

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Electronic Sign & Seal Verification White Paper

South Florida Water Management District has implemented an electronic sign and seal solution using the method described in the Florida Administrative Weekly & Florida Administrative Code rule chapter 61G15, section 23.003 paragraphs four. This solution was modeled after Saint Johns River Water Management District.

The following paragraphs are designed to reference the rule and demonstrate the process that adheres to the rule set forth by the Florida Board of Professional Engineers. Each footnoted item is illustrated in figures supplied within this document. Paragraph (4) states,

Alternatively, electronic files may be signed and sealed by creating a “signature” file that contains the engineer’s name and PE number¹, a brief overall description of the engineering documents², and a list of the electronic files to be sealed³.

Each file in the list shall be identified by its file name utilizing relative Uniform Resource Locators (URL) syntax described in the Internet Architecture Board’s Request for Comments (RFC) 1738, December 1994, which is hereby adopted and incorporated by reference by the Board and can be obtained from the Internet Website: <ftp://ftp.isi.edu/in-notes/rfc1738.txt>.⁴

Each file shall have an authentication code defined as an SHA-1 message digest described in Federal Information Processing Standard Publication 180-1 “Secure Hash Standard,” 1995 April 17, which is hereby adopted and incorporated by reference by the Board and can be obtained from the Internet Website: <http://www.itl.nist.gov/div897/pubs/fip180-1.htm>.⁵

A report shall be created that contains the engineer’s name and PE number, a brief overall description of the engineering documents in question and the authentication code of the signature file. This report shall be printed and manually signed, dated, and sealed by the professional engineer in responsible charge.⁶ The signature file is defined as sealed if its authentication code matches the authentication code on the printed, manually signed, dated and sealed report. Each electronic file listed in a sealed signature file is defined as sealed if the listed authentication code matches the file’s computed authentication code.⁷

Specific Authority 668.006 FS. Law Implemented 471.025 FS. History–New 8-18-98, Amended 9-4-05.

Foot Notes

¹ The Professional Engineer licenses number is entered on the **Electronic Seal Verification** screen found in Figure 1 item 1. The number is then printed on the **Signature Document** Figure 4 item 1.

² The document description is entered on the **Electronic Seal Verification** screen found in Figure 1 item 2. The description is then printed on the **Signature Document** Figure 4 item 2.

³ The file name is selected on the **Electronic Seal Verification** screen found in Figure 1 item 3. The file name is then printed on the **Signature Document** Figure 4 item 3.

⁴ Uniform Resource Locators (URL) syntax is not used since files are stored in our database and not referenced via this syntax. For security reasons our internal server names and file locations are not provided.

⁵ SHA-1 calculation is done by Java API, which uses the FIPS PUB 180-1 as identified in paragraph four of 61G15-23.003. The District used an independent SHA-1 testing application located at this link. <http://www.karenware.com/powertools/pthasher.asp> This application verified that the numbers we calculate are valid.

The authentication process is performed on the **Electronic Seal Verification** screen found in Figure 1 item 4. This process produces the Authentication Code and Authentication Date in Figure 1 item 5. Any edits made to submitted files are saved to copy. Original file is not changed and SHA-1 codes are verified by our staff as matching the signature document when it is received.

⁶ Our account holders have been provided a tool to search for documents including the signature file. The account holder enters the application number and the signature file is available in the application folder. All signature files are stored with date and time of generation see Figure 3 item 1 **Application/Permit Search** tool (e.g. Signature File_08082007.html)

⁷ Our account holders have been provided a tool to verify the file and associated SHA-1 number in our database matches the submitted file on their local drive. Selecting the file on the local drive and clicking Verify Authentication Code confirms the matching filename/SHA-1 combination. This is available on the **Verify Authentication** screen found in Figure 2 item 1.

Figures

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
sfwmd.gov
 Application & Permit Information Database
 On the fast track to permit info

Username: rswise Home | Logout | Application/Permit Search | Help

Environmental Resource Permit Submittal #: 10337 Submittal Status: Pending

Electronic Seal Verification Print Signature Document Verify Authentication

* Professional Engineer (PE): John Doe P.E. **Item 1**
 * License Number: 123456

Selected	Filename	Authentication Code	Authentication Date	PE	Description
<input type="checkbox"/>	lostbro.pdf	889343CF1CDC58E9E7449624EB8AE9892D1E6BCD	08/13/2007 03:37:25 PM	John Doe P.E.	Lake Map Item 2
<input type="checkbox"/>	it estimationworkbook.xls				Project Estimations Item 5

Back to Submittal Authenticate & Produce Signature Document **Item 4**

Item 3 points to the 'Selected' column header.

Figure 1: Electronic Seal Verification Screen

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
sfwmd.gov
 Application & Permit Information Database
 On the fast track to permit info

Username: rswise Home | Logout | Application/Permit Search | Help

Environmental Resource Permit Submittal #: 10337 Submittal Status: Pending

Electronic Seal Verification Print Signature Document Verify Authentication

Select	Filename	Authentication Code	Authentication Date	PE
<input checked="" type="radio"/>	lostbro.pdf	889343CF1CDC58E9E7449624EB8AE9892D1E6BCD	08/13/2007 03:37:25 PM	John Doe P.E.
<input type="radio"/>	it estimationworkbook.xls			

This sealed file matches the file you have uploaded.
 ettings\rswise\Desktop\lostbro.pdf Browse... **Item 1**

Back to Submittal Verify Authentication

Figure 2: Verify Authentication Screen

South Florida Water Management District
All Permits Issued and Applications Received by SFWMD
 If documents have been electronically attached to the application or permit file, they will be listed here along with the Appl No#.

[New Search](#)
[Download Results](#)
 1 to 1 of 1
 First Page

Appl No#: 070813-4
Issuing Office: COL
Permit Type: Environmental Resource (New General Permit)
Project Acres: 12
Project Name: Lake Project
Location: Collier S/T2/R5
Reviewer: Not Assigned ->
Applicant: Ronda Wise 3301 Gun Club Rd West Palm Beach FL 33406
File Location:
30-Day Deadline: 12

Permit#:
Status: Initial Review
Received Date: 13-Aug-2007
Receiving Body:
Landuse(s): Sanitary Landfill

Project Description:
Contact Email Id: permits@sfwmd.gov

Documents
[List by date](#)

Applications(5)

Document Name	Date	Size
ReportSubmittalNo10337.html	Aug 13, 2007 3:46:04 PM	30.9 KiloBytes
070813-4it estimationworkbook4543.xls	Aug 13, 2007 3:46:03 PM	88.5 KiloBytes
070813-4SignatureFile_200708131537254564.html	Aug 13, 2007 3:46:03 PM	6.1 KiloBytes
070813-4lostbro4542.pdf	Aug 13, 2007 3:46:02 PM	346.8 KiloBytes
ReportAppNo070813-4.html	Aug 13, 2007 3:45:59 PM	30.9 KiloBytes

CorrespondenceTeletphoneCalls(2)

Document Name	Date	Size
MailSubmittalNo10337.rtf	Aug 13, 2007 3:46:04 PM	340 Bytes
MailAppNo070813-4.html	Aug 13, 2007 3:46:00 PM	870 Bytes

[Close Me](#)

[Privacy Policy](#) | [Disclaimer](#) | [User Survey](#)

Figure 3: Application/Permit Search Tool

SFWMD ePermitting System
Professional Engineer Signature Document

This document is signed and sealed to secure the data in this permit application and any attached files that were submitted electronically as described in Florida Department of Business and Professional Regulation, Board of Professional Engineers, Procedures for Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents, Rule 61G15-23.003, F.A.C.

SFWMD Submittal No: 10337
Applicant/Owner Name: rswise
Project Name: Lake Project
Permit Type: ERP
County: COLLIER

Signature Document Created: Mon Aug 13 15:37:25 EDT 2007

The following files are attached and sealed:

FileName	Authentication Code (SHA-1)	Authentication Date
lostbro.pdf	889343CF1CDC58E9E7449624EB8AE9892D1E6BCD	08/13/2007 03:37:25 PM
Description: Lake Map		

The seal appearing on this document is authorized by:

Professional Engineer (PE): John Doe P.E.
License No.: 123456
Date: 08/13/2007 03:37:25 PM
PE Signature:

Seal:

Figure 4: Signature Document