

Public Meeting and Public Hearing on Draft Bryan/Bulloch County Groundwater Withdrawal Permits

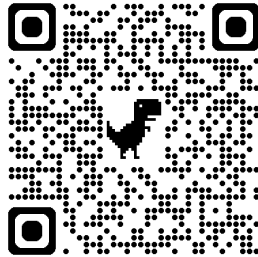
Georgia EPD
Water Supply Program
August 13, 2024



Public Meeting vs. Public Hearing

- There will be two sections of EPD's public engagement process this evening:
 - A public meeting, in which EPD staff will reiterate results of technical assessments, address key comments and questions from the previous public involvement process, and **answer additional questions** from the audience
 - A public hearing, in which EPD will **receive comments** from the public; these will be addressed through the public participation process; EPD will not answer questions in this section

Outline of Public Meeting

- Geologic background information
- Proposed groundwater withdrawal
 - Draft permits at 
- Technical assessments
- Key questions and answers
 - A professional well driller's perspective
- Additional questions from the public

Geologic Background Information

- The Floridan Aquifer
 - Map of entire aquifer
 - Schematic of the coastal Floridan Aquifer
 - Depth of aquifer and the confining unit
 - Saltwater encroachment in the HHI area
 - Recharge area of the Floridan Aquifer

Extent of Floridan Aquifer

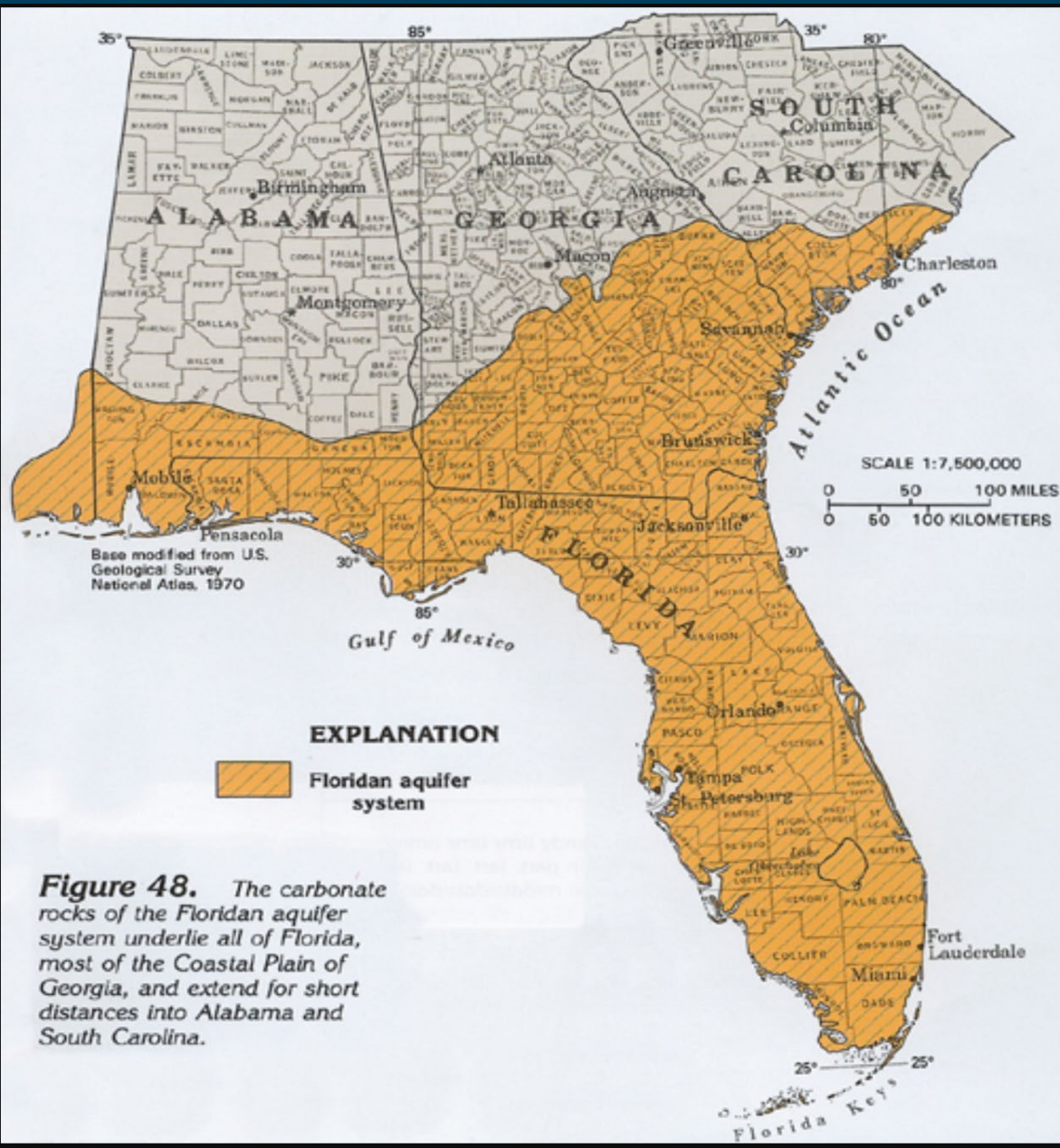
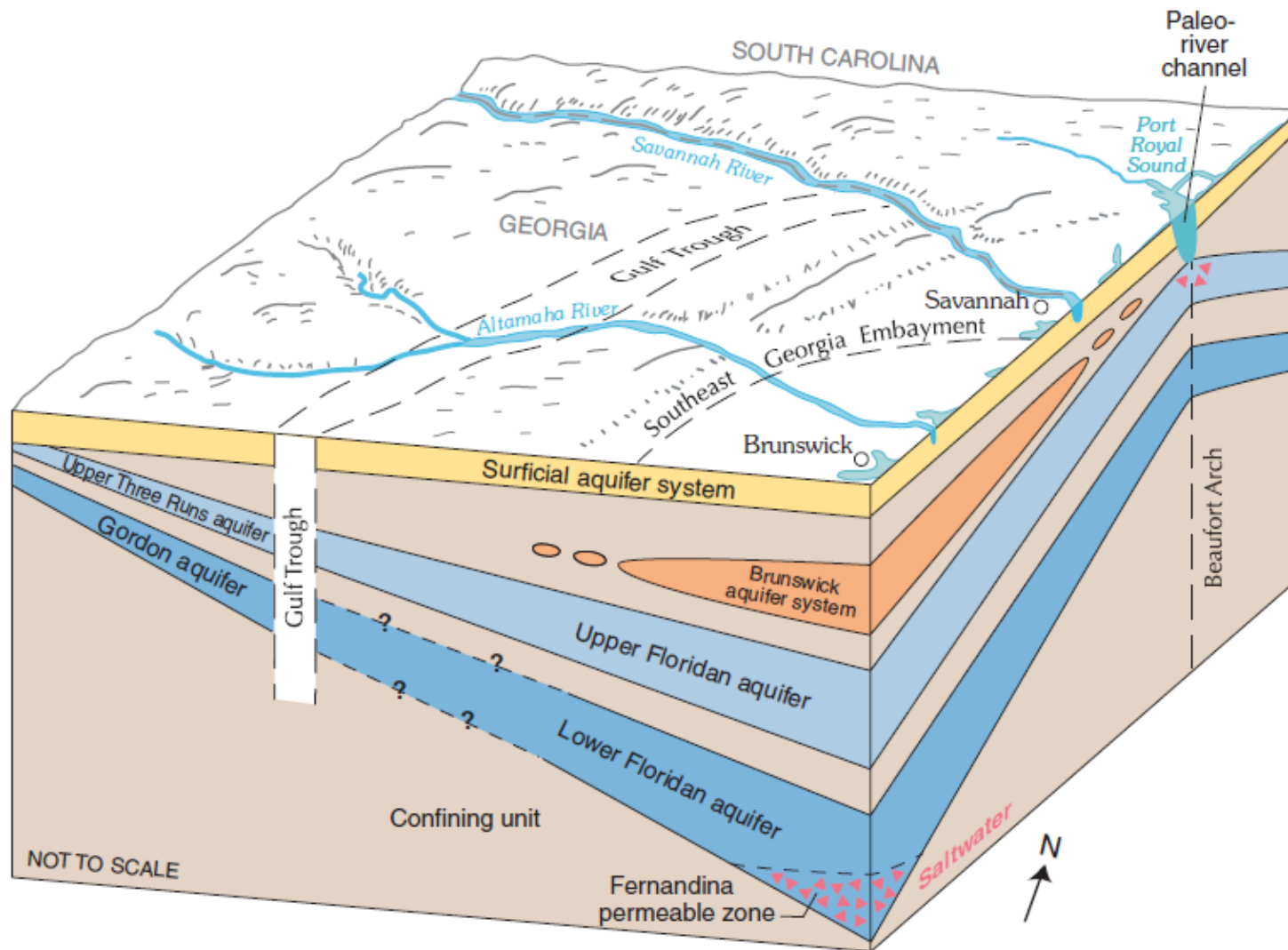


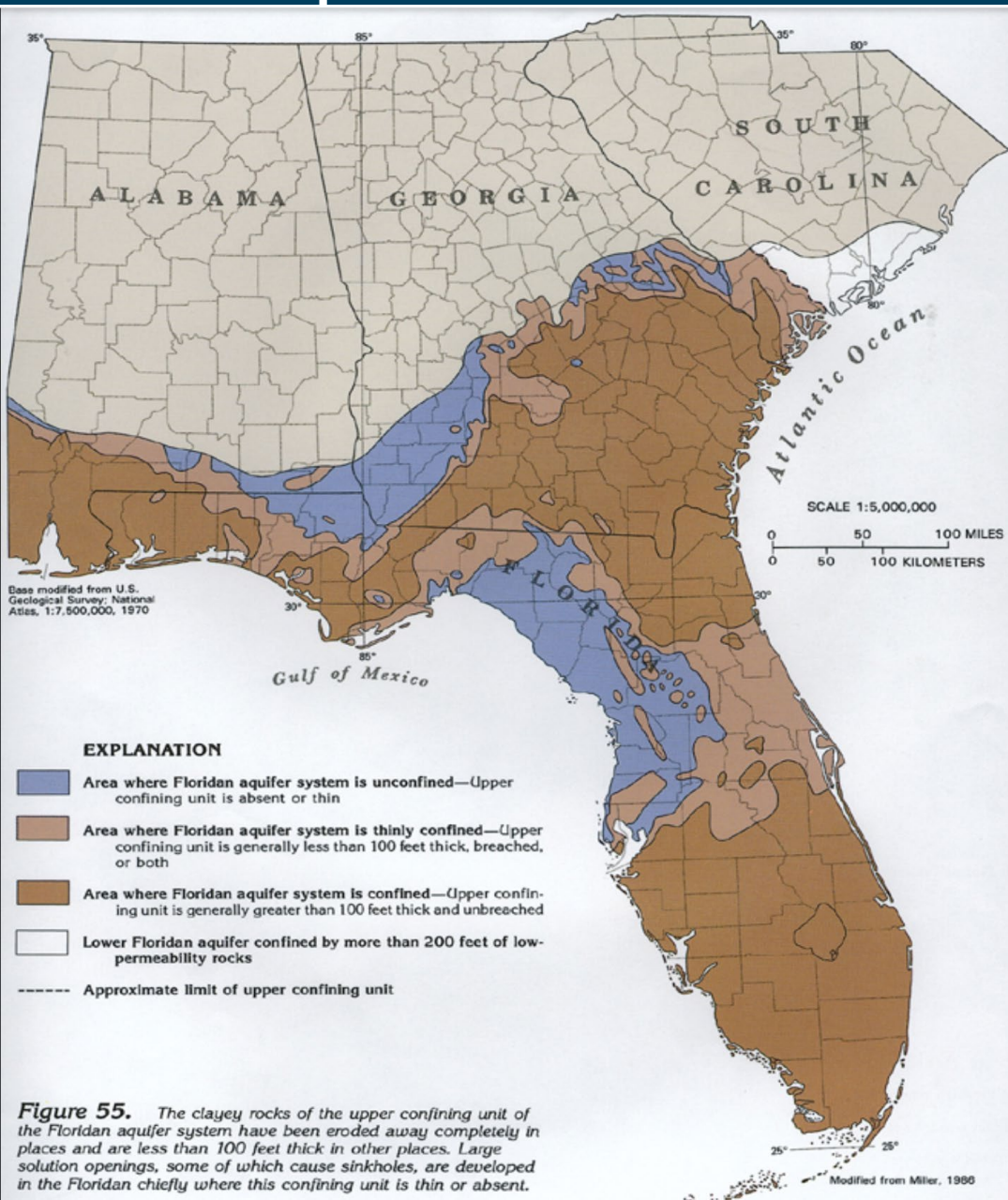
Figure 48. The carbonate rocks of the Floridan aquifer system underlie all of Florida, most of the Coastal Plain of Georgia, and extend for short distances into Alabama and South Carolina.

- USGS HA 730-G Groundwater Atlas of the United States – Floridan Aquifer System

Schematic of Floridan Aquifer



Map of Groundwater Recharge Areas

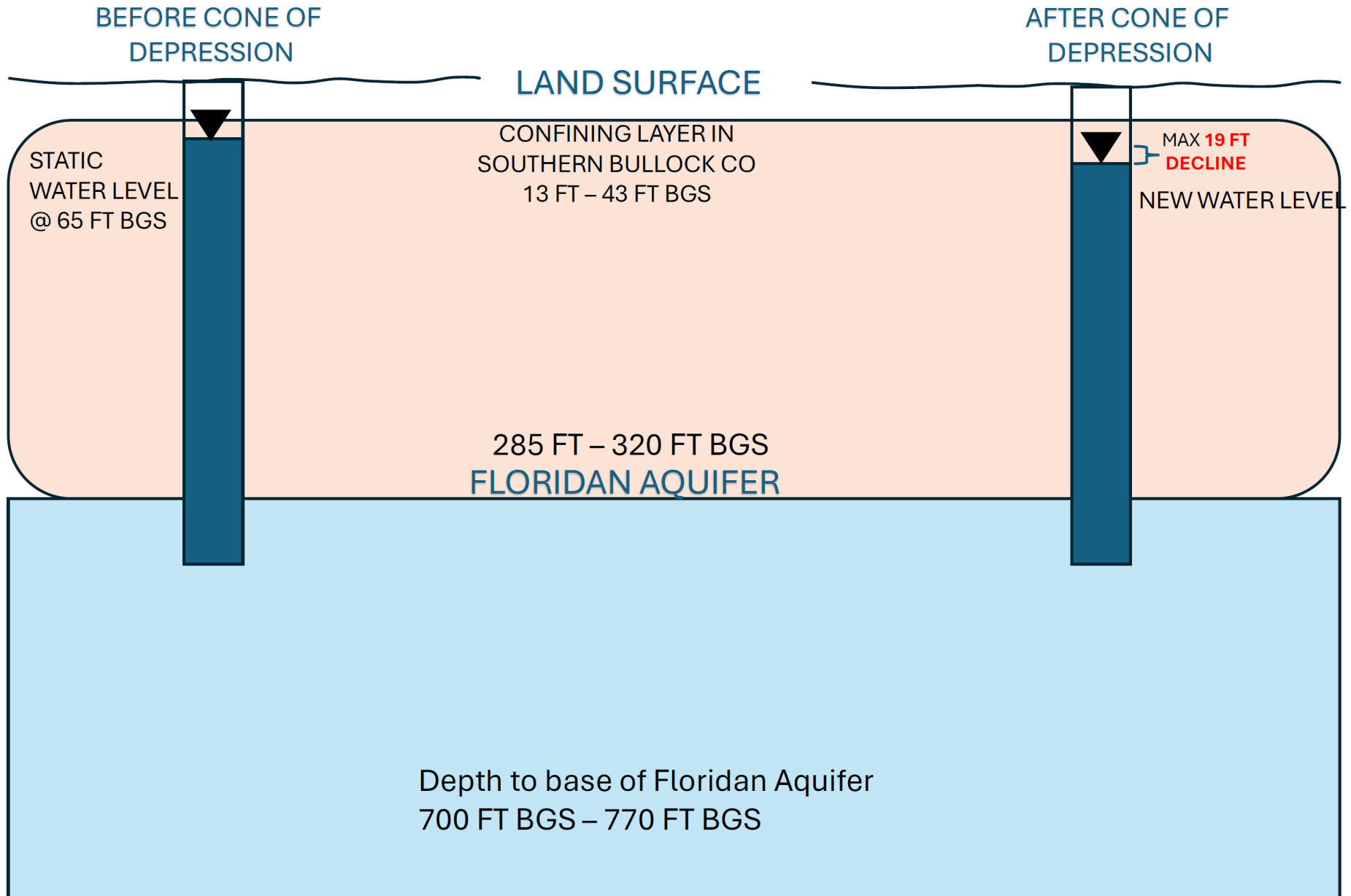


- USGS HA 730-G Groundwater Atlas of the United States – Floridan Aquifer System

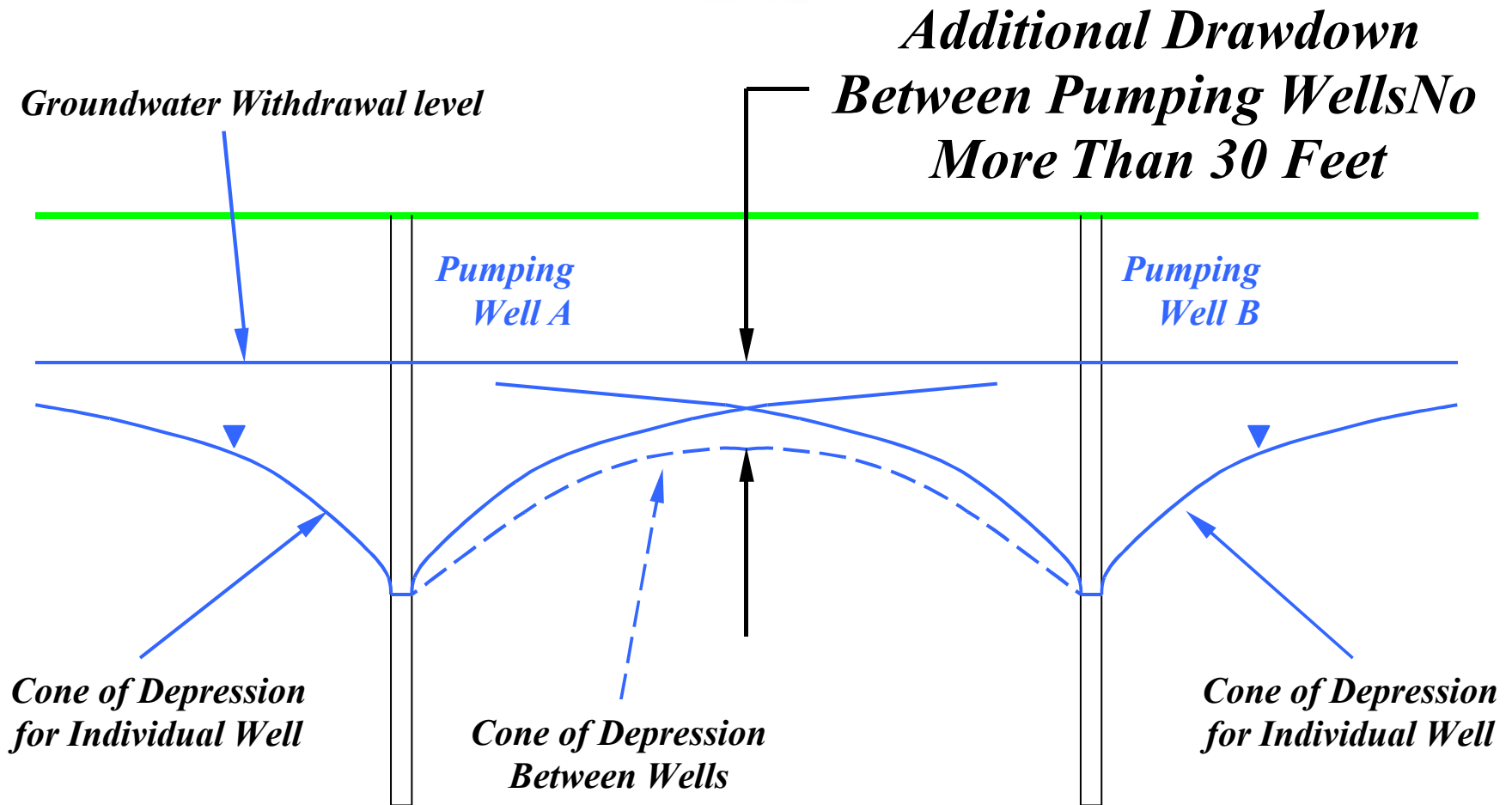
Geologic Background Information (continued)

- A groundwater withdrawal
 - Local cone of depression resulting from the withdrawal
 - Schematic on drawdown
 - Schematic on interference between adjacent wells
 - Threshold used in Regional Water Planning

Schematic on Drawdown



Schematic on Drawdown Interference



Proposed Groundwater Withdrawal

- Four wells in Bulloch County
 - Two wells with a withdrawal of 3.5 mgd for Bryan County
 - Two wells with a withdrawal of 3.125 mgd for Bulloch County
 - For the purpose of Bryan County Industrial Mega-site and associated development
 - Perspective: an agricultural irrigation operation may involve a water use of 1,000 gallons per minute (or about 1.44 million gallons per day) – In other words, the proposed withdrawal is about the capacity of several farm operations

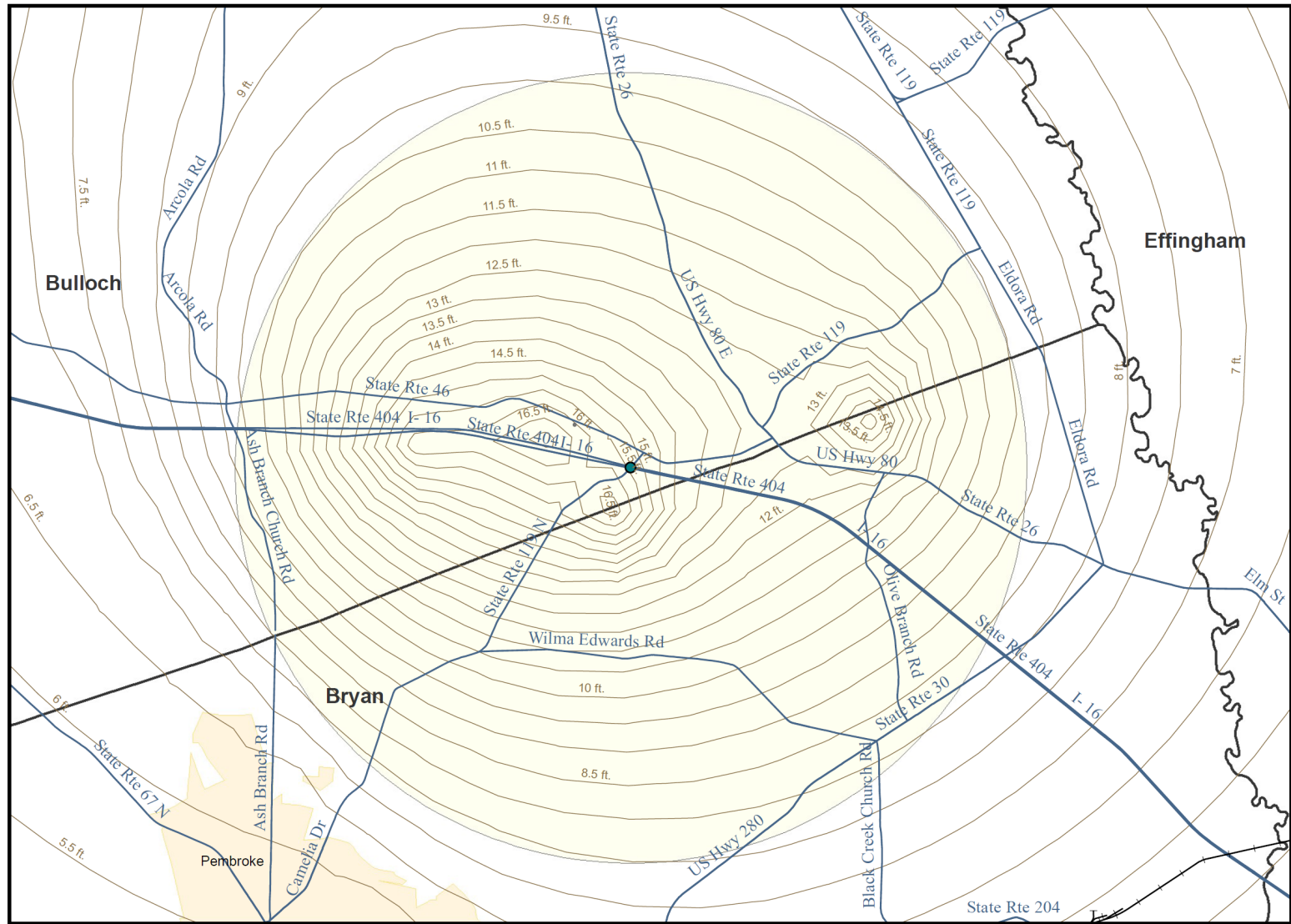
Technical Assessments

- Coastal Sound Science Initiative (CSSI) groundwater model developed by USGS, Georgia, and South Carolina
- Independent review and verification performed within EPD's different units
- Results of EPD's assessments available on EPD's water withdrawal website at:
<https://epd.georgia.gov/water-withdrawal-permitting> (third bullet)

Key Questions and Answers

- What are the hydrologic impacts of the proposed water withdrawal?
 - A local cone of depression with a maximum 19 feet of drawdown at the center, with the drawdown diminishing to about 10 feet 5 miles from the center, and diminishing further away from the center (results available on EPD website:
<https://epd.georgia.gov/water-withdrawal-permitting>)
(third bullet)
 - A 0.2-0.5 feet of water level drawdown at Hilton Head Island

Simulated Drawdown from Proposed Withdrawal - 5 Mile Radius from Midpoint of I-16 / Hwy 119



Key Questions and Answers (continued)

- What is and what is not regarding impacts:
 - A drawdown in nearby Floridan wells – **yes**
 - Total dewatering of a well – **no**, unless one's pump is set inappropriately close to water surface in the Floridan well
 - Dewatering of surface water bodies such as the Savannah River, the Ogeechee River, or the Okefenokee Swamp – **no**
 - Impacts on endangered species in these water bodies – **no**

Key Questions and Answers (continued)

- What is and what is not regarding impacts:
 - Impacts on health of trees or plants – **no**, not from the proposed withdrawal
 - Saltwater intrusion all the way to Bryan and Bulloch Counties – **no**
 - Impact on Hilton Head Island – **yes**, an additional 0.2-0.5 feet of drawdown in water level; and the impact will be mitigated

Key Questions and Answers

- Mitigating measures that will take place:
 - Mitigation funding will be established as required by Special Condition 6
 - Mitigation criteria and implementation to be determined by the permittees
 - What is the perspective of a licensed well driller
 - Typical setting of pumps below water surface in a well
 - How long does it take to reset a pump?
 - How much does it cost to reset a pump?

Key Questions and Answers

- Mitigation measures that will take place:
 - Alternative sources of water (for example, surface water from the Savannah River, etc.) will be developed to replace Floridan water no longer than 25 years

Key Questions and Answers

- Why 5 miles?
 - The circle with 5-mile radius roughly corresponds to the area with a 10-foot drawdown
 - The mitigation mechanism can be more inclusive
- Why 25 years?
 - To allow for coordination among entities
 - To allow for permittees to pursue funding opportunities

Questions from the Public

- Comments and questions received from the last public engagement process (on Special Conditions) have been address and answered
 - The response document has been posted on EPD website: <https://epd.georgia.gov/water-withdrawal-permitting> (first bullet, third sub-bullet)
- Additional questions from the public?

Public Hearing

- The public meeting is now concluded
- Public Hearing portion
 - to receive comments on the draft groundwater withdrawal permits
- Comments received at tonight's hearing as well as those submitted in writing will be addressed by EPD once a final determination has been made on permit issuance

Public Hearing

- Please come up to the microphone
 - Please clearly state your name for the record
 - Please limit comments to 3 minutes
- Comments of a lengthy technical nature should also be submitted in writing.
- If you'd like to write down your comments, printed comment forms are available and can be placed in the box on the outside table.

Public Comments

- Written comments may be sent to EPDComments@dnr.ga.gov
- Include “Groundwater Applications for Bryan County Mega-Site” for reference.
- The comment period closes on Tuesday, August 20, 2024.

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