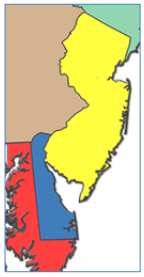

WELL & PUMP TECHNOLOGY WEBINAR
GROUNDWATER USERS IN NEW JERSEY AND ATLANTIC COASTAL STATES

An American Ground Water Trust Webinar: Tuesday, August 25, 2020

Program for municipal, agricultural, and industrial end-users of high-yield wells

MAKE SURE YOU MAXIMIZE YIELD FROM YOUR WATER WELLS

MORNING SESSION 9:00 TO 11:45 – AFTERNOON SESSION 12:15 TO 4:00 (Eastern time)

Climate change, economic growth and new water use regulations are increasing competition among municipal, agricultural and industrial users for groundwater resources. Maintaining well efficiency to maximize yield potential and securing long-term supply sustainability is a key objective for all groundwater-based supplies. To minimize O & M pumping costs for municipal supply and achieve maximum water yield with limited water resources, pump owners must optimize well performance and follow state of the art technology in well design, construction and operation. This webinar provides a great learning opportunity for water well owners, water operators, utility managers, water management consultants, hydrogeologists, irrigators and well and pump contractors on the latest practical, cost-effective solutions. The webinar will explain how to maximize the economic return on pumped groundwater by correct pump selection, well operation and the use of real-time data to effectively match well pumping to aquifer conditions and water demands.

Continuing Education

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Application submitted for NJ Professional Engineers
Applications submitted DE and MD Water Operators
Approved for NJ Water Operators
Approved for NJ Well Drillers and Pump Installers – Course #WP2023-023-OL – 6 CEPs
Applications submitted for DE and MD Well Drillers and Pump Installers
Approved by IA for Agricultural Irrigation Specialists & Irrigation Designers – Course #IA08201-6A, 6 CEUs
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WEBINAR PRESENTED BY AMERICAN GROUND WATER TRUST

(a 501(c)(3) non-profit education organization)

~~ Webinar Details ~~

8:55 – Log-in available for morning session – code provided via email to registered participants

9:00am–11:45am - Webinar morning session **Tuesday, August 25, 2020**

TECHNICAL AND ECONOMIC ISSUES RELATED TO WATER WELL PERFORMANCE

Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

[The combined effects of well design & construction, pumping efficiency and aquifer characteristics influence the data used to decide on management strategies for sustainability. There is no one-size-fits-all when it comes to water wells and pumping operations. In the US, 80 billion gallons of water a day is withdrawn from aquifers via pumps from 16 million active water wells at a daily cost in excess of ten million dollars.]

WELL HYDRAULICS – ESSENTIAL BACKGROUND TO OPTIMIZE WELL AND PUMP EFFICIENCY

David Kill, P.E. Training Consultant, Xylem Goulds Water Technology, St. Paul, MN

[Because water pumping is a major cost for irrigators and municipalities, maintaining efficiency in water systems is key to profitability and cost reduction. The presentation will explain and define the key hydraulic terms that are used in well efficiency calculations. The flow dynamics through rock fractures or screens into well bores and into pump intakes is an important basis for well design.]

10-minute break

DECLINING WELL YIELD PROBLEMS – CAUSES, DIAGNOSIS AND REHABILITATION SOLUTIONS

Neil Mansuy, Vice President, Technical Services, Subsurface Technologies Inc., Kansas City, MO

[Well rehabilitation and maintenance guidelines for maintaining water quantity and quality. Biological growth combined with mineral build-up combine to restrict flow from aquifer to well. Why, when and where does encrustation restrict flow from aquifer to well? How are problems best diagnosed and remediated? What are the economic benefits of routing preventive maintenance to maximize yield and longevity of high yield wells?]

11:45-12:15 - 30-minute break for lunch

12:10 – Log-in available for afternoon session – code provided via email to registered participants

12:15-4:00 - Webinar afternoon session

PRINCIPLES OF EFFICIENT WELL DESIGN

Kevin McGillicuddy, PG, Chief Hydrogeologist, Roscoe Moss Company, Los Angeles, CA

[The aim of efficient well design is to construct a well capable of producing the maximum rate with the least amount of drawdown and at the lowest energy cost. Stainless steel for your well? What are the economics of the selection of casing and screen materials? What criteria from the driller's log or down-hole geophysics are used to determine screen position, length, slot size and diameter to optimize performance and ensure well longevity?]

HYDRAULIC EFFICIENCY AND ECONOMIC BENEFITS OF FLEXIBLE PIPE FOR WATER WELL & IRRIGATION APPLICATIONS

Nicolas Steverlynck, President, Hose Solutions, Phoenix, AZ

[Well owners should calculate life-cycle costs of operating a well flexible drop pipe for submersible pumps and lay-flat hose for surface applications can provide economic benefits for groundwater end users because of the simplicity of installation. Flexible pipe also has properties that make for greater hydraulic efficiency over rigid pipes.]

THE USES OF CHEMICALS FOR RESTORING AND MAINTAINING PERFORMANCE OF WATER WELLS

Kevin McGinnis, President, Cotey Chemicals, Lubbock, TX

[There is a world of confusion about the use of chemicals for restoring and maintaining the performance of a water well. The key is correct diagnosis of the problem and in customizing the selection of chemicals with the right combination of mechanical treatments. The presentation will describe the different chemicals typically used and will discuss the need for and methods for well chlorination.]

10-minute break

INTELLIGENT PUMP VARIABLE FREQUENCY DRIVES

Dan Peters, Applications Engineer, Yaskawa America, Inc., Cypress, CA

[The presentation will cover water industry, commercial and agricultural applications of VFD controlled pumps. Included will be explanation of energy consumed by pumps, AC drive basics (how VFD systems work), fixed speed with valve control vs. VFD, adding "intelligence" to pump system controls, case studies of cost advantages of using VFD to improve pump efficiency and VFD controls to optimize management of multi-pump systems]

(**SELECTION AND MAINTENANCE OF PUMPS TO MINIMIZE OPERATION AND MAINTENANCE COSTS**

David Kill, PE, Training Consultant, Xylem Goulds Water Technology, St. Paul, MN

[The presentation will discuss basis for pump selection and the parameters that need to be monitored in order to operate a pump at its best efficiency. Topics covered include: pump specification for high-yield applications, pump efficiency principles, horsepower and bowl assembly selection criteria, causes of pump capacity changes. merits of submersible vs. line-shaft for high yield wells, case studies of installation and O & M costs for different types of pump, pump replacement criteria, and calculations on the $ return on upgrading motor or bowls.]

4:00 - End of Webinar – Complete Continuing Education Documents