- Retail trade (neighborhood center, produce stand)
- Professional services (medical)
- General services (adult day care, child day care, lodging B&B, public safety facility)
- Transportation, communication, and infrastructure (telecommunications antenna, utility facility, utility infrastructure)

Q6: How many emergency wells has the City converted to production wells to date?

A: The City's Farmers Lane wells were constructed as production wells. In the 1960s, the City contracted with the Sonoma County Water Agency (SCWA) to supply water to Santa Rosa. When the City began purchasing water from SCWA, the wells were put into stand-by mode or were replumbed and utilized for irrigation purposes. Stand-by mode means they could only be used to supplement the SCWA supply, if needed. The City received approval from the State Department of Public Health (now called Division of Drinking Water) to return the Farmers Lane wells to active service in 2005., The Farmers Lane wells are typically utilized in the summer months when water demand is greatest and provide 5%-7% of the yearly water demand.

QUESTIONS ABOUT POTENTIAL IMPACTS OF THE PROJECT

Q7: What about potential pollution? Could it spread or migrate up or down through the aquifer because of the Speers emergency well?

A: The emergency well will be constructed in accordance to the Department of Water Resources Water Well Standards (Bulletin 74-90) and County of Sonoma Code (Chapter 25b) to eliminate risk of potential pollution during and after construction. This property is in an area with no known groundwater contamination. The well site itself meets the state and county requirements to be separated from septic tanks, leech fields and animal enclosures. The seal will be a minimum of 75', which is greater than the County's minimum (50 feet) for a Class II well (County of Sonoma, Code of Ordinances, Chapter 25b).

As the test well is drilled, soil samples will be taken every 10 feet. This will allow us to identify zones that are water bearing and zones that are not water bearing. An outer casing (conductor casing) is placed from the top of the ground down to a minimum depth of 50 feet. The well casing is placed inside the conductor casing. A cement seal (annular seal) will be placed between the conductor casing and the solid steel well casing to a minimum depth of 75 feet. The annular seal prevents potential contamination from things that are typically in shallower ground, such as septic tanks and leech fields. The well screens that allow the water to enter the well are not anticipated to be installed until a depth of approximately 550 feet below the ground surface (Figure 1).

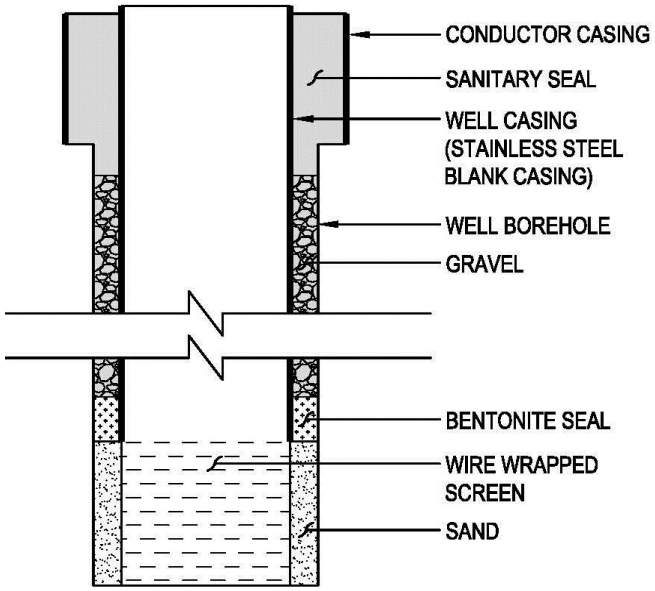

Figure 1 – Illustration of constructed well below the ground surface.

The portion of the emergency well that is exposed above ground (well head) will be covered and secured to eliminate the risk of floodwaters that could contaminate the well. If the proposed emergency well is constructed, a building will be constructed around the well head, further protecting groundwater from the risk of contamination.

Q8: Will the emergency well draw from the same aquifer that we use for our private wells?
A: Based on the siting study, the majority of the residential wells draw water from the first 200 to 300 feet below ground. This area of the aquifer is called the Quaternary Alluvium region and consists of layers of sand, gravel and clay (alluvial deposits). Below the Quaternary Alluvium region lies the Glen Ellen Formation, which is approximately 200 feet thick. Below this is the Sonoma Volcanics formation consisting of fractured and unfractured volcanic rock (volcanic and basalt rock interbedded with tuff, ash, sand, and gravel). We are targeting the Sonoma Volcanics region for the proposed emergency well and the emergency well would be installed to draw water only from the Sonoma Volcanics region, not the upper regions.

Q9: Will you seal the emergency well casing at Speers down at least 100 feet deep? We want it to be 200 feet deep or more. This is a top priority for us.
A: A cement seal (annular seal) will be placed between the conductor casing and the solid steel well casing to a minimum depth of 75 feet. The annular seal prevents potential contamination from things that are typically in shallower ground, such as septic tanks and leech fields. The well screens that allow the water to enter the well are not anticipated to be installed until a depth of approximately 550 feet below the ground surface.

In addition, we will install a solid steal casing down to a depth of approximately 550 feet and install screens below that to allow water to be extracted from the Sonoma Volcanics region. The final design of the proposed emergency well will be based on site conditions encountered during drilling. Site condition information will be made available to the community prior to constructing an emergency well at this location.

Q10: What is the benefit of having emergency wells at Speers and Madrone so close together? Aren't they going to tap into the same water source and affect each other and/or compound the effect on our wells?
A: By having emergency wells at both locations installed in the Sonoma Volcanics region, we will be able to supply our community with water during an emergency. We do not anticipate that either well will meet the pumping capacity needed (700 gallons per minute) for the Rincon Valley Area. As a result, more than one emergency well will have to be installed in Rincon Valley to meet the current and future needs. We will monitor water levels at the Madrone test well during our testing at the Speers test well to see if there is any affect.

Q11: What if the City's emergency well at Speers affects our wells and/or forces us to drill deeper wells? How will you compensate us?
A: The City is proposing an emergency well that would draw water from the Sonoma Volcanics region and based on our best technical knowledge is not connected to the shallower regions of the groundwater aquifer. To confirm this information, the project has been reorganized to drill a test well first and collect hydrogeologic data. Once the information has been collected, we will hold a public meeting to review the data. At that time, we will be able to better answer if the site conditions will support an emergency well, if the emergency well will have an impact on the neighborhood wells and next steps.

Q12: If our wells dry up, do we have any recourse?
A: It is our intent to understand the hydrogeology of the site prior to installing an emergency well. Once the test well is installed and the hydrogeologic data is collected and analyzed, we will have a better understanding of the groundwater aquifer. We will not build the emergency well until we have analyzed the hydrogeologic data and shared it with the community.

Q13: What rights do we have? How can we establish water rights to the water under our property?

A. California does not have a water right permit process for ground water use. Land owners may extract ground water and put it to beneficial use without having to get a water right permit.

Recent State law commonly referred to as the Sustainable Groundwater Management Act requires certain groundwater basins throughout California to form Groundwater Sustainability Agencies to sustainably manage the groundwater basin. The Santa Rosa Plain Groundwater Sustainability Agency was recently formed and, as required by State law, will be developing a Groundwater Sustainability Plan by 2022. The Plan will outline objectives, projects and policies to ensure groundwater availability for future generations while balancing immediate needs of the community.

Q14: Are you taking water from under my property by installing a 700-foot-deep well at Speers?

A: It is our best technical knowledge that there is limited connection between the upper region (Quaternary Alluvium) of the groundwater aquifer where the majority of the neighborhood wells draw water from and the much lower region (Sonoma Volcanics) where we are looking to draw water from. Until a test well is drilled, we cannot assess what influence, if any, that an emergency well would have on the neighborhood wells.

Q15: What level of negative impact on our private wells would stop the project? What criteria of impact on our wells would cancel the project?

A: The project has been reorganized to drill the test well first and collect hydrogeologic data. Once the hydrogeologic data has been collected, we will hold a public meeting to review the data. At that time we will be able to better answer if the site conditions will support an emergency well, if the emergency well will have an impact on the neighborhood wells and what any next steps would be.

Q16: If the Speers emergency well is built, are you going to put pump test water into the sewer every 30 days? Are there any alternative uses for that water? Could you store the water onsite in tanks to use for irrigating the landscaping?

A: Yes, if the proposed emergency well is constructed, it would be exercised monthly to maintain its readiness to provide water during an emergency. The water generated by the operational exercises will not be treated and therefore can't be introduced into the City's water system. The water is not allowed to go into the storm drain either, as this is a violation of our storm water permit. The water will be diverted to the sewer system and make its way to the Laguna Treatment Plant. The recycled water produced at the plant is beneficially re-used for agricultural irrigation, for landscape irrigation saving potable water, and providing water to the Geysers steamfields to produce green energy. To learn more about recycled water, visit: srcity.org/1061/Recycled-Water

All landscaping on-site will be drought tolerant or native species that do not require regular irrigation. The City will provide water for the plants while they are getting established, but we do not plan to install long term irrigation.

Q17: What are the potential impacts on the neighborhood during construction? Traffic, trucks, road condition, noise, etc.

A: Potential impacts during the test well drilling include the following:

- Construction of temporary driveway - Will impact traffic for one day. Traffic control will consist of one lane with flaggers. The temporary driveway would be removed after completion of the test well.
- Personnel - Approximately 3-5 people plus City Inspection staff and geologists/engineers.
- Equipment - drill rig, generator, 1-2 construction vehicles, potentially some water tanks and a trailer.
- Noise - Equipment would be behind a constructed sound barrier to help mitigate the noise and light from the drilling operations and generator.
- Truck Traffic - It can be anticipated that 1-2 ten-yard. dump trucks would remove soils and bring additional material intermittently.
- Road condition - The existing road condition will be documented prior to construction and repaired as needed at the competition of installing the test well.

If an emergency well is constructed, the above ground portion of the well facility will be designed and constructed by another contractor, under a separate City contract. If an emergency well is constructed, the City would work with the selected contractor to minimize the effects of the noise. Traffic control would be limited to the hours of 8:30 am to 4:30 pm. During this stage, more truck traffic would be anticipated and would include dump trucks, concrete trucks, and crane and supply trucks bringing in various building, fencing, and piping materials. We would have deliveries made during times that are less intrusive. The greatest impact to the neighborhood would be during the construction of the new sewer and water mains that would be connected to the City System, south of the Speers Road property at the intersection of Speers Road and Benjamins Road.

Q18: Where would people on Benjamins Road get water if water is disrupted?

A: Some residents on Benjamins Road are currently served by City Water from a water main on Montecito Blvd., and some residents are served by City Water from a water main on Canyon Drive. Due to the configuration of the City's water system, there should be no impacts to those connected to City water from constructing either a test well or emergency well. The City is proposing an emergency well that would draw water from the Sonoma Volcanics region and based on our best technical knowledge is not connected to the shallower regions of the groundwater aquifer and would not impact the wells located on Benjamins Road.

QUESTIONS ABOUT SITE LAYOUT AND DESIGN

Q19: Would you have onsite chlorine treatment of the water? By gas? Liquid? Where will this occur?

A: Yes, if an emergency well is built, the groundwater will be treated by tablet chlorination prior to entering the City's system. No liquid or gas chlorine would be stored at the facility. The tablet

chlorinator will be located inside the well facility (building) separated from the well. The building footprint will be approximately 30' x 30' with two small rooms.

Q20: Where would the fencing material be? How high? What materials?
A: If an emergency well is built, the fence will be located around the well facility and parking area (to the back of the building), with a swing gate at the driveway for vehicular entry. This would include an 8-foot tall galvanized chain link fence, with 1-inch mesh to prevent climbing. There will be no barbed wire or razor wire. We will also consider the neighborhoods input regarding the overall aesthetics of the fence.

Q21: What about the outdoor lighting? What would be installed? Tall poles with bright lights? How often would the lights be on? For how long?
A: If an emergency well is built, lighting will consist of motion-detected LED flood lights mounted on the building wall. Additionally, a pole mounted motion-detected LED flood light will be located in the parking area. LED lights use less energy and are more focused in the direction the light is pointing causing less light pollution than traditional street lights.

Q22: Will the building be masonry? Can you design it to fit into the rural neighborhood? Can it have siding to blend in instead of cinder blocks?
A: If an emergency well is built, the City will incorporate the aesthetic needs of the neighborhood while meeting the design standards of the facility. The building will consist of a concrete slab on grade with concrete masonry walls or insulated wood siding to meet structural and security requirements of the well facility. Doors will be painted steel. Roofing will consist of composite shingles with the color chosen to match surrounding neighborhood roofs.

Q23: How often will the landscape be maintained at the site if the well goes in?
A: If an emergency well is built, grounds will be landscaped and kept clean. The landscaping will be maintained as necessary, with a frequency of four (4) times per year.

All landscaping on-site will be drought tolerant or native species that do not require regular irrigation. The City will provide water for the plants while they are getting established, but we do not plan to install long term irrigation.

REQUESTS FOR MORE INFORMATION

Q24: How deep are the City's existing wells?
A: Santa Rosa Water currently operates two production wells, and one irrigation well. The City also has three emergency supply wells that are exercised monthly and owns four inactive wells.

Production Wells:

- Farmers Lane Well No. 1 (W4-1) – 1,000 feet deep
- Farmers Lane Well No. 2 (W4-2) – 1,200 feet deep

Emergency Supply Wells

- Carley Well (W2-1) – 207 feet deep
- Peter Springs Well (W2-2) – 160 feet deep
- Leete Well (W1) – 323 feet deep (offline due to casing separation)

Landscape Irrigation Well

- Farmers Lane Well No. 3 (W4-3) – 291 feet deep

Inactive Wells (out of service)

- Brigadoon Well – 316 feet deep (no pump equipment installed)
- Freeway Well (W3) – 817 feet deep (contaminated, disconnected from City water system)
- Hearn Avenue Well – unknown depth (no pump equipment installed)
- Sharon Park Well (W6) – 275 feet deep (excessive sanding; being evaluated for rehabilitation)

Q25: How many private wells are around the City's Farmers Lane production wells?

A: The following information is based on current data available in the City's GIS database:

- Within ¼ mile radius: 29 known wells
- Within ½ mile radius: 59 known wells

Q26: Are the nearby wells affected by the Farmers Lane production wells? Do you have monitoring data? Can we see it?

A: Since 2007, several private wells near the Farmers Lane production wells have been monitored on a monthly basis by City staff. None of these wells have shown an impact due to the operation of the City's Famers Lane production wells. The Farmers Lane wells are operated from May through October and produces approximately 2.5 Million Gallons per Day (MGD). A summary of the available monitoring well data from these wells is being prepared to post on the CIP website at http://cippublic.srcity.org/CIPList.html. Project identification number (PID) is 2083.

Q27: I might be interested in letting the City monitor my well during the pump testing, but I'm not sure what that means. Can you explain the process and what you measure? Do you try to determine how much water my well can produce? What would you learn by monitoring my well? How long would you monitor my well? Would monitoring affect how I can use my well during the test?

A: The process consists of taking water level measurements from your well. Wells are typically already equipped with a plug which can be removed to allow access for these measurements. A probe is lowered into your well to measure the depth from the top of the casing to the groundwater in your well. Depending on the equipment used, this could be a single data point showing the date and time that the specific water level measurement was taken, or in special cases, could be taken at more frequent intervals, such as hourly. We do not determine or measure how much water your well can produce.

If information on your well's specific construction details are available, then your well may be monitored to determine if pumping of the Speers Test Well has a hydraulic impact on your

existing well. However, if your well is active (being turned on/off as needed to provide water supply), this well cycling will also have an impact on water levels, independent of the Speers Test well.

Q28: Which agency did the environmental analysis for the site?
A: The site specific environmental analysis was completed by City of Santa Rosa staff as outlined by the Mitigated Negative Declaration (MND) for the Groundwater Master Plan. The Groundwater Master Plan MND was prepared by the consulting firm GHD Consulting Engineers and set up guidelines for site specific environmental analysis for any site within the City's Urban Growth Boundary. For each potential well site, the City must follow the site-specific guidelines and prepare additional studies needed, such as a wetlands analysis and site-specific studies for endangered plants and animals.

Q29: Which agency did the archeologic study of the site?
A: The Archeologic study was completed by GHD Consulting Engineers with the Anthropological Studies Center (ASC), Sonoma State University.,

Q30: Can you post all the information presented tonight on the City's website?
- ***PowerPoint slides***
- ***USGS Study***
- ***Groundwater Master Plan***
- ***Modified Negative Declaration***
- ***Environmental check list for the Speers site***
- ***Archeologic study for the Speers site***

A: This information is posted on Santa Rosa Water's website as well as the Capital Improvement Projects website at srcity.org/CIP. Project identification number (PID) is 2083.

Q31: Information from the USGS indicated that placing large production wells near small residential well causes impact. How will this impact our wells?
A: City staff was unable to find the specific USGS study that referenced this. The City is proposing to install an emergency well that, per state law, could only be operated for up to 15 days per year in the event of a catastrophic emergency. The City is not proposing to install a production well.

Installation of the test well and collection of the hydrogeologic data from the test well and surrounding area will give us the best information for assessing any potential impacts from an emergency well.

Q32: Can you provide data on how fast the deep aquifer recharges?
A: The data that the City has on the "recovery" of the water levels in the deep aquifer, (Sonoma Volcanics region), is from the City's Farmers Lane wells.

A summary of the available monitoring well data from these wells is being prepared to post on the CIP website at srcity.org/CIP. Project identification number (PID) is 2083. This data shows that even during our recent, historic drought, water levels in these wells returned to artesian (normal conditions) within several weeks of shutting off the wells. At the start of every City seasonal pumping period, artesian conditions have existed.

Q33: Can you share data you have collected from the Madrone well and its impact on nearby wells that are being monitored?

A: A summary of the available monitoring well data from the Madrone Well is being prepared to post on the CIP website at srcity.org/CIP. Project identification number (PID) is 2083. No water level information has been collected from other wells in the immediate vicinity of this well.

Q34: Will monitoring the impacts of an emergency well at Speers now (post-drought) tell us how the aquifer will be affected in drought? Do you have baseline data that can help figure this out?

A: Monitoring of water levels in the Speers test well will provide baseline information regarding the water resource within the Sonoma Volcanics region of the aquifer. The City currently has some available data (from the Farmers Lane wells and other deep test wells), but not specifically in the immediate vicinity of the proposed Speers test well site.

Q35: Can you share data with us about how the aquifer was affected during the recent drought?

A: The data that the City has on the "recovery" of the water levels in the deep aquifer, (Sonoma Volcanics region), is from the City's Farmers Lane wells. Even during our recent, historic drought, water levels in these wells returned to artesian (normal conditions) every year.

Q36: How long would it take to install sewer and water to the site?

A: A reasonable estimate to install 800 feet of sewer main and 400 feet of water main, reconnect existing laterals and water services, and resurfacing the roadway would take approximately 4-6 weeks. This estimate considers the extra time needed for a contractor to go under the existing Ducker Creek conduit with the water and sewer mains. This work would only be completed if an emergency well is installed in the future.

Q37: How can we get more information about the Oakmont project? Is it available on the City's CIP webpage? What is the project number?

A: Currently, the Oakmont emergency well is included with the Speers emergency well under PID 2083. Information will be posted on the website as it becomes available.

Q38: Could the City convert an emergency well into a production well in the future? What is the process? How long would it take? Would we be informed?

A: Although it is unlikely, the City would need to go through a permitting process with the State's Division of Drinking Water. This process would take approximately 1-2 years and would

require compliance with the California Environmental Quality Act (CEQA). The environmental analysis and required CEQA document would go through a public process.

QUESTIONS ABOUT NEXT STEPS

Q39: Will you hold another public meeting?
A: Our third public meeting for the Proposed Emergency Well Facility at Speers Road will be held as follows:

DATE: AUGUST 16, 2017
TIME: 6:00 PM TO 8:00 PM
LOCATION: RINCON VALLEY LIBRARY

Q40: Will you report to City Council about tonight's meeting?
A: Yes. The date that this will be brought to the City Council is still to be determined.

Q41: When door hangers were delivered, you missed some residents. Some properties have multiple driveways. Can you go down every driveway next time? And include everyone on Hansen Drive?
A: To ensure we were reaching all residents in the vicinity of the Speers location, we set a 350-foot radius around 618 Speers Road and included all properties within this radius as well as any property that bordered this area. In addition, we specifically included properties known to have wells and everyone along Hansen Drive.

We hung door hangers as a secondary means of informing community members of the meeting. In addition to door hangers, we sent letters to all addresses in the vicinity and provided information through social media and electronic communications. For the third public meeting, we went down every driveway we had access to deliver the door hangers

Q42: How many meetings are you required to provide to us to fulfill your legal obligations?
A: There is no legal obligation or requirement for the City to conduct public meetings for this project. Based on the questions and feedback received from the neighborhood, the City decided to conduct public meetings to create an open and transparent environment regarding the Proposed Emergency Groundwater Well at Speers Road. To date, two public meetings to inform the community of this project have occurred and a third meeting is scheduled for August 16, 2017.

The previous public meetings for the Groundwater Master Plan, associated Mitigated Negative Declaration (CEQA document), emergency groundwater program, siting studies, and acquisition of the Speers Road property were held at the City's Board of Public Utilities meetings, as follows:

- Groundwater Master Plan development and updates – March 3, 2011; Oct 6, 2011; May 3, 2012; Sept 25, 2012 (Joint meeting of the City Council and Board of Public Utilities); Oct 4, 2012 and June 6, 2013
- Groundwater Master Plan and Mitigated Negative Declaration Public Hearing and Adoption - Sept 19, 2013
- Contracts for implementing the Master Plan, including Emergency Groundwater Program and Siting Studies – July 24, 2014; Dec 16, 2014
- Speers Road Property Acquisition - Dec 15, 2016 – approval of purchase and adoption of a mitigation monitoring program.