

## Notice of Proposed Rule

## ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

RULE NO.:	RULE TITLE:
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40C-3.0321	Delegation
40C-3.035	Agreements
40C-3.036	Forms and Publications Incorporated by Reference
40C-3.041	Permits Required
40C-3.051	Exemptions
40C-3.101	Content of Application
40C-3.461	Inspection
40C-3.502	Construction Methods
40C-3.512	Well Construction Requirements
40C-3.517	Grouting and Sealing
40C-3.521	Well Seals

**PURPOSE AND EFFECT:** The purpose and effect of the proposed rule amendments are to: (1) update the delegation of authority for the Executive Director to designate staff to carry out various tasks under Chapter 40C-3, F.A.C. (in Rule 40C-3.0321, F.A.C.); (2) incorporate by reference updated water well permitting delegation agreements between St. Johns River Water Management District (District) and Brevard County, City of Jacksonville, Indian River County, Marion County, and Osceola County (in Rule 40C-3.035, F.A.C.); (3) incorporate by reference a new water well permitting delegation agreement with Seminole County (in Rule 40C-3.035, F.A.C.); (4) incorporate by reference a new water well permitting delegation agreement with the Suwannee River Water Management District (Suwannee) regarding the small portion of Bradford County within the District's boundary that is not currently regulated by Suwannee under Part III of Chapter 373, Fla. Stat., (in Rule 40C-3.035, F.A.C.); (5) repeal incorporation of a now-rescinded water well permitting delegation agreement between the District and St. Johns County (in Rule 40C-3.035, F.A.C.); (6) incorporate references to standards and methods contained within rules of the Florida Department of Environmental Protection (FDEP) that are incorporated within Chapter 40C-3 (in Rule 40C-3.036, F.A.C.); (7) clarify that wells, which supply water to public water systems not covered or included in the Florida Safe Drinking Water Act, are included in the category of Public Water Supply Well (in Rule 40C-3.041(5), F.A.C.); (8) delete a reference to Chapter 40C-5, which was repealed in 2015 (in Rule 40C-3.051(6), F.A.C.); (9) update/clarify contents of the permit application (in Rule 40C-3.101, F.A.C.); (10) update inspection criteria and delete District offer to sell metallic water well tags (in Rule 40C-3.461, F.A.C.); (11) incorporate general reference to Chapter 62-524, F.A.C., and references to setback requirements of 62-532.400(7) and (8), F.A.C., (in Rules 40C-3.036 and 40C-3.502, F.A.C.); (12) update and incorporate references to AWWA Standard C654-21, Section 4.3, guidelines for disinfection of filter or gravel pack materials, U.S. Environmental Protection Agency (EPA) EPA-570/9-75-001, Section 54.001-000-000, and EPA methods 601, 602 and 610 (in Rules 40C-3.036 and 40C-3.512, F.A.C.); (13) delete outdated references to Rule 62-761.640, F.A.C. (in Rules 40C-3.036, 40C-3.502, 40C-3.517, and 40C-3.521, F.A.C.); and (14) otherwise update, clarify, or simplify water well-related rules.

**SUMMARY:** The proposed rules would: (1) incorporate District's water well permitting

delegation agreements, allowing for local regulation of the construction, repair, and abandonment of certain water wells, as well as general compliance responsibilities, plus a limited ability to grant variances, and repeal one water well permitting delegation agreement; (2) incorporate certain standards and methods contained within rules of the FDEP that are incorporated in Chapter 40C-3; (3) delete outdated rule references and standards; and (4) otherwise update, clarify, or simplify water well-related rules.

#### SUMMARY OF STATEMENT OF ESTIMATED REGULATORY COSTS AND LEGISLATIVE RATIFICATION:

The Agency has determined that this will have an adverse impact on small business, but will not likely increase directly or indirectly regulatory costs in excess of \$200,000 in the aggregate within one year after the implementation of the rule. A SERC has been prepared by the Agency for 40C-3.035, F.A.C.

The Agency has determined that the proposed rule is not expected to require legislative ratification based on the statement of estimated regulatory costs or if no SERC is required, the information expressly relied upon and described herein: The District has completed for the Governor's Office of Fiscal Accountability and Regulatory Reform (OFARR) the "Is a SERC Required?" form and prepared a summary of the proposed rule amendments for all of the proposed rules, and also prepared a statement of estimated regulatory costs (SERC) regarding the proposed amendments to 40C-3.035, F.A.C., which are all available upon request.

The SERC concludes that amendments to 40C-3.035, F.A.C., will have an adverse impact on small business, but are not likely to increase directly or indirectly regulatory costs in excess of \$1,000,000 in the aggregate within five years after the implementation of the rule. Based on the best available information, the proposed SERC concludes that the amendments to the water well delegations in 40C-3.035 will result in an increased economic cost, but the total cost over five years from implementation will be approximately \$240,000.

Based on the completed "Is a SERC Required?" form and summary and the analysis performed by District staff in preparing and completing those documents, the proposed rule amendments are not expected to require legislative ratification pursuant to subsection 120.541(3), F.S.

Any person who wishes to provide information regarding a statement of estimated regulatory costs, or provide a proposal for a lower cost regulatory alternative must do so in writing within 21 days of this notice.

RULEMAKING AUTHORITY: 373.044, 373.113, 373.118, 373.171, 373.309, FS.

LAW IMPLEMENTED: 373.019, 373.046, 373.083(5), 373.103, 373.109, 373.303, 373.306, 373.308, 373.309, 373.313, 373.316, 373.319, 373.326, 373.337, 373.342, F.S.

IF REQUESTED WITHIN 21 DAYS OF THE DATE OF THIS NOTICE, A HEARING WILL BE SCHEDULED AND ANNOUNCED IN THE FAR.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: District Clerk, (386)329-4127. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

THE PERSON TO BE CONTACTED REGARDING THE PROPOSED RULE IS: Tom Mayton, Deputy General Counsel, Office of General Counsel, St. Johns River Water Management District, 4049 Reid Street, Palatka, Florida 32177-2529, (386)329-4108, email: [tmayton@sjrwmd.com](mailto:tmayton@sjrwmd.com)

## THE FULL TEXT OF THE PROPOSED RULE IS:

### 40C-3.0321 Delegation.

The authority for general administration of chapter 40C-3, F.A.C., is delegated to the Executive Director of the District. It is the policy of the Board that in making this delegation the Executive Director is authorized to designate specific staff members to carry out various tasks, but that overall supervision and responsibility shall rest with the Executive Director. The Executive Director, ~~Director of the Division of Regulatory Services, Chief of the Bureau of Water Use Regulation, and the Executive Director's designee Well Construction Permitting Program Manager~~ are expressly authorized to issue permits and licenses under this chapter as provided in sections 373.342(1), 373.323(5) and 373.324(2), F.S.

*Rulemaking Authority 373.044, 373.113 FS. Law Implemented 373.083(5), 373.308, 373.309(2), 373.323(5), 373.324(2), 373.333, 373.342 FS. History—New 10-14-84, Formerly 40C-3.032, 40C-3.0032, Amended 9-17-89, Formerly 40C-3.032, Amended 12-30-03, 7-27-16,\_\_\_\_\_.*

### 40C-3.035 Agreements.

The Governing Board hereby incorporates by reference the following documents:

(1) “Memorandum of Understanding Between the St. Johns River Water Management District and the Department of Environmental Regulation Concerning Procedures for Handling Public Drinking Water Supply Well Sources Applications” dated January 20, 1981.

(2) “An Agreement Between the City of Jacksonville and St. Johns River Water Management District ~~r~~Regarding ~~w~~Water ~~w~~Wells” permitting dated effective date ~~November 29, 1978, and~~ available at: (insert URL link).

(3) An Interagency Agreement Between the Department of Environmental Regulation and the St. Johns River Water Management District and the Department of Health and Rehabilitative Services, dated June 25, 1992, (revised to read Department of Environmental Protection) regarding delineated area permitting, chapter 17-524, F.A.C. (transferred to rule 62-524, F.A.C., February 7, 1995.).

(4) An agreement between Indian River County Health Department and St. Johns River Water Management District regarding water well permitting, dated effective date ~~November 8, 1995,~~ and available at: (insert URL link).

(5) An agreement between the Florida Department of Health, Clay County Health Department and the St. Johns River Water Management District entitled Amended Water Well Permitting Delegation Agreement dated September 6, 2001.

(6) An agreement between Florida Department of Health, Volusia County Health Department and St. Johns River Water Management District entitled Water Well Permitting Delegation Agreement dated May 24, 2007.

(7) An agreement between the Florida Department of Health, Seminole County Health Department and the St. Johns River Water Management District entitled Water Well Permitting Delegation Agreement, dated effective date, and available at: (insert URL link). ~~An agreement between the Florida Department of Health, St. Johns County Health Department and the St. Johns River Water Management District entitled Water Well Permitting Delegation Agreement~~

~~dated September 6, 2001.~~

(8) An agreement between the Florida Department of Health, Nassau County Public Health Department and the St. Johns River Water Management District entitled Water Well Permitting Delegation Agreement dated September 6, 2001.

(9) An agreement between the Florida Department of Health, Flagler County Public Health Department and the St. Johns River Water Management District entitled Water Well Permitting Delegation Agreement dated September 6, 2001.

(10) An agreement between Florida Department of Health, Lake County Health Department and St. Johns River Water Management District regarding water well permitting dated September 7, 1999.

(11) An agreement between Florida Department of Health, Osceola County Health Department and St. Johns River Water Management District regarding water well permitting dated effective date, September 7, 1999 and available at: *(insert URL link)*.

(12) An agreement between Florida Department of Health, Putnam County Health Department and St. Johns River Water Management District regarding water well permitting dated June 25, 2002.

(13) An agreement between Florida Department of Health, Brevard County Health Department and St. Johns River Water Management District regarding water well permitting dated effective date, July 25, 2002 and available at: *(insert URL link)*.

(14) An agreement between Florida Department of Health, Okeechobee County Health Department and St. Johns River Water Management District regarding water well permitting dated July 25, 2002.

(15) An agreement between Florida Department of Health, Baker County Health Department and St. Johns River Water Management District regarding water well permitting dated effective date, January 11, 2006 and available at: *(insert URL link)*.

(16) An agreement between Florida Department of Health, Marion County Health Department and St. Johns River Water Management District entitled Second Amended Water Well Permitting Delegation Agreement dated effective date, January 5, 2012, (<http://www.flrules.org/Gateway/reference.asp?No=Ref-00802>) and available at: *(insert URL link)*.

(17) An agreement between Florida Department of Health in Orange County and St. Johns River Water Management District entitled Water Well Permitting Delegation Agreement dated (11-12-13) (<http://www.flrules.org/Gateway/reference.asp?No=Ref-03277>).

(18) An Amended Interagency Agreement between St. Johns River Water Management District and Florida Department of Environmental Protection Concerning Applications for Projects Involving the Construction and Operation of Underground Injection of Water Facilities dated 1-19-16, <https://www.flrules.org/Gateway/reference.asp?No=Ref-06236>.

(19) An agreement between the Suwannee River Water Management District and the St. Johns River Water Management District entitled Water Well Permitting Delegation Agreement for Bradford County, dated effective date, and available at: *(insert URL link)*.

Renumber (19) as (20) No change.

*Rulemaking Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.046, 373.083, 373.106, 373.109, 373.308, 373.309 FS. History—New 10-14-84, Amended 12-5-85, Formerly 40C-3.035, 40C-3.0035, Amended 1-8-96, 4-21-96, 7-21-96, 12-22-96, 3-10-97, 1-3-00, 9-6-01, 6-25-02, 7-25-02, 1-11-06, 5-18-06, 5-24-07, 5-20-08, 1-5-12, 11-12-13, 1-19-16,\_\_\_\_\_.*

#### **40C-3.036 Forms and Publications Incorporated by Reference.**

The following Department rules, publications, standards and forms regarding construction, repair, and abandonment of wells and water well contractor licensing, shall apply to the water well program administered by the District, and are incorporated by reference herein. Copies may be obtained in accordance with subsection (13)(10) below.

(1) Chapter 62-531, F.A.C., Water Well Contractor Licensing Requirements (June 22, 2014) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07121>). The following publication referenced in Chapter 62-531, F.A.C., is also incorporated by reference herein: The Department's Water Well Contractor ~~Disciplinary~~ Disciplinary Guidelines and Citations Dictionary (June 22, 2014) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07122>), incorporated by reference in subsection 62-531.450(1), F.A.C.

(2) Chapter 62-532, F.A.C., Water Well Permitting and Construction Requirements (October 7, 2010) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07123>). The following publications referenced in Chapter 62-532, F.A.C., are also incorporated by reference herein:

(a) American Society for Testing and Materials (ASTM) A53/A53M-99b (1999); A135-01 (2001), A252-98 (1998), and A589-96 (1996), incorporated by reference in paragraph 62-532.500(1)(a), F.A.C. Copies of these copyrighted standards may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959;

(b) American Petroleum Institute (API) 5L-2000 (2000), incorporated by reference in paragraph 62-532.500(1)(a), F.A.C. Copies of this copyrighted standard may be obtained from the American Petroleum Institute, 1220 L Street N.W., Washington, DC 20005-4070;

(c) 2000 American National Standard Institute for Welded and Seamless Wrought Steel Pipe (ANSI/ASME B36.10M-2000), incorporated by reference in paragraph 62-532.500(1)(a), F.A.C. Copies of this copyrighted standard may be obtained from the American National Standards Institute, 1819 L Street N.W., Washington, DC 20036;

(d) Schedule 10S of the ANSI/ASME B36.19M-1985, incorporated by reference in paragraph 62-532.500(1)(d), F.A.C. Copies of this copyrighted standard may be obtained from the American National Standards Institute, 1819 L Street N.W., Washington, DC 20036;

(e) 2008 NSF International Standard/American National Standard NSF/ANSI 14-2008e, Plastics Piping System Components and Related Materials; NSF International Standard/American National Standard NSF/ANSI 61-2008, Drinking Water System Components – Health Effects, incorporated by reference in paragraph 62-532.500(1)(g), F.A.C. Copies of these copyrighted standards may be obtained from NSF International, P.O. Box 130140, Ann Arbor, MI 48113-0140;

(f) Closed-Loop/Geothermal Heat Pump Systems Design and Installation Standards, Revised Edition 2008, published by the International Ground Source Heat Pump Association, Oklahoma State University; Closed-Loop/Ground-Source Heat Pump Systems Installation Guide, 1988, Oklahoma State University, incorporated by reference in subsection 62-532.500(2), F.A.C. Copies of these copyrighted materials may be obtained from the International Ground Source Heat Pump Association, Oklahoma State University, 374 Cordell South, Stillwater, OK 74078-8018;

(g) Appendix C of American Water Works Association (AWWA) Standard A100-97 (1997), AWWA Standard for Water Wells, incorporated by reference in subparagraph 62-532.500(3)(i)6., F.A.C. Copies of these copyrighted, recommended practices and methods may be obtained from the American Water Works Association, 6666 West Quincy Avenue, Denver,

CO 80235;

(h) Vertical Geothermal Heat Pump Systems Engineering Design and Field Procedures Manual, published by the International Ground Source Heat Pump Association, First Edition 2000, Oklahoma State University, incorporated by reference in subparagraph 62-532.500(3)(i)6., F.A.C. Copies of these copyrighted, recommended practices and methods may be obtained from the International Ground Source Heat Pump Association, Oklahoma State University, 374 Cordell South, Stillwater, OK 74078-8018.

(3) Rule 62-555.310, F.A.C., Source and Siting Requirements for Public Water Systems (August 28, 2003) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07124>), incorporated by reference in rule 62-532.500, F.A.C.

(4) Rule 62-555.312, F.A.C., Location of Public Water System Wells (August 28, 2003) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07125>), incorporated by reference in Rule 62-532.500, F.A.C.

(5) Section 4.3 of American Water Works Association (AWWA) Standard C654-21 (2022), incorporated by reference in paragraph 40C-3.512(1)(b), F.A.C. Copies of this copyrighted standard may be obtained from the American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80235. ~~Rule 62-761.640, F.A.C. (June 21, 2004) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07126>), incorporated by reference in subsection 62-555.312(3), F.A.C.~~

(6) Rule 64E-8.002, F.A.C., Limited Use Public Water System Construction (May 4, 2008) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07127>), incorporated by reference in rule 62-532.500, F.A.C.

(7) Rule 64E-8.003, F.A.C., New Private and Multi-family Water System Construction (May 4, 2008) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07128>), incorporated by reference in rule 62-532.500, F.A.C.

(8) Chapter 62-524, F.A.C., New Potable Water Well Permitting in Delineated Areas (February 16, 2012) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07129>), and the maps containing Delineated Areas for the following Counties: Alachua, Brevard, Duval, Indian River, Lake, Marion, Orange, Putnam, Seminole, St. Johns, and Volusia (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07130>), incorporated by reference in rule 62-524.430, F.A.C.

(9) The following Department forms are incorporated by reference into this chapter and shall apply to the well contractor licensing program administered by the District and to all wells constructed, repaired, or abandoned in the District:

(a) State of Florida Permit Application to Construct, Repair, Modify, or Abandon a Well, DEP Form 62-532.900(1) (October 7, 2010) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07131>), incorporated by reference in subsection 62-532.400(1), F.A.C.

(b) State of Florida Well Completion Report, DEP Form 62-532.900(2) (October 7, 2010) (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07132>), incorporated by reference in Rule 62-532.410, F.A.C.

(10) Schedule 40 of the ASTM F480-14 (2014), incorporated by reference in rule 40C-3.500, F.A.C. Copies of this copyrighted standard may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

(11) U.S. Environmental Protection Agency (USEPA) Manual of Water Well Construction

Practices, EPA-570/9-75-001, Section 54.001-000-000 (1975)(insert URL), incorporated by reference in paragraph 40C-3.512(1)(c), F.A.C.

(12) U.S. Environmental Protection Agency (USEPA) methods 601 (Purgeable Halocarbons), 602 (Purgeable Aromatics), and 610 (Polynuclear Aromatic Hydrocarbons) (all 1984) (insert URL), incorporated by reference in paragraphs 40C-3.512(10)(d) and (e), F.A.C.

(13)(44) All rules and publications incorporated by reference herein, other than the copyrighted materials identified in paragraphs (2)(a) through (h) and subsections (5) and (10) herein, may be obtained without charge at the District's website sjrwmd.com or by writing or calling the Department, 2600 Blair Stone Road, Tallahassee, FL 32399-2400, telephone (850)245-8648, or the St. Johns River Water Management District, 4049 Reid Street, Palatka, FL 32177, telephone (800)451-7106.

*Rulemaking Authority 373.044, 373.113, 373.118, 373.171 FS. Law Implemented 373.103, 373.308, 373.309, 373.316, 373.319, 373.323, 373.324, 373.326, 373.329, 373.333, 373.335, 373.336, 373.337 FS. History—New 5-30-90, Amended 1-8-96, Formerly 40C-3.900, Amended 7-27-16,\_\_\_\_\_.*

#### 40C-3.041 Permits Required.

(1) Unless expressly exempted by statute or this chapter, a well construction permit must be obtained from the District prior to the construction, repair or abandonment of any well within the District's jurisdiction.

(2) A well construction permit must be obtained from the District prior to the construction, repair, or abandonment of any non-potable water well in areas designated by the Department pursuant to chapter 62-524, F.A.C. All potable wells will require a permit under Chapter 62-524, F.A.C., from the entity to which the authority to issue a permit has been delegated.

(3) Unless expressly exempted by statute or District rule, a well construction permit must be obtained prior to the construction of any gang well, the total nominal casing sizes of which equal six inches or more, for the purpose of procuring or obtaining water other than for dewatering.

(4) No test hole or exploratory well shall be converted to a water well until a well construction permit is obtained.

(5) A well construction permit is required prior to the construction of any public supply well, which includes any well that supplies water to public water systems not covered or included in the Florida Safe Drinking Water Act located in Part VI of Chapter 403, F.S. (2023). Rules 62-555.310 and 62-555.312, F.A.C., which are incorporated by reference in subsections 40C-3.036(3)-(4), F.A.C., respectively, and rule 64E-8.002, F.A.C., which is incorporated by reference in subsection 40C-3.036(6), F.A.C., set forth public supply well construction standards and permitting standards. This permitting program shall be administered and enforced by the District under the authority delegated to it by the Department, pursuant to general delegation of authority to water management districts in the Delegation of Authority and Responsibility to the: Northwest Florida Water Management District, Suwannee River Water Management District, St. Johns River Water Management District, Southwest Florida Water Management District, and the Central and Southern Florida Flood Control District, Pursuant to chapter 373, F.S., dated August 20, 1974, which is hereby incorporated by reference and available at (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07133>) and upon request from the St. Johns River Water Management District, 4049 Reid Street, Palatka, FL 32177-2529. This authority with respect to public supply wells is more specifically set forth in the Memorandum of Understanding between the St. Johns River Water Management District and the Department,

dated February 15, 1978, which is hereby incorporated by reference and available at (<https://www.flrules.org/Gateway/reference.asp?No=Ref-07134>) and upon request from the St. Johns River Water Management District, 4049 Reid Street, Palatka, FL 32177-2529.

(6) A single permit may be obtained for the construction, repair, or abandonment of the following multiple well systems provided the wells have similar construction into the same formation material, are completed in the same hydrogeologic unit, are located on a contiguous tract of land owned by the same person or entity, and the criteria in rule 40C-3.301, F.A.C., are met:

- (a) Up to ten monitoring wells;
- (b) Ganged wells;
- (c) Remediation wells;
- (d) Non-exempt site investigation wells; or
- (e) Closed-loop (earth-coupled) geothermal wells.

(7) A separate State of Florida Well Completion Report, DEP Form 62-532.900(2) (October 7, 2010), which is incorporated by reference in paragraph 40C-3.036(9)(b), F.A.C., shall be filed with the District or the entity to which the authority to issue a permit has been delegated, as identified in rule 40C-3.035, F.A.C., for each well identified in paragraphs 40C-3.041(6)(a) through (d), F.A.C. A single State of Florida Well Completion Report shall be filed for closed-loop (earth-coupled) geothermal well systems.

*Rulemaking Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.103, 373.309, 373.313, 373.316 FS. History—New 10-14-84, Amended 12-5-85, Formerly 40C-3.041, 40C-3.0041, Amended 9-17-89, 1-8-96, 7-27-16,\_\_\_\_\_.*

#### 40C-3.051 Exemptions.

The following wells are exempt from the requirements of rule 40C-3.041, F.A.C.

(1) through (5) No change.

~~(6) Wells intended for use as injection wells which have received a permit under chapter 40C-5, F.A.C.~~

Renumber (7) as (6) No change.

*Rulemaking Authority 373.044, 373.113, 373.171, 373.309 FS. Law Implemented 373.303, 373.308, 373.313, 373.316, 373.326 FS. History—New 10-14-84, Amended 12-5-85, Formerly 40C-3.051, 40C-3.0051, Amended 9-17-89, 3-10-97, 7-27-16,\_\_\_\_\_.*

#### 40C-3.101 Content of Application.

(1) Permits will only be issued upon application by the owner on whose property the well will be located, a person with sufficient legal control over the land, or the owner's or legal controller's authorized agent.

(2) Applications for permits required by this chapter shall be submitted on State of Florida Permit Application to Construct, Repair, Modify, or Abandon a Well, DEP Form 62-532.900(1), (October 7, 2010), which is incorporated by reference in paragraph 40C-3.036(9)(a), F.A.C., and shall be submitted electronically at the District's website [sjrwmd.com](http://sjrwmd.com), delivered to the entity to which the authority to issue a permit has been delegated as identified in rule 40C-3.035, F.A.C., or delivered to one of the following District offices:

District Headquarters



4049 Reid Street  
Palatka, FL 32177

Jacksonville Service Center  
7775 Baymeadows Way, Suite 102  
Jacksonville, FL 32256

Apopka Service Center  
2501 S. Binion Road,  
Apopka, Florida 32703  
~~Maitland Service Center~~  
~~601 South Lake Destiny Road, Suite 200~~  
~~Maitland, FL 32751~~

Palm Bay Service Center  
525 Community College Parkway, S.E.  
Palm Bay, FL 32909

The application shall contain:

- (a) The name, address, telephone number, license number, and signature of the licensed contractor who will be responsible for constructing the well, except in the case of a state agency or political subdivision that needs an indication of approval from the District in order to obtain financing to construct a well. In this case the District will take action on an application for a permit not signed by a licensed contractor by conditioning the effectiveness of the permit on completion of a copy of the application by the licensed contractor that obtains the bid to construct the well, and receipt of the completed copy by the District;
- (b) The name, address, telephone number, and signature of the property owner, a person with sufficient legal control over the land, or the owner's or legal controller's ~~his~~ agent, if applicable;
- (c) Written authorization from the owner or person with sufficient legal control over the land designating the authorized agent, if any;
- (d) The location of the well (to the nearest one-quarter section, or latitude and longitude to the nearest second, or state plane of coordinates to the nearest one hundred feet), and site map of the well location, depicting landmarks and providing a scale;
- (e) The expected depth of the well;
- (f) The proposed use of the well;
- (g) The estimated average daily volume of the proposed use;
- (h) The specification for well construction including the size(s) of the casing to be used, the proposed construction, repair or abandonment method, specifications including casing types, casing diameters and depths; open hole or screened intervals and sizes and screen opening; and proposed grouting materials;
- (i) The proposed method of construction and completion of the well, or the method of plugging and abandoning of the well;
- (j) The proposed pump size;
- (k) The District consumptive use permit number, if a consumptive use permit is required for the use; and,

(1) For public supply wells, the name and address of the business, subdivision, or other water system for which the well is proposed; the number of persons the well is intended to serve; and a plat or sketch of the well location showing property boundaries, existing buildings or physical features, the location of all known and proposed sources of contamination in the vicinity, and the location of power lines or overhead obstructions.

(3) The application must be signed by the owner, a person with sufficient legal control over the land, or the owner's or legal controller's ~~his~~ authorized agent, if applicable. The application must also be signed by the licensed contractor who will be responsible for constructing the well, except as otherwise provided in paragraph 40C-3.101(2)(a), F.A.C., above.

(4) The application shall be submitted with the required non-refundable fee pursuant to rule 40C-1.603, F.A.C., or the fee schedule established by the agency to which permitting authority has been delegated, as identified in rule 40C-3.035, F.A.C.

(5)(a) In addition to the information required to be included on the District form, the District staff shall specifically request such reasonable additional information as may be necessary to evaluate the hydrologic impacts of construction, repair or abandonment of the well to ensure that the impacts will not be harmful to the water resources of the District as set forth in chapter 40C-2, F.A.C. Pursuant to section 373.314, F.S., the District will cite a specific rule when requesting such additional information.

(b) Such requests for additional information will be made in compliance with section 120.60, F.S., and chapter 40C-1, F.A.C.

*Rulemaking Authority 373.044, 373.113 FS. Law Implemented 373.308, 373.309, 373.342 FS. History—New 10-14-84, Formerly 40C-3.101, 40C-3.0101, Amended 9-17-89, 12-23-90, 7-27-16,\_\_\_\_\_.*

#### 40C-3.461 Inspection.

(1) The District is authorized to inspect any well or abandoned well within its jurisdiction, including those wells permitted under Rule 40C-3.041, F.A.C. Inspections shall be done as necessary to insure conformity with applicable standards. Such inspection may include but need not be limited to geophysical logging, water level measurements, or other methods. Duly authorized representatives of the District, upon presenting proper identification and at reasonable times, may enter upon any premises for the purpose of such inspection.

(2) If, based upon such inspection, the District finds that the standards of Part II have not been met, the District shall proceed with enforcement actions as prescribed by chapter 62-531, F.A.C., which is incorporated by reference in subsection 40C-3.036(1), F.A.C.

(3) A metallic tag shall be placed on the well head, concrete marker, terminal box, or a permanently attached fixture. The tag shall include, but not be limited to, the following information:

(a) Contractor license number,

(b) Date of completion,

(c) Permit number ~~issued by the District.~~

~~1.a.~~ When a contractor provides tags a sample copy of the tag must first be submitted to the District for approval.

2.b. Tags provided by the contractor must be set in place at the time the well is completed.

~~2.a. The contractor may elect to use a metallic tag supplied by the District. Written request may be made for such tag either on the permit application form or the completion report, when filed. A fee of \$5.00 per tag will be charged to cover processing costs.~~

~~b. The contractor shall certify on the completion report that the metallic tag will be placed within 30 days of receipt by the contractor if using a district supplied tag as set forth in this section.~~

(4) A site inspection will be conducted by an authorized representative of the District prior to issuing a permit for construction of a public water supply well.

(5) The District shall be notified at least 24 hours in advance of commencement of drilling operations and of placement of grout in the annular space of any public supply water well. A District representative will be on site to observe the commencement of drilling and grouting. If the District is properly notified and an inspector is not at the site at the appointed time or times, the commencement of drilling or grouting may begin in the absence of a District representative. In all circumstances, a copy of all applicable District permits will be available at the construction site during installation.

(6) If, based on an inspection, the District finds any well is an abandoned water well, the well shall be plugged in accordance with rule 40C-3.531, F.A.C.

(7) The District shall have the right to inspect drilling records upon reasonable notice to a licensed contractor.

*Rulemaking Authority 373.044, 373.171 FS. Law Implemented 373.103, 373.308, 373.309, 373.319 FS. History—New 10-14-84, Amended 12-5-85, Formerly 40C-3.461, 40C-3.0461, Amended 9-17-89, 7-27-16,\_\_\_\_\_.*

#### **40C-3.502 Construction Methods.**

(1) Wells must be located, constructed, cased, grouted, plugged, capped, or sealed to prevent uncontrolled surface flow, uncontrolled movement of water from one aquifer or water bearing zone to another, contamination of groundwater or surface water resources, or other adverse impacts.

(a) Monitor wells ~~constructed to meet requirements in Chapter 62-761, F.A.C.~~, shall be protected and sealed in the following manner:

1. Terminal boxes, well compartments, or manhole sleeves approved by the Department or District shall be used to protect the well head from damage in a traffic area.

2. Traffic bumpers shall be installed around the well head in a non-traffic area when casing extends above land surface.

3. Pavement at pad surface shall slope away from the terminal box, well compartment, or manhole sleeve cover to retard movement of surface waters into the well head enclosure. The slope will be a minimum of one inch rise over a twelve inch lateral distance.

4. Non-traffic area installations shall protect the well head from run-off, but need not include a sloped cement pad in addition to the required grout. Wells shall not be installed in depressions that accept run-off from the pad area.

5. Screened areas shall be enclosed in filter pack and an attempt to develop to remove particulate materials and turbidity will be made.

6. Well head enclosures shall be sealed in accordance with subparagraph 40C-3.517(7)(b)1., F.A.C.

7. Well heads shall be sealed in accordance with subparagraph 40C-3.521(2)(b)1., F.A.C.

8. If confining units are penetrated by a monitoring well below an underground tank,

construction shall include a casing and grout seal to said unit to protect the underlying aquifer.

9. Monitor wells may only be used in areas where ground water is between four and twenty feet below ground surface or finished grade, whichever is greater in elevation.

(b) Test holes or exploratory wells constructed to obtain engineering, mining, or geophysical data and not for the purposes of producing, disposing, or searching for water shall be sealed in a manner that prevents uncontrolled movement of water in accordance with subsection 40C-3.517(8), F.A.C. The appropriate grout mixture shall be placed in the hole or exploratory well from bottom to top using the tremie method described in subparagraph 40C-3.517(8)(e)2., F.A.C. This requirement shall not apply to shallow excavations for percolation tests or soils analysis, as long as the excavation does not penetrate a confining unit which separates water bearing zones.

(c) Wells permitted under chapter 62-524, F.A.C., incorporated by reference in Rule 40C-3.036(8), F.A.C., and subsection 40C-3.041(2), F.A.C., shall be constructed, repaired, or abandoned in a manner that meets the special criteria developed for each designated area.

(d)1. The District may designate special construction criteria areas by emergency rule to prevent transport of surface contaminants to ground water or movement of introduced or natural contaminants from one aquifer or zone to another. Criteria set will be the minimum necessary to prevent the movement of contaminants and will be developed in cooperation with other state agencies, local jurisdictions, and the regulated public, and will be undertaken in accordance with chapter 120, F.S., provisions for emergency rulemaking.

2. The Picketville Landfill Special Construction Criteria Area is located within Section 45, Township 1 South, Range 26 East, Duval County. (Legal Description to be provided by City of Jacksonville). Within the Picketville Landfill Area two zones are created:

a. Zone A is comprised of that area approved by the United States Environmental Protection Agency for remedial measures on March 5, 1993, and comprised of (legal description to be supplied by City of Jacksonville).

b. Zone B is comprised of that portion of the Picketville Landfill Special Construction Criteria Area which is not located in Zone A but which is located in Delineated Area as designated by chapter 62-524, F.A.C., and comprised of (legal description to be supplied by City of Jacksonville).

3. The Fairbanks Special Construction Criteria Area is located within Sections 1, 2, 10, 11, 12, 13, 14, 15, Township 9 South, Range 20 East, and Sections 5, 6, 7, Township 9 South, Range 21 East, Alachua County, Florida. Within the Fairbanks Special Construction Criteria Area the two zones created are Zone A and Zone B. The legal description can be obtained by contacting the St. Johns River Water Management District, 4049 Reid Street, Palatka, Florida 32177-2529.

(2) ~~The setback requirements in Rules 62-532.400(7) and (8), Those portions of 62-524, 62-550, 62-555, 62-560, 62-610, 62-761, 64E-8 and 64E-6, F.A.C., incorporated by reference in Rule 40C-3.036(2), shall apply which establish spacing distances between wells and potential or present contamination sources, are hereby adopted by the District and will be used to designate spacing for affected wells.~~

*Rulemaking Authority 373.044, 373.113, 373.309 FS. Law Implemented 373.103(1), 373.306, 373.308, 373.309 FS. History—New 10-14-84, Formerly 40C-3.502, 40C-3.0502, Amended 9-17-89, 9-16-93, 8-30-94,\_\_\_\_\_.*

#### **40C-3.512 Well Construction Requirements.**

(1) In the construction of a well, reasonable caution shall be taken to maintain the work site

so as to minimize the entrance of contaminants into the water resource. Materials used in construction shall be reasonably free of contamination. The requirements for construction of public supply wells can be found in chapter 62-555, F.A.C.

(a) During construction, the water used to mix the drilling fluids must either maintain a minimum free chlorine residual of 10 mg/l or be supplied from a potable well or water supply. If the well or water supply is a known source of contamination or is within a known area of contamination, it shall not be used to provide water to construct the well.

(b) Disinfection of filter or gravel pack materials will follow guidelines found in AWWA Standard C654-21 A100-84, Section 4.3 4.4, incorporated by reference in Rule 40C-3.036(5), F.A.C., unless materials are obtained from a commercial source.

(c) Upon completion of construction, the well must be disinfected using a solution of water and available chlorine compounds providing a concentration not less than 50 mg/l. USEPA Manual of Water Well Construction Practices, EPA-570/9-75-001, Section 54.001-000-000, incorporated by reference in Rule 40C-3.036(11), F.A.C., provides a tabular determination of disinfectant per 100 feet of well depth to achieve the required residual.

(d) For non-potable (non-domestic) wells the contractor may elect either to maintain a minimum of 10 mg/l free chlorine in the water used to mix the drilling fluid during construction of the well or to disinfect the completed well with a solution of water and available chlorine compounds at a concentration of no less than 50 mg/l. Development should occur prior to disinfection so the well may be cleared of chlorine by flushing the entire water system prior to use. The disinfecting agent shall be left in the well for a period of at least twelve hours and then pumped to clear the disinfecting agent taking care to minimize potential damage to the environment. Free-flowing artesian wells will be disinfected by using either potable water or maintaining a minimum free chlorine residual of 10 mg/l in water used to mix the drilling fluid until the free flowing water zone is reached.

(2) For wells which penetrate multiple aquifers or water bearing zones the well shall be completed so as to prevent cross-contamination. If significantly different water quality exists between these aquifers or water bearing zones, leakage of water from one aquifer or water bearing zone to another must be prevented.

(3) For wells finished into unconsolidated aquifers, continuous casing shall extend from the well's terminus to the well screen. The well screen shall be attached to the casing with a watertight seal. The lower terminus of the well screen shall be sealed to prevent the entrance of particulate materials. A tailpipe is allowed if affixed to the screen with a watertight seal and plugged at its lower terminus.

(4) For wells completed into consolidated aquifers, a continuous casing shall extend from the upper terminus and be seated into:

(a) The producing aquifer, or

(b) Into a consolidated stratum within a continuous non-caving confining unit immediately overlying the aquifer from which the water is to be withdrawn.

(5) For wells completed into consolidated aquifers which are constructed using telescoping casings the following practices will be acceptable:

(a) Two casings may be telescoped and sealed with a packer and one casing centralizer when paragraph 40C-3.517(4)(c), F.A.C., construction methods are used. Two centralizers shall be used when the internal casing is grouted. A minimum of 5 feet overlap is required for nonpublic supply wells which are less than 6" in diameter. A minimum ten feet of overlap is required for nonpublic supply wells a minimum of 6" or more in diameter. The minimum required overlap for

public supply wells remains 20 feet, as set forth in chapter 62-555, F.A.C.

(b) The annular space between telescoped casings shall meet minimum grouting standards in subsections 40C-3.517(2) and (3), F.A.C.

(6) The upper terminus of the well to which the well head is affixed shall extend either to land surface or to finished grade, whichever is higher, or where a potential physical or traffic hazard exists, the well head must:

(a) Be placed in an appropriate enclosure terminating at land surface or finished grade, whichever is higher, that allows vertical access to the casing and proper drainage, and that protects the well head from the entrance of contaminants;

(b) Be completed to a point 18 inches or less below land surface or finished grade, whichever is higher. There must be a concrete marker 10 inches in diameter and 4 inches thick with an inserted metal disk clearly marked as required in subsection 40C-3.461(2), F.A.C., placed at land surface or finished grade. The upper terminus of the casing shall be sealed in a manner which prevents the entrance of contaminants into the well; or

(c) Be completed to a point 18 inches or less below land surface or finished grade, whichever is higher. A tee and nipple must be affixed so that the casing extends to land surface or finished grade while permitting a below grade water line to extend to a designated location remote to the water well. This subsection does not apply to public supply wells regulated under chapter 62-555, F.A.C.

(7) For wells constructed in those areas of the District in which chert occurs, the well casing shall extend from its upper terminus to:

(a) A point below the dry season water level of the producing aquifer, or

(b) A point firmly seated in chert overlying a stratum of limestone if the underlying limestone does not produce a quantity of particulate materials after development that will clog a filter or decrease the ability of the well to produce water.

(8) Water wells constructed using Bentonite grouts shall meet all the following requirements:

(a) The casing seat must be clean allowing the casing to set at the total depth bored in a hole reasonably free of drill cuttings;

(b) A formation boot or Portland Cement plug must be installed at the casing seat;

(c) Portland Cement must be placed in the upper three feet of the annular space to prevent deterioration of or damage to the Bentonite seal; and

(d) Bentonite grout may be used only on domestic, irrigation, water source or ground source heat pump installations or well abandonments with a nominal casing diameter of four inches or less. Use of Bentonite grout is not allowed on public supply wells or where artesian flow occurs or in any identified contamination sites.

In all circumstances the requirements of subsection 40C-3.512(2), F.A.C., must be met. All caving zones within the well must be cased or lined when caving occurs below the casing seat. No casing may be seated into an unconsolidated unit above the producing aquifer.

(9) In addition to the other applicable standards contained in this chapter, wells constructed in the Picketville Landfill Special Construction Criteria Area shall meet the following minimum criteria:

(a) For Zone A, of new wells which are completed into the surficial aquifer system, including the upper sand and lower shallow-rock zone, to a depth of 110 feet below land surface or less than five feet into the intermediate aquifer system are prohibited. This prohibition of new wells does not apply to monitor wells, recovery wells or piezometers which may be used for assessment of clean up of contamination sites.

(b) New wells may be completed into the intermediate aquifer system producing zone at least 300' below ground surface, or into the Floridan aquifer system.

(c) New wells penetrating the intermediate system or Floridan aquifer producing zones shall be constructed in the following manner:

1. A minimum 6-inch exterior casing shall be installed and grouted to no less than five feet into the top of the confining unit immediately below the shallow rock zone of the surficial aquifer system.

2. A minimum 2-inch interior casing within the 6-inch casing shall be installed and grouted to the producing zone. For wells constructed into the intermediate system, the intermediate aquifer shall be screened unless the entire producing zone is consolidated.

3. The top casing diameters shall allow a minimum nominal grouting annulus of two inches.

4. For telescoped wells constructed in reliance on the criteria of paragraph 40C-3.517(4)(c), F.A.C., in addition to the overlap created by the telescope, a fifty foot minimum length of internal casing shall be grouted below the telescoped joint.

5. The internal casing of all wells shall be completed to a minimum of twelve inches above grade.

(d) In Zone A, each existing well in the surficial aquifer system shall be abandoned when public supply lines are installed adjacent to the property served by the well.

(e) All chapter 62-524, F.A.C., construction standards shall be met in both Zone A and Zone B.

(10) In addition to the other applicable standards contained in this chapter, wells constructed in the Fairbanks Special Construction Criteria Area shall meet the following minimum criteria:

(a) In Zone A, new wells which are completed into the Surficial Aquifer System or into the Intermediate Aquifer System, are prohibited. This prohibition of new wells does not apply to monitor wells, recovery wells or piezometers which may be used for assessment or cleanup of contaminated sites.

(b) In Zone A, new wells penetrating the Floridan Aquifer producing zones must be constructed in the following manner:

1. A minimum 12-inch exterior casing shall be installed and grouted to no less than five feet into the upper confining unit of the intermediate aquifer system.

2. A minimum 8-inch interior casing within the 12-inch casing shall be installed and grouted to no less than five feet into the lower confining unit of the Intermediate Aquifer System.

3. A maximum 4-inch permanent water bearing casing within the 8-inch casing must be installed into the Floridan Aquifer System to a depth of at least one full casing lengths below the formation contact.

4. The casing diameters shall allow a minimum nominal grouting annulus of two inches.

5. The internal casing of all wells shall be completed to a minimum of twelve inches above grade.

6. In Zone A, all new wells shall be logged using gamma, caliper or video equipment.

(c) In Zone A, each existing well in the Surficial and Intermediate Aquifer System shall be abandoned when public supply lines are installed adjacent to the property served by the well.

(d) In Zone A, water quality samples must be taken and analyzed by U.S. Environmental Protection Agency methods 601, 602, and 610, incorporated by reference in Rule 40C-3.036(12), F.A.C., where the casing is set in the Floridan Aquifer System. Water quality results from the Floridan Aquifer System shall reveal no contaminants before well construction is completed. In the event that water quality testing indicates that there is contamination in the groundwater, the

well shall be plugged and abandoned pursuant to chapter 40C-3, F.A.C.

(e) In Zone B, new wells shall be logged, sampled and analyzed by U.S. Environmental Protection Agency methods 601, 602, and 610, incorporated by reference in Rule 40C-3.036(12), F.A.C., for groundwater contaminants.

(f) Prior to any well construction in the Fairbanks Special Construction Criteria Area identified in subsection 40C-3.502(3), F.A.C., all persons shall obtain a well construction permit from the St. Johns River Water Management District. Construction standards as provided in chapter 62-524, F.A.C., shall be applicable to all well construction in the Fairbanks Special Construction Criteria Area.

(g) In Zone A and Zone B, all unused wells must be capped and locked or plugged and abandoned. In Zone A, wells connecting separate aquifer systems must be plugged and abandoned.

*Rulemaking Authority 373.044, 373.113, 373.309 FS. Law Implemented 373.103(1), 373.306, 373.308 FS. History—New 10-14-84, Amended 4-23-85, Formerly 40C-3.512, 40C-3.0512, Amended 9-17-89, 9-16-93, 8-30-94, 3-5-95,\_\_\_\_\_.*

#### **40C-3.517 Grouting and Sealing.**

Wells shall be grouted and sealed to protect the water resource from degradation caused by movement of waters along the well annulus either from the surface to the aquifer or between aquifers, and to prevent loss of pressure in artesian aquifers. All wells shall be constructed and sealed using a method which insures that an open or unnaturally permeable annular space does not remain when a well is completed.

(1) All wells that are constructed in a manner which creates an annular space between the casing and the naturally occurring geologic formations will be grouted and sealed in accordance with the methodologies listed in this section.

(2) Wells obtaining water from a formation and having a casing less than four inches in outside diameter shall have a nominal one inch thickness of grout sealing the annular space to ensure that an open or unnaturally permeable annular space does not remain when the well is completed.

(3) Wells having a nominal casing size equal to or greater than four inches in outside diameter and obtaining water from a formation shall have a nominal two inch thickness of grout sealing the annular space for the entire length of casing.

(4) Wells obtaining water from a consolidated formation and which are constructed using telescoping casings shall meet the following conditions:

(a) The annular space between the casings shall be sealed by grout, by packers or both as described in subsection 40C-3.512(5), F.A.C.

(b) The annular space between each casing and the borehole shall be grouted in accordance with the provision of subsections (1)-(3), above.

(c) For wells in which the largest external nominal casing size is four inches or less and the annular space between the internal casing and the borehole wall is less than one inch, the provisions of subsections (1)-(3), above, will not apply, provided that the clay formation through which the internal casing passes is of such a caving nature so as to naturally seal the annular space. If such caving nature is not present, the provisions in subsections (1)-(3), above, must be met. In all circumstances the external casing must be grouted and sealed into a consolidated unit within the intermediate confining unit.

(5) For wells constructed using a jetting method and obtaining water from an unconsolidated



formation of a naturally caving nature in which the annular space is completely filled with formation material, then only the upper three feet shall be grouted to provide protection from contaminated surface water.

(6) Wells obtaining water from an unconsolidated formation using a method other than jetting or driving a casing, shall be grouted from the filter pack plug to the upper terminus with a grout allowed in subsection 40C-3.517(8), F.A.C.

(7) Cuttings shall not be reintroduced into the annular space. Wells which breach confining units and special monitor well installations will be grouted as outlined below.

(a) When confining units are breached and the guidelines in subsection 40C-3.512(2), F.A.C., are not met, the following practices will be acceptable:

1. Seating of a casing into the confining unit and grouting as required, or
2. Placing of grout in the annular space to meet subsection 40C-3.512(2), F.A.C., requirements. When caving materials are present above and below the confining unit, temporary casing or drilling fluids will be placed in the borehole to maintain an opening to the confining unit.

In all circumstances, the annular space shall be maintained by use of either drilling fluids or temporary surface casing until the confining unit breach is plugged.

(b) Monitor wells ~~required to comply with rule 62-761.640, F.A.C., which is incorporated by reference in subsection 40C-3.036(5), F.A.C.,~~ shall be protected and grouted in the following manner:

1. The terminal box in traffic areas and well casing shall be sealed to a depth of eighteen inches below land surface with cement grout.
2. The well casing or outside protective casing in high water table areas shall be grouted to a depth of eighteen inches in a non-traffic area.

(8) Unless a variance has been granted by the District, grouting and sealing of water wells shall be accomplished in the following manner:

(a) The grout mixture shall consist of either Portland Cement or a natural Bentonite slurry for wells and boreholes meeting the requirements in subsection 40C-3.512(8), F.A.C.

1. A mixture consisting of 5.5 to 6.0 gallons of water per sack of Portland Cement or a mixture of 6.5 gallons of water per sack of Portland Cement with 3 to 5 pounds of Bentonite not to exceed 5% by weight will meet minimum requirements.
2. A mixture of 8-20-mesh granular Bentonite, water, and an approved liquid polymer viscosifier or untreated 200-mesh Bentonite and water is acceptable. In all circumstances, the manufacturer's mixing instructions shall be followed.

(b) The minimum set time for grouting of casing using either Portland Cement or Bentonite before drilling operations may continue is 12 hours.

The minimum set time for grouting of casing using Portland Cement and 2% calcium chloride by weight as an accelerator will vary with depth. Set times are listed in Table 3 below. The addition of Bentonite as specified in paragraph 40C-3.517(8)(a), F.A.C., does not change the set times listed in Table 3.

<b>TABLE 3 INITIAL SET TIMES FOR SPECIFIED DEPTH RANGES</b>	
<b>WHEN 2% CALCIUM CHLORIDE IS MIXED BY WEIGHT WITH PORTLAND CEMENT</b>	
Depth	Set Time
(in feet)	(in hours)
0-200	4

201-400	3.5
401-600	3
601-800	2
801 & greater	1

(c) Special application grout mixtures or depth of grout placement may require adjustments in water per sack of cement, cement types, or additives. All adjustments shall be approved by the District prior to use and will be based on industry standards or recommendations.

(d) The casing shall be centered in the borehole prior to grouting and sealing.

(e) In all cases grout will be introduced into the annular space from bottom to top unless conditions in paragraph 40C-3.517(9)(e), F.A.C., for abandonments are met. To assure that the grout will satisfactorily seal the annular space, the contractor must employ one or a combination of the following procedures:

1. The "Casing method" by which a calculated volume of grout slightly greater than the volume of the annular space of the entire length of casing is forced under pressure down the inside of the casing, which is followed by a volume of water or mud necessary to clear the grout from all but the last ten to fifteen feet of casing. This should continue until a return of cement is observed in the annular space at the upper terminus. If, after the set time has elapsed an open annular space still exists the remaining void must be filled with grout.

2. The "Tremie method" in which a grout pipe is lowered into the annular space to slightly above the bottom casing and grout pumped through the pipe. As the pumping begins the tremie is gradually raised, keeping the discharge end of the pipe submerged in the grout, until the grout has been brought to the upper terminus. This procedure may be done in one continuous operation or in stages. If, after the set time has elapsed, an open annular space still exists the remaining void is to be filled with grout.

3. The "Packer method" in which a grout pipe is attached to a drillable packer and positioned at the bottom inside the casing. The casing is then suspended above the bottom of the borehole, and the grout is forced upward into the annular space either by pumps or pneumatic pressure. Once the grout has reached land surface, the grout pipe is disconnected. After the set time has elapsed, the operation is continued by drilling out the packer and continuing into the next formation.

4. The "Halliburton method" in which the grout is forced through the casing, preceded and followed by a "spacer" or "piston." A calculated volume of grout is used to seal the annular space. A measured amount of water equal to the volume of the entire length of casing is used to force the second "spacer" to the end of the casing. After the set time has elapsed the construction may continue by drilling out the "spacers."

(f) In those cases where, during grouting operations, circulation of the grout is lost so that the annular space being grouted cannot be filled in one continuous operation, a tremie pipe shall be installed in the annular space to a point immediately above the zone of lost circulation. The annulus shall be bridged at that point by sand and other suitable material introduced through the pipe until a level is reached at which grouting can be continued.

(9) Abandonment procedures for water wells shall be undertaken in the following manner:

- (a) Portland Cement or natural Bentonite slurry mixed as required in paragraph 40C-3.517(8)(a), F.A.C., shall be pressure injected either from bottom to top by the methods listed in paragraph 40C-3.517(8)(e), F.A.C., or from top to bottom at the well head if the conditions in paragraph 40C-3.517(9)(e), F.A.C., are met.

- (b) Use of clean aggregate to bridge cavernous or lost circulation zones may be allowed if

measurements indicate loss of grout and the borehole or screened portion does not connect two or more producing units. Grouting of confining units is required to segregate producing units of significantly differing water quality as set forth in subsection 40C-3.512(2), F.A.C.

(c) Proper sealing of the casing seat must be accomplished by injecting grout where appropriate from a point twenty feet below the seat to the upper terminus of the well. This depth will be the minimum allowable in order to abandon a water well no matter what cavity development is encountered below the casing seat unless the open hole is less than twenty feet deep. In that case, the entire open hole will be grouted.

(d) An abandonment plan may be approved prior to the commencement of grouting if geophysical logs are provided. The minimum logs required are caliper and natural gamma. Other logs may be required or recommended based on individual well problems. The contractor must notify the District at least 24 hours prior to commencement of a District approved abandonment plan so that a District representative may be on site to monitor the abandonment procedure.

(e) Abandonment by pressure injection of Portland Cement or Bentonite from top to bottom at the well head will be acceptable to the District if one of the following criteria is met:

1. Access to the site near the well head is difficult as determined by District staff and will cause the contractor excessive economic hardship;

2. Overhead safety such as power lines or trees is of concern to the contractor or District staff; or

3. Surface stability is of concern around the well site due to collapse or cavity development.

(10) Obstructions must be cleared in all wells prior to grouting unless an alternate plan is approved by the District. If a reasonable attempt cannot be made to clear the entire length of casing and borehole or screen an alternative plan may be considered. A contractor must supply the following minimum information to the District prior to abandonment: well diameter, total depth, casing depth, and grout volume required. A District representative may be onsite to monitor the clearing of obstructions or to observe the grouting. The contractor must notify the District at least 24 hours prior to commencement of the abandonment.

(11) Wells constructed by methods which require driven well casing are exempt from grouting and sealing guidelines set forth in previous sections, provided that the following conditions are met:

(a) Casing is driven from land surface to its final depth in a borehole smaller in diameter than the nominal outside diameter of the casing used, or is driven from land surface to its final depth ahead of the drill bit; and,

(b) A drive shoe in consolidated materials, or coupling in unconsolidated materials, is used; and,

(c) All annular space created while the casing is being driven shall be sealed by adding dry Bentonite with an average mesh size between 4 and 20 standard sieve size to the casing string at land surface and allowing that material to be carried down the borehole as the casing is driven. In all circumstances, dry Bentonite shall be added at the full rate required to maintain an envelope of grout around the casing; and,

(d) Wells required to comply with rules 62-555.310, 62-555.312, 64E-8.002, or 64E-8.003, F.A.C., which are incorporated by reference in subsections 40C-3.036(3)-(4) and (6)-(7), F.A.C., respectively, shall have the bottom five feet underreamed using either a commercially manufactured underreamer bit or an underreamer bit constructed by a contractor and approved by the District in the following manner: An underreamed borehole will be tested using a downhole caliper tool to determine if the required two inch annular space has been achieved;

and,

(e) All other requirements are met.

*Rulemaking Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.306, 373.308, 373.309 FS. History—New 10-14-84, Amended 4-23-85, 12-5-85, Formerly 40C-3.517, 40C-3.0517, Amended 9-17-89, 7-27-16,\_\_\_\_\_.*

#### **40C-3.521 Well Seals.**

(1) Temporary Well Seals.

(a) Whenever there is a temporary interruption during construction, repair, or abandonment the well opening shall be sealed with a reasonably watertight cover.

(b) Except in areas designated by the District, any well in which pumping equipment is installed seasonally or periodically shall, whenever pumping equipment is not installed, be capped with a watertight cap or valve.

(c) If a temporary well seal is installed, an unobstructed inspection port must be provided. Inspection ports shall be sealed with a threaded, temporarily removable, watertight plug or locking cap.

(2) Permanent Well Seals.

(a) Wells shall be properly sealed to prevent the movement of contaminants and surface water into the well.

(b) The upper terminus of the well casing shall include a watertight seal. Any vent must be located above the 100-year flood level.

1. Well heads for ~~chapter 62-761, F.A.C.,~~ monitoring wells shall be equipped with a watertight cap and shall be secured by installing a locking cap or other security device meeting Department specifications. The monitoring well shall be kept locked or secured to prevent tampering at all times except when the monitoring well is being sampled or maintained.

(c) Pumping equipment and any necessary pipe or electrical connections shall be installed to prevent inadvertent introduction of contaminants into the well.

(d) Pumping equipment and any necessary piping or electrical connections installed within the casing shall be installed through a well seal.

(e) For those wells with an inside casing diameter greater than or equal to six inches, an unobstructed inspection port threaded with a temporarily removable watertight plug or locking cap may be required.

*Rulemaking Authority 373.044, 373.309 FS. Law Implemented 373.306, 373.308, 373.309, 373.113 FS. History—New 10-14-84, Formerly 40C-3.521, 40C-3.0521, Amended 9-17-89,\_\_\_\_\_.*

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NAME OF AGENCY HEAD WHO APPROVED THE PROPOSED RULE: Governing Board of the St. Johns River Water Management District.

DATE PROPOSED RULE APPROVED BY AGENCY HEAD:\_\_\_\_\_, 2024

DATE NOTICE OF PROPOSED RULE DEVELOPMENT PUBLISHED IN FAR: June 12, 2024