

**SEMINOLE COUNTY GOVERNMENT  
AGENDA MEMORANDUM**

**SUBJECT:** Request Authorization to Advertise for, and Schedule a Public Hearing for Amendment to the Land Development Code for Cross Connection Control

**DEPARTMENT:** Environmental Services **DIVISION:** Water and Wastewater

**AUTHORIZED BY:** [Signature] **CONTACT** [Signature] **EXT.** 2020  
John Cifello, Director Gary Rudolph, Utilities Manager

<b>Agenda Date</b> <u>2/14/06</u>	<b>Regular</b> <input type="checkbox"/>	<b>Consent</b> <input checked="" type="checkbox"/>	<b>Work Session</b> <input type="checkbox"/>	<b>Briefing</b> <input type="checkbox"/>
	<b>Public Hearing – 1:30</b> <input type="checkbox"/>		<b>Public Hearing – 7:00</b> <input type="checkbox"/>	

**MOTION/RECOMMENDATION:**

Authorize scheduling and advertising a Public Hearing for the proposed Ordinance reflecting implementation of a program to prevent the development of cross-connection hazards and other threats to the potable water supply of the County.

**BACKGROUND:**

In effort to ensure continued integrity of potable water provided by the County, and compliance with Florida Department of Environmental Protection Chapter 62-555, Florida Administrative Code, the County is required to adopt an ordinance specifically addressing cross connection control. The cross connection control program requires annual verification that potable water supply sources are reasonably protected from hazards originating on the premises of its customers that could potentially degrade the water in the community distribution system. This effort is a direct effect of providing both reclaimed and potable water in our systems.

Environmental Services staff is requesting authorization to advertise for the above amendment to the Seminole County Land Development Code for the required public hearing as follows:

February 28, 2006 at 1:30 P.M.

Attachment: Advertisement

Please note: Changes are denoted in strike through and underlines.

Reviewed by:	<u>[Signature]</u> <sup>2-14-06</sup>
Co Atty:	<u>[Signature]</u>
DFS:	_____
Other:	_____
DCM:	<u>SS</u>
CM:	<u>[Signature]</u>
File No.	<u>CEWS02</u>

## NOTICE

NOTICE is hereby given that the Board of County Commissioners of Seminole County, Florida, intends to hold a public hearing to consider the enactment of an ordinance entitled:

**AN ORDINANCE AMENDING SECTION 9, APPENDIX F OF THE LAND DEVELOPMENT CODE OF SEMINOLE COUNTY; AMENDING DEFINITIONS, AFFECTED PARTIES AND PREMISE ISOLATION; AMENDING THE RESPONSIBILITY OF CROSS CONNECTION PROGRAM, OWNERS/CUSTOMER'S AND BACKFLOW PREVENTION INSTALLERS; AMENDING TESTING AND MAINTENANCE; AMENDING THE DETAIL DRAWINGS; PROVIDING FOR CODIFICATION; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.**

at 1:30 p.m., or as soon thereafter as possible, at its regular meeting on the 28<sup>th</sup> day of February 2006, at the Seminole County Services Building, 1101 East First Street, BCC Chambers, Sanford, Florida. The proposed ordinance may be inspected by the public at the office of the Clerk of the Board of County Commissioners, Room 2204, Seminole County Services Building. Interested parties may appear at the meeting and be heard with respect to the proposed ordinance. Persons are advised that, if they decide to appeal any decision made at this hearing, they will need a record of the proceedings, and, for such purpose, they may need to insure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

For additional information regarding this notice contact Gary Rudolph, Utilities Manager at (407)665-2020.

Persons with disabilities needing assistance to participate in any of these proceedings should contact the Employee Relations Department ADA Coordinator 48 hours in advance of the meeting at (407) 665-7941.

Publish: February 15, 2006

Proof of Publication to: Sharon Peters  
Seminole County  
1101 East First Street  
Sanford, FL 32771

Invoice/Contact Person: Gary Rudolph  
Utilities Manager  
500 W. Lake Mary Boulevard  
Sanford, Florida 32773  
407-665-2020

**AN ORDINANCE AMENDING SECTION 9, APPENDIX F OF THE LAND DEVELOPMENT CODE OF SEMINOLE COUNTY; AMENDING DEFINITIONS, AFFECTED FACILITIES AND PREMISE ISOLATION; AMENDING THE RESPONSIBILITY OF CROSS CONNECTION PROGRAM, OWNERS/CUSTOMER'S AND BACKFLOW PREVENTION INSTALLERS; AMENDING TESTING AND MAINTENANCE; AMENDING THE DETAIL DRAWINGS; PROVIDING FOR CODIFICATION; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS,** the Board of County Commissioners (Board) has evaluated the provisions of the County's land development regulations relative to a cross-connection control program, including backflow prevention procedures and has concluded that certain provisions of the County's Codes should be amended to address the Board's concerns pertaining to technical modification of the program to prevent the development of cross-connection hazards and other threats to the potable water supply and the County; and

**WHEREAS,** significant involvement has been achieved relative to the proposed changes to the County's Codes as set forth in this Ordinance; and

**WHEREAS,** the Board of County Commissioners of Seminole County hereby finds that this Ordinance is consistent with the objectives, goals and policies of the Seminole County Comprehensive Plan; and

**WHEREAS,** the Seminole County Home Rule Charter requires that an Economic Impact Statement be prepared to address the potential fiscal impacts and economic costs of this Ordinance upon the public and taxpayers of Seminole County and such Economic Impact Statement has been prepared and has been made available for public

review and copying prior to the enactment of this Ordinance in accordance with the provisions of the Seminole County Home Rule Charter; and

**NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF SEMINOLE COUNTY, FLORIDA:**

**Section 1.** Section 9, Appendix F, Land Development Code of Seminole County, is hereby amended to read as follows:

**9.42. Definitions**

(a) *Air Gap:* The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet conveying water or waste to a tank, plumbing fixture, receptor, or other assembly and the flood level rim of the receptacle. These vertical, physical separations must be at least twice the diameter of the water supply outlet, never less than one (1) inch (25mm).

(b) *Approved:* Accepted by the Seminole County Water & Sewer Division as meeting an applicable specification as cited herein or as suitable for the proposed use.

(c) *Auxiliary Water System or Supply:* Any water supply on or available to the premises other than the purveyor's public water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source(s), including, but not limited to, a well, spring, river, stream, harbor, used waters, or industrial fluids. These waters may be contaminated or polluted, or may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.

(d) *Backflow*: The undesirable reversal of flow in a potable water distribution system as a result of a cross connection.

(ee) *Back Pressure*: A pressure higher than the supply pressure caused by a pump, elevated tank, boiler, or any other means that may cause backflow.

(ef) *Backflow Prevention Assembly or Backflow Preventer*: An approved assembly that meets the design and performance standards of University of Southern California/Foundation for Cross Connection Control and Hydraulic Research or the AWWA or the ASSE.

(fg) *Backflow Prevention Assembly Tester*: A certified tester approved by the Water & Sewer Division who is certified by the University of Florida Treco Certification Program for BFP assembly testers or other USC/FCCHR or FDEP approved programs.

(gh) *Backsiphonage*: Backflow caused by negative or reduced pressure in the supply piping.

(hi) *Contamination*: An impairment of the potable water supply resulting from the introduction or admission of any foreign substance that degrades the quality and/or creates a health hazard.

(ij) *Cross Connection*: A connection or potential connection between any part of a potable water system and any other environment containing other substances in a manner that, under any circumstances would allow such substances to enter the potable water system. Other substances may be gases, liquids, or solids, such as chemicals, waste products, steam, water from

other sources (potable or nonpotable), or any matter that may change the color or add odor to the water.

(jk) *Cross Connection Control by Containment:* The installation of an approved backflow prevention assembly at the water service connection to any customer's premises where physically and economically unfeasible to find and permanently eliminate or control all actual or potential cross connections within the customer's water system; or the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a customer's water system where actual or potential cross connections cannot be effectively eliminated or controlled at the point of cross connection.

(kl) *Double Check Valve Assembly:* The approved double check valve assembly consists of two (2) internally loaded check valves, either spring loaded or internally weighted, installed as a unit between two (2) tightly closing resilient seated shutoff valves and fittings with properly located resilient seated test cocks. This assembly shall only be used to protect against a non-health hazard (that is, a pollutant).

(lm) *Fire Protection System:* A system of piping and appurtenances designed for fire protection and in accordance with fire protection and engineering standards. The installation may include one or more water supplies.

(mn) *Flood Level Rim:* The edge of the receptacle from which water overflows.

(no) *Hazard-Degree of:* The term is derived from an evaluation of the potential risk to public health and the adverse

affect upon the potable water system. Establishing the degree of hazard is directly related to the type and toxicity of contaminates that could feasibly enter the public potable water system and can be classified as either a non-health or a health hazard.

(ep) *Hazard-Health*: An actual or potential threat of contamination to the public potable water system or the customer's potable water system to such a degree or intensity that a danger to health exists.

(pq) *Hazard-Plumbing*: A plumbing type cross connection in a customer's potable water system that has not been properly protected by an approved air gap or an approved backflow prevention assembly.

(qr) *Hazard-Non-Health or Pollutional*: A cross connection or potential cross connection involving any substance that generally would not be a health hazard but would constitute a nuisance or be aesthetically objectionable if introduced into the potable water supply.

(rs) *Hazard-System*: An actual or potential threat of severe damage to the physical properties of the public potable water system or the customer's potable water system or of a pollution or contamination that would have a protracted effect on the quality of the potable water in the system.

(st) *Industrial Fluids System*: Any system containing a fluid or solution that may be chemically, biologically or otherwise contaminated or polluted in a form or concentration, such as would constitute a health, system, pollution, or plumbing

hazard, if introduced into a public potable water supply. This may include, but not be limited to: polluted or contaminated waters; all types of process waters and used waters originating from the public potable water system that may have deteriorated in sanitary quality; chemicals in fluid form, plating acids and alkalis; circulating cooling waters connected to an open cooling tower; and/or cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters, including but not limited to, wells, springs, streams, rivers, bays, harbors, ease, irrigation canals or systems; oils, gases, glycerin, paraffins, caustic and acid solutions, and other liquid and gaseous fluids used in industrial or other purposes for fire fighting purposes.

(~~tu~~) *Pollution*: The presence of any foreign substance in water that tends to degrade its quality so as to constitute a non-health hazard or impair the usefulness of the water.

(~~uy~~) *Premises Isolation*: The prevention of backflow into a public water system from a customer's premises by installing a suitable backflow preventer (BFP) at the customer's service connection.

(~~w~~) *Reduced Pressure Backflow Prevention Assembly*: The approved reduced pressure principle backflow prevention assembly consists of two (2) independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and below the first check valve. These units are located between two (2) tightly closing resilient seated shutoff valves

as an assembly and equipped with properly located resilient seated test cocks.

(wx) *Residential Dual Check*: A compact unit manufactured with two (2) independent spring actuated check valves. It may or may not have test cocks. See Rule 62-555.360, F.A.C.

(xy) *Service Connection*: The term service connection shall mean the terminal end of the public potable water system; that is, where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the customer's water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end or customer's side of the meter. Unprotected takeoffs from the service line ahead of any backflow prevention assembly or device located at the point of delivery to the customer's potable water system shall be prohibited.

(yz) *Vacuum Breaker-Atmospheric*: An approved vacuum breaker (non-pressure type) is an assembly designed for use where it will not be subject to static line pressure and consists of a float check, check seat and air inlet port. A shutoff valve immediately upstream may be an integral part of the assembly.

(zaa) *Vacuum Breaker-Pressure*: An approved assembly which consists of an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve with properly located resilient seated test cocks and tightly closing resilient seated shutoff valves attached at each end of the assembly.

(~~a~~aabb) *Water-Potable*: Water from any source approved for human consumption by the health authority with jurisdiction over said source. Potable water is water of excellent quality intended for drinking, cooking and cleansing uses.

(~~b~~bbcc) *Water Purveyor*: The term water purveyor shall mean the utility owner or operator of the public water system supplying an approved potable water supply to the public. The utility shall operate pursuant to a valid permit from the F.D.E.P. The Seminole County Water & Sewer Division is the water purveyor for Seminole County.

(~~e~~eedd) *Water Customer*: The term water customer shall include any water system located on the water customer's premises, whether supplied by the public potable water system or an auxiliary water supply. The system may be either a potable water system or an industrial fluids system.

(~~d~~deee) *Water System or Water Supply-Public Potable*: A water system, publicly or privately owned, operated as a public utility under a recent health permit to supply potable water. This system shall consist of the source facilities utilized in the production, treatment and storage of potable water and the distribution system used for delivery of potable water to the customer's system.

(~~e~~eeff) *Water-Reclaimed*: Water suitable, as a result of treatment of domestic wastewater, for a direct beneficial use or a controlled use that would not otherwise occur. Reclaimed water is also known as reuse water and is regulated pursuant to Chapter 62-610, F.A.C.

(~~ffgg~~) *Water-Used*: Any water supplied by a water purveyor from a public potable water system to a water customer after passage through the point of delivery and no longer under the control of the water purveyor.

**9.5. EFFECTED FACILITIES.**

(a) Plan review as defined in Section 9.4 shall be performed on all new commercial, industrial and multi-family facilities and existing facilities with proposed modifications at the time of application for the Building Permit.

(b) Existing commercial, multi-family and other residential customers with existing wells or alternate water sources available to their property or irrigation systems, or any customers who may reasonably be suspected to have a cross-connection to the County public water supply system, shall be inspected by the Water & Sewer Division. The owner/customer shall install an appropriate backflow prevention assembly as directed by the Water & Sewer Division.

(c) New water main construction shall be separated from the existing water system with the use of the temporary jumper connection as shown in Attachment A, Standard Detail Drawing A-13, which may be changed by Resolution as adopted from time to time by the Board. The backflow prevention assembly in the temporary jumper connection shall be tested according to the requirements of Section 9.

**9.52. PREMISE ISOLATION**

An approved BFP assembly of the type designated shall be installed at each water service connection to the following list

of premises. This list is presented as a guide and is not intended to be complete. The ~~Utilities~~ Water & Sewer Division Manager or designee may require a device providing a higher level of protection if, in the opinion of the ~~Utilities~~ Water & Sewer Division Manager, conditions warrant added protection.

Premise Description	Assessment of Hazard	Required <del>Recommended</del> Assembly at <u>Potable</u> Service Connection
Apartment with fire hydrant, blowoff, pool or irrigation system	Non-Health	<del>DCVA</del> <u>RPBA</u>
Brewer, Distillery	Health	RPBA
Car Wash with reclaimed water, recycling system and/or Wax Educator	Health	RPBA
Chemical Plant	Health	RPBA
Commercial Laundry	Health	RPBA
Dairy	Non-Health	DCVA <u>or RPBA</u>
Dentist or Doctor Office	Health	RPBA
Dock and Dockside facility	Health	RPBA
Fertilizer Plant	Health	RPBA
Film Laboratory or Processing Plant	Health	RPBA
Food and Beverage Processing Plant	Health	RPBA
Hospital, Clinic, Mortuary, Laboratory or Medical Facility*	Health	RPBA
<del>Irrigation System</del>	Non-Health	<del>DCVA or PVB</del>
Irrigation System	Health	RPBA <u>or PVB</u>
Irrigation System with Chemical Injector	Health	RPBA <u>or Air Gap</u>
Machine Tool Plant	Health	RPBA
Master Metered Strip Shop and Mall	Health or Non Health	RPBA

Premise Description	Assessment of Hazard	RequiredRecommended Assembly at Potable Service Connection
Individually Metered Store and Business in Commercial Strip and Mall	Health or Non Health	RPBA
Metal Processing Plant	Health	RPBA
Metal Plating Plant	Health	RPBA
Nursing Home	Health	RPBA
Packing House or Rendering Plant	Health	RPBA
Paper Products Plant	Health	RPBA
Pesticide, Herbicide or Exterminating Company **	Health	PVB overhead fill or AG overhead fill
Petroleum Processing Plant or Storage Facility	Health	RPBA
Pharmaceutical or Cosmetic Plant	Health	RPBA
Pleasure-Boat Marina	Health	RPBA
Power Plant or Steam Plant	Non Health	RPBA
Premise where inspection is restricted	Health	RPBA
Radioactive Material Plant	Health	RPBA
Reclaimed Water System (Commercial); BFP to be installed on potable water line	Health	RPBA
Restaurant with Soap Educator and/or Industrial Type Disposal	Health	RPBA
Sand and Gravel Plant	Health	RPBA
School	Health	RPBA
Shopping Center	Health or Non Health	RPBA
Storm Water Pumping Station	Health	RPBA
Swimming Pool with Piped Fill Line	Health	AG at pool or RPBA
Tall Building (over three stories)	Health or Non Health	RPBA
Veterinary Establishment	Health	RPBA
Wastewater Pumping Station	Health	RPBA
Wastewater Treatment Plant or Reclaimed Storage Plant	Health	RPBA

\* See 9.53

\*\* See 9.54

In addition to and including those types of premises listed above, an approved backflow prevention assembly of the type designated shall be installed on each potable water service connection to any premises

containing the following real or potential hazards. The Water & Sewer Division Manager may require an assembly providing a higher level of protection if, in the opinion of the Water & Sewer Division Manager, conditions warrant added protection.

Premises with an auxiliary water system not connected to public water system	RPBA
Premises with a water storage tank, reservoir, pond, or similar appurtenance	RPBA
Premises with a steam boiler, cooling system, or hot water heating system with chemical water conditioners	RPBA
Premises with submerged inlets to equipment	RPBA
Premises with self-draining yard hydrants, fountains, hose boxes, or similar devices presenting a health, or system hazard (i.e., chemical storage plants, tank farms, bulk storage yards)	RPBA
<del>Premises with self draining yard hydrants, fountains, hose boxes, or similar devices presenting a polluttional hazard (i.e., parks, play fields, cemeteries)</del>	DCVA
Single-family residences using reclaimed water; <u>BFP to be installed on potable water line</u>	RDC-RPBA

### 9.62. ANNUAL TESTING

(a) Testing shall be required on all backflow prevention assemblies. ALL testing shall be performed by a Certified Backflow Prevention Assembly Tester.

(b) All backflow prevention assemblies shall be tested a minimum of once every twelve months. If the Water & Sewer Division determines that a backflow prevention device is used in extremely high hazard applications or has a history of frequent failure, the Water & Sewer Division may require that the device be tested more often.

(c) The first annual testing shall be performed at the time of installation. Existing installations that have not had a first annual test performed shall be tested within the time

period specified in the notification by the Water & Sewer Division.

(d) Subsequent annual tests shall be required by the owner/customer of a backflow device within thirty (30) days of notification by the Water & Sewer Division.

(e) In cases of non-compliance with the BFP assembly testing requirements contained in this Section, the Water & Sewer Division Manager may test or have tested, at the owner/customer's expense, any BFP assembly located on the owner/customer's premises.

(f) At its option, the Water and Sewer Division may annually test and/or repair or have tested and/or repaired, at the owner/customer's expense, privately owned BFP assemblies in the Seminole County Water Service Area.

(~~f~~g) The Water & Sewer Division shall notify the owner/customer that the water will be turned off during the testing procedure.

### **9.63. REPAIR AND MAINTENANCE**

(a) The owner/customer shall be responsible for repairs necessary to maintain good working condition of the backflow prevention equipment. Repair of the backflow prevention equipment shall be in accordance with Florida law, the County plumbing code and the manufacturer's instructions.

(b) After repair of any BFP assembly, the assembly shall be tested by a Certified Backflow Prevention Assembly Tester. The Certified Backflow Prevention Assembly Tester shall determine the satisfactory repair and compliance of the backflow prevention

equipment with these standards. An affirmation of compliance by the Certified Backflow Prevention Assembly Tester shall be provided to the Water & Sewer Division within ten (10) days of completion of such repairs.

(c) The owner/customer of a backflow prevention assembly which fails a test or does not meet the standards of the Program shall repair, alter or replace the backflow prevention assembly to meet such standards. The owner/customer shall have thirty (30) days from the date of the inspection report to correct any deficiencies or problems with the backflow prevention assembly.

(d) In cases of non-compliance with the BFP assembly repair requirements contained in this Section, the Water & Sewer Division Manager may repair or have repaired, at the owner/customer's expense, any BFP assembly located on the owner/customer's premises.

(e) The painted exterior surfaces of BFP assemblies, including valves and piping, shall be maintained in good condition without evidence of chipping, peeling and other deformations of the coating.

(f) BFP assemblies located on commercial customer's premises shall be painted ~~with a suitable primer and finished with two (2) coats of Forest Green Exterior Enamel~~ as set forth in the Seminole County Building Code.

(g) BFP assemblies installed on fire systems lines on the customer's premises shall be painted ~~with a suitable primer and two (2) coats of Dupont 7744D Ward La France yellow~~ as set forth in the Seminole County Building Code.

(h) Test cocks and identification tags on BFP assemblies shall not be painted.

#### **9.65. TESTER AND TESTER'S LIST**

(a) To ensure continued satisfactory operation of a BFP assembly, testing shall be performed by individuals who are trained and certified in the design, operation and testing of BFP assemblies. Certification shall be gained through the University of Florida Treeo Program for BFP assembly testers or other USC/FCCHR or FDEP approved programs.

(b) A certified BFP assembly tester must be approved by the Water & Sewer Division Manager to test BFP assemblies for owner/customer's provided service by County owned and operated public potable water system.

(c) A certified BFP assembly tester may be approved by the Water & Sewer Division Manager after supplying the Utility Division with the following information:

- (1) Copy of Current Testers Certification(s);
- (2) Expiration Date of Current Certification(s);
- (3) Name, Company Address, Telephone and Facsimile Numbers, ~~and;~~
- (4) Copy of Recent Calibration of Test Equipment, and;
- (5) A valid Seminole County Occupational License.

(d) Upon receipt and review of the information set forth in (c) above, the Water & Sewer Division may approve an individual and place him or her on the Tester's List. ~~Confirmation of approval, a current tester's list and a blank BFP assembly tester's form shall be sent to an individual approved for BFP~~

~~assembly testing.~~ Notice shall be sent to an individual who is not approved for BFP assembly testing by the Water & Sewer Division Manager. Grounds for disapproval include, but are not limited to, incorrect or insufficient information or lack of certification.

(e) BFP assembly testers are required to use testers forms approved by the Water & Sewer Division Manager. Testers forms sent to the Water & Sewer Division which are inaccurate, incomplete or non-legible shall be returned to the BFP assembly tester along with a reason for return of the tester form.

(f) A BFP assembly tester shall be deleted from the testers list if his/her certification expires ~~and the tester fails to respond to a notice from the Water & Sewer Division for updated information.~~ Any violation of the Program may be grounds for removal from the testers list.

**Section 2. Codification.** It is the intention of the Board of County Commissioners that the provisions of this Ordinance shall become and be made a part of the Seminole County Code and the word "Ordinance" may be changed to "Section," "Article," or other appropriate word or phase and that the sections of this Ordinance may be renumbered or relettered to accomplish such intention; provided, however, that Sections 2, 3 and 4 shall not be codified.

**Section 3. Severability.** If any provision of this Ordinance or the application thereof to any person or circumstance is held invalid, it is the intent of the Board of County Commissioners that the invalidity shall not affect other provisions or

applications of this Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are declared severable.

**Section 4. Effective Date/Refund.** This Ordinance shall take effect upon filing a copy of this Ordinance with the Department of State by the Clerk of the Board of County Commissioners.

**ENACTED** this \_\_\_\_ day of \_\_\_\_\_, 2006.

BOARD OF COUNTY COMMISSIONERS  
SEMINOLE COUNTY, FLORIDA

By: \_\_\_\_\_  
CARLTON HENLEY, Chairman

SD/ss  
1/21/04 12/06/05  
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