

D4 PROJECT ELECTRONIC LETTING PROCESS — PRODUCTION & CHANGE MEMO (Central & District Office Letting)

Rev. 11/08/23

SUBMITTAL USEFUL LINKS

- ERC-distribution List
- Compliance Certificate Checklist
- Phase Submittal Checklist
- FDOT Design Manual (FDM)
- FDOT CADD Manual

1
Production Complete Submittal or Resubmittal with Change Memo Submittal (Total Concerns)

DELIVERY FORMAT

Example: Project 441234-1-52-01

- 441234-1-52-01_PRODUCTION.zip
- 44123415201-ADMIN.zip
- 44123415201-CADD.zip
- 44123415201-CADD/_meta_info/ProjectProperties44123415201.xml
- 44123415201-CADD/_meta_info/ProjectQCRReport.txt
- 44123415201-CADD/_meta_info/ProjectValidatorReport.html
- 44123415201-PLANS-##-DISCIPLINE.pdf
- 44123415201-PLANS-##-DISCIPLINE-COREBORINGS.pdf
- 44123415201-PLANS-##-DISCIPLINE-VERIFIEDUTILITIES.pdf
- 44123415201-PLANS-##-DISCIPLINE-TREESURVEY.pdf
- 44123415201-PLANS-##-DISCIPLINE.pdf
- 44123415201-PLANS-##-DISCIPLINE.pdf
- Journal.pdf
- 44123415201-CompCertificatechecklist.pdf
- 44123415201-PhaseSubmittalChecklist.pdf

PROJECT DELIVERY

The secured **Project Package**, including all required components ^{*1}, are delivered to the FDOT Project Manager using FDOT File transfer (**FDOT PM**).

***1 Required Project Delivery include:**
Ref: *CADD Manual, Chapter 8 - FDOT CADD Production Criteria Handbook*

- PROJECT JOURNAL
Ref: *Chapter 7.7*
- Plans Components PDF files
Ref: *Chapter 8.4.1*
- 3D Model PDF Files (if applicable).
Ref: *Chapter 8.4.2*
- Specifications PDF Files
Ref: *Chapter 8.4.3*
- CADD ZIP Files or BIM ZIP Files (3D files)
Ref: *Chapter 8.4.4*
- Project Documentation (ADMIN ZIP files)
Ref: *Chapter 8.4.5*
- Project QC Files
Ref: *Chapter 8.4.6*

Consultant Projects ONLY
The **FDOT PM** provides a Letter of Transmittal to the Consultant.
(Ref Chapter 8.3 - CADD Manual).

FDOT PM checks required Project Documentation in Project Package. Is info complete? ^{**2a}

YES → **FDOT PM** provides the **Project Package** and **original documents** ^{**2a} to **Eng Support**

NO → **FDOT PM** will notify the problem and request resubmittal.

1

Eng Support checks required Project Documentation in Project Package. Is info complete? ^{**2a}

YES → **Engineering Support** emails NCI Score and recommendation to **FDOT PM** and **Final Plans**.
(Attachments to include: D4 ED Checklist w/ NCI Score and other reports if applicable).

NO → **Eng Support** notifies the **FDOT PM** and **Final Plans** of problem and requests resubmittal.

1

Engineering Support delivers the **Project Package** ^{**2a} and **original documents** ^{**2a} to the **AUTODESK VAULT** and notifies **Final Plans**

FINAL PLANS: Performs a Quality Assurance (QA) inspection on the **Project Package** ^{**2a}, or on the resubmitted Project Package (Change Memo submittal).

2

2

Is all project information in compliance and complete?

Yes → **Final Plans** extracts the Plans & Specs from **Autodesk Vault**

No → **Final Plans** issues a **Total Concerns Memo** to the **FDOT PM**, and requests a **Change Memo** Submittal.

1

Download Package from Autodesk Vault and Verify Components

Yes → **Final Plans** posts the Plans & Specs package directly to a shared PSEE/MODULE.

No → **Final Plans** issues a **Total Concerns Memo** to the **FDOT PM**, and requests a **Change Memo** Submittal.

1

PS&E* DELIVERY- Central Office Letting

Final Plans posts the Plans & Specs package directly to a shared PSEE/MODULE.

ESTIMATES:

- District Estimates Office pass control of TRNS*PORT proposal/projects to CO Estimates.
- CO Project Review Group pass control of TRNS*PORT proposal/projects to CO Contracts after QA review (Verify TRNS*PORT file is OK for letting).

* PS&E = Plans Specifications and Estimates

PS&E* DELIVERY – District Letting

Final Plans posts the Plans & Specs package directly to a shared PSEE/MODULE.

ESTIMATES:

- District Estimates Office pass control of TRNS*PORT proposal/projects to District Contracts Office.

* PS&E = Plans Specifications and Estimates

PLANS & SPECS VALIDATION

Central Office Project Review performs a **Functionality Check** on the Plans and Specs Package

Yes → **Central Office Project Review** notifies **Final Plans** of problem and requests resubmittal.

No → **Central Office** notifies **FDOT PM** & District **Final Plans** of Acceptance

1

District Contract Office accepts project.

ANY CHANGES MADE AFTER THIS POINT ARE HANDLED AS REVISIONS

The **Central Office Project Review** posts the Plans & Specs Package to a "Project Folder" for access by the Federal Aid Office, FHWA, State Estimates Office and the Contracts Office.

ANY CHANGES MADE AFTER THIS POINT ARE HANDLED AS REVISIONS

FILE STORAGE

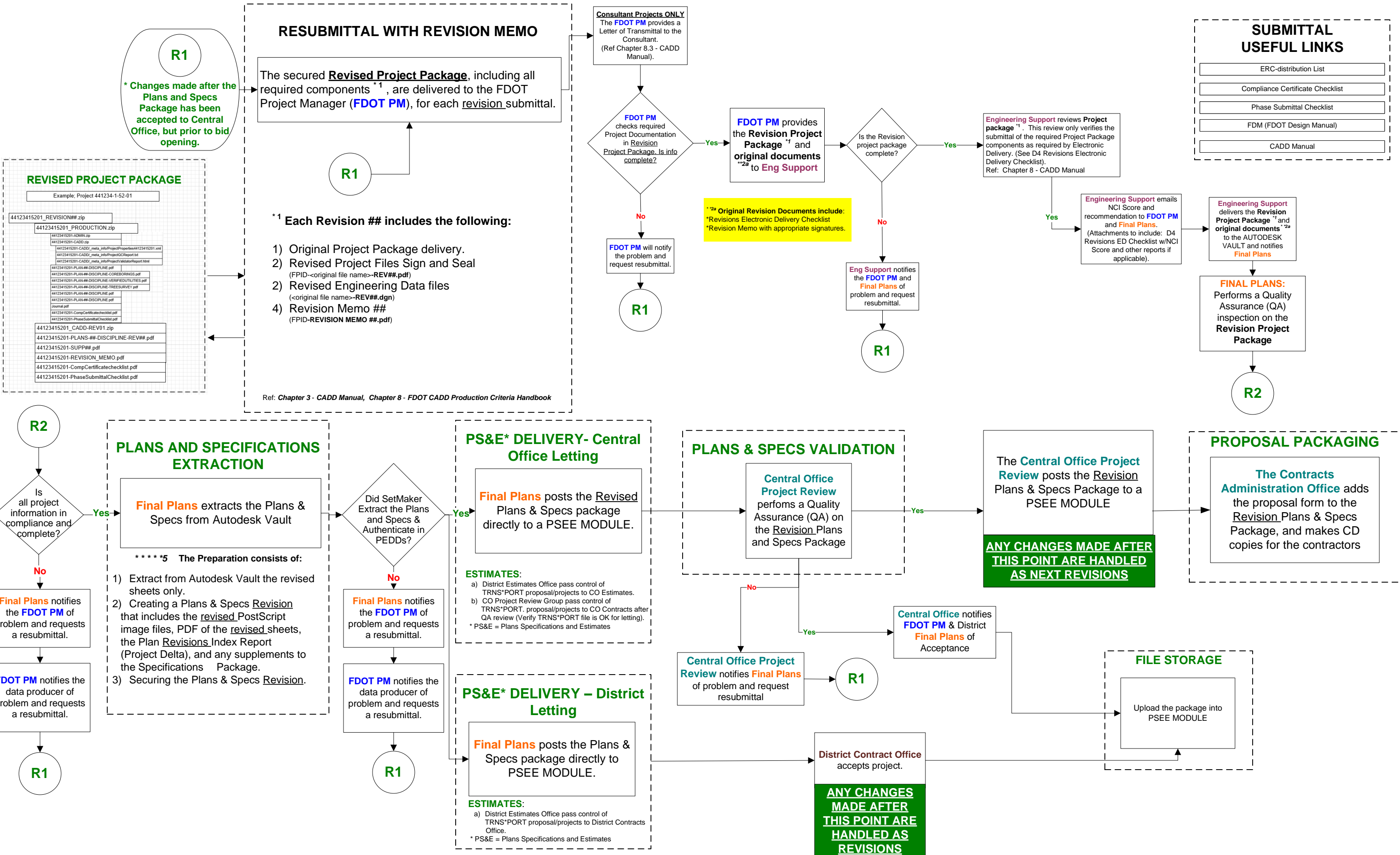
At this point, **Final Plans** stores both the **Project Package** in the **PSEE / MODULE**

PROPOSAL PACKAGING

The **Contracts Administration Office** adds the proposal form to the Plans & Specs Package, and makes copies on CD for the contractors.

D4 PROJECT ELECTRONIC LETTING PROCESS -- REVISIONS (Central & District Office Letting)

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PROJECT ELECTRONIC LETTING PROCESS

GLOSSARY OF TERMS

The following terms are used throughout Electronic Delivery documentation:

Authentication - The process of comparing the PEDDS generated message digests (SHA-1 Hash Codes) of the manifest file and signature files for an on-hand delivery file set to those stored on a PEDDS generated, signed manifest document for a specific delivery. This process is similar to validation, but extends the process to the signed paper manifest document.

Authorization - The event in which the project is certified as ready to be advertised for letting.

Change Memo - A document received from the FDOT PM in response to a Total Concerns memo. The Change Memo must include the response to each one of the change requests made in the Total Concerns memo. It must be delivered to the FDOT PM with a new project submittal.

Change Report - An automatically generated HTML report that is created by the Project Delta application. It contains information about sheet-specific differences between a secured, delivered file set and a new, corrected file set.

Compliance Certification Worksheet - A document that contains the data producers certification that all items required by the CADD manual are included in the project.

Composite PDF - A single document which contains all plan sheet images in index order. This file must be in Adobe Portable Document Format, reside in the project's root directory, and be titled 'Project.PDF'. This report can be automatically generated by the Project Browser application.

Component - A categorization of design plans as defined in Chapters 2 & 3 of the FDOT Plans Preparation Manual, Vol. 2. The list of components is explicitly comprised of the following:

Roadway Plans, Signing and Pavement Marking Plans, Signalization Plans, Lighting Plans, Landscape Plans, Architectural Plans, Structures Plans. As such, all applications in the electronic delivery suite of tools can only recognize the components listed above.

The components do not directly correspond to the project directory structure. For example, Drainage files have a folder at the root level of the project, but are to be listed as part of the Roadway component.

Correction - See *Plans Change*.

Delivery - A set of electronic files-generally corresponding to a Department work-project-secured by the PEDDS process, plus additional project metadata.

Delivery Key - A unique message digest (SHA-1 hash code) used to reference the delivery. The delivery key is the message digest (hash code) of the delivery's manifest file.

Electronic Data Indexer (EDI) - Electronic Delivery Index, or EDI, has been developed to provide designers with the ability to quickly build an index from a set of plans. It is designed to work in conjunction with the Department's required CADD package, Bentley MicroStation.

Hash Code - See *Message Digest*.

Index - An XML file created by EDI that contains metadata concerning all files that have been identified as sheets in a project directory. This file is titled 'ProjectIndex.XML' and must reside at the root of the project. This is the only file that the Electronic Delivery suite of tools recognizes as an official index.

Journal - Documentation that is included with a project, detailing the decisions made, methods used, and actions taken on the project as they occur. This is maintained in the form of electronic documentation, comprising the all journal files for the project. Design variations and exceptions can be thoroughly documented as part of the journal. The Professional of Record is responsible for the overall journal for the project.

The Electronic Delivery suite of tools provides a Journaling application to fulfill this requirement.

Letting - The process of advertising, selection, and award of a contract for the construction of a project.

Letting CD - The compact disk prepared for the letting process consisting of plans, specifications, and a front-end "kiosk" application that offers easy access to bidding documents.

Manifest Document - A signed paper document used to secure a manifest file and to reference the signature files in the project delivery corresponding to the manifest. By signing the manifest document, one has associated their name to the manifest file that corresponds to the hash code on the paper document. The manifest file lists the project files by URL and the project files' hash-codes, thus the signatory has signed the files listed in the manifest.

Manifest File - The XML file, created and maintained by PEDDS, used to define and secure the entire contents of a project delivery. This file is titled 'Manifest.XML' and will always reside in the project's _meta_info sub-directory

Message Digest - An alphanumeric string that is generated by a one-way cryptographic algorithm and used by PEDDS to process and identify the contents of a file. This is often referred to as a hash code. Every electronic file has its own unique hash code based on its content.

MicroStation Batch Plotting (MSBP) - MicroStation Batch Plot (MSBP) is an application that employs MicroStation plotting to produce consistent output using the standard plot borders included in the FDOT cell libraries.

PEDDS - The Professionals' Electronic Data Delivery System (PEDDS) is an application used to simplify the tasks involved with file security. PEDDS allows users to sign electronic files, ensuring that users can easily test to determine if a project has been changed, corrupted or tampered with.

Plans & Specs CD - A file set containing a subset derived from the Project CD containing only those items needed to prepare a letting CD. Though the term refers to a CD, the file set may be stored or transmitted electronically.

Plans Change - Chapter 20 of the Plans Preparation Manual defines a "plans change" as a modification to the plans after Estimates has changed the Control Group, but before the plans are sent to the FDOT Central Office.

Project - An entity, corresponding to a Department work-project, that uniquely identifies a delivery or collection of deliveries containing electronic files made during the creation of the work-project. Multiple deliveries can exist for a single project, each representing the status of the project at the time of delivery. Work-projects are identified by the Department through the Financial Project Identification Number and related project identification, but the PEDDS and PEDDS DB systems use a generated, unique identifier-the project key-to identify the project. All deliveries corresponding to a particular project will share the same project key.

Project Browser - Project Browser is an application that simplifies the tasks of quality assurance and report generation, while providing a graphical interface for project review. It allows users to view an overview of a project, including all components, design files, file sheets and project journals.

Project CD - A CD containing all data associated with a project, including all files on the Plans & Specs CD, all design files, all reference files, project journals, etc.. Though the term refers to a CD, the file set may be stored or transmitted electronically.

Project Delta - Project Delta is a report generating application used to simplify the job of keeping track of file changes after revisions and corrections. Users can quickly identify and report on any indexed differences between two deliveries of the same project.

Project File - Final Plans stores the original hardcopy project documentation in a storage file cabinet located in Final Plans District Office.

Project Key - An alphanumeric character string, generated by PEDDS, that uniquely identifies a project. This number is unique across all projects that are secured using PEDDS and identifies one project and one project only.

PROJECT ELECTRONIC LETTING PROCESS

GLOSSARY OF TERMS (continued)

Project Root Directory - The file system directory that contains all project files and folders. The project root directory should not contain files that do not pertain to the project, nor should files that are part of the project reside outside of the project root directory or one of its subfolders.

The folder structure is defined in Chapter 4 of the CADD Production Criteria Handbook.

qSheet - qSheet is an application in the FDOT 2002 Electronic Delivery suite of tools which offers designers and contractors an easy means to print all or part of an indexed project sheet set.

Quality Control Reports - Reports that must be included with the final project delivery: the Compliance Certification Checklist and all reports listed therein.

Revision - Section 20.4.1 of the Plans Preparation Manual defines a revision as a modification to the plans package after it has been accepted to Central Office but prior to bid opening.

Revision Report - An automatically generated HTML report, created by the Project Delta application. In contains information about differences between indexed items in a secured project delivery and indexed items in a new, revised file set.

In contrast with a Correction report, the Revision Report also contains embedded XML data that will allow the SetMaker application to generate a set of revised files. This report is generated prior to the securing of the revised project and should be included in the delivery for the revised project.

Revision Set - The set of files that denote changes to indexed items from one delivery to the next, as well as the revision report that defines them.

Because Revision Sets are managed as independent entities and must be authenticated, unique signatories must be created and used for each revision set during the project revision process.

Securing Files - The act of creating and storing a SHA-1 message digests for a specific file or file set. Message digests and relative file paths are kept in the project's Manifest.XML file, which in turn will allow PEDDS to validate secured files.

Seed Project - A seed project is a folder set that contains all folders as listed in Chapter 4 of the FDOT CADD manual, as well as the project configuration file and various journal RTF files. Once a seed project is created, it is ready for the Production phase.

SetMaker - SetMaker is an application in the FDOT 2002 Electronic Delivery suite of tools. Its intent is to assist in the validation and generation of the various types of electronic project file subsets that are required during the lifespan of a project.

SHA-1 - Hash Standard US Secure Hash Algorithm 1 (SHA 1) is a secure hash standard which produces a condensed representation of a message or data file. The SHA-1 is called secure because it is computationally infeasible to find a message which corresponds to a given message digest, or to find two different messages which produce the same message digest.

Sheet - Electronic Delivery applications recognize a sheet as a discreet image file that is listed in the project index. It must belong to a component and have a defined discipline.

Sheet Index - See *Index*.

Sheet Index Report - An HTML report which is derived from the project's Index (the 'ProjectIndex.XML' file). The report file must be titled 'SheetNDX.HTM' and must reside in the project's root directory.

Sheet Navigator - The Sheet Navigator browser is an application that allows users to easily browse and open MicroStation files containing sheets for verification or editing. It's purpose is to 'tag' sheets with data that supports later Electronic Delivery Indexing and Plotting. Sheet Navigator is a foundation utility for subsequent Electronic Delivery processes, and should be run against every MicroStation design file in the project that has sheets in it and checked that the sheet data is both extracted and edited properly.

Signatory - The person or professional who secures files in a delivery using a signature file and document. If the signatory is a professional, signatures will be governed by rules defined by the Florida Boards of Professional Regulation.

A professional may have multiple signatories in a project as needed by the revision process. See *Revision Set* for more details.

Signature Document - A physically signed or signed-and-sealed paper document used to secure a signature file. Florida and Federal law accept the association of a physical signature with an electronic document. The Florida Boards of Engineering and Surveying and Mapping have adopted rules whereby professionals can electronically sign and seal electronic documents in accordance with these laws. Therefore, by signing the signature document, the signatory is, by proxy, signing and sealing all files that are listed on the report.

A professional may have multiple signatories in a project as needed by the revision process, and as such, may have multiple Signature Documents associated with a project. See *Revision Set* for more details.

Signatory File - A file that defines the project files that a signatory is going to sign or sign-and-seal. All signatory files are created by PEDDS and resides in the project's \meta_info sub-directory.

Signing - The act of securing a set of files under a signature file without the benefit of signing-and-sealing under Florida Boards of Professional Regulation rules. This implies that the signatory is a lay person and not a professional. Signing a file adds file information to the signatory's signature file.

Signing and Sealing - The act of securing a set of files based on the rules defined by the Florida Boards of Professional Regulation governing signing-and-sealing electronic files. These rules provide for:

- a signature file to define the type of professional that is signing and sealing (i.e., engineer or surveyor)
- the professional's name, number, and scope of work
- the list of files-defined by relative URL and hash-code-that are to be signed and sealed

Signing and sealing can only be done a by professional. Signing and Sealing a file adds file information to the signatory's signatory file.

Strung Project - Two or more projects that are let in the same contract.

Subconsultant - A consultant, separate from the primary consultant, who performs work for a project under the hire of a prime consultant.

Subdelivery - A delivery of files made by a subconsultant to a consultant, prime consultant or project manager.

Subproject - A complete project that is let with other projects as part of a strung project. One of multiple projects that constitute a strung project.

Subset - A set of files that is entirely derived from a secure delivery file set.

Total Concerns Memo - A document, issued by District Final Plans to the FDOT PM, that lists all the problems found during the Quality Assurance check of the project. By this memo, District Final Plans requests a new delivery from the FDOT PM. The new delivery must be accompanied by a Change Memo signed by the FDOT PM (in-house projects) or by the Consultant (Consultant projects).

Validation - The automated comparison of file message digests and signatory security information in the project's manifest file against information that is calculated from a delivery that is on hand. Whereas Authentication compares the results with those on the Manifest Document, validation merely tests to determine if the project file set has been altered in any way since the project was secured.

DELIVERY FORMAT

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- 44123415201-ADMIN.zip
- 44123415201-CADD.zip
- 44123415201-CADD/_meta_info/ProjectProperties44123415201.xml
- 44123415201-CADD/_meta_info/ProjectQCReport.txt
- 44123415201-CADD/_meta_info/ProjectValidatorReport.html
- 44123415201-PLAN-##-DISCIPLINE.pdf
- 44123415201-PLAN-##-DISCIPLINE-COREBORINGS.pdf
- 44123415201-PLAN-##-DISCIPLINE-VERIFIEDUTILITIES.pdf
- 44123415201-PLAN-##-DISCIPLINE-TREESURVEY.pdf
- 44123415201-PLAN-##-DISCIPLINE.pdf
- 44123415201-PLAN-##-DISCIPLINE.pdf
- Journal.pdf
- 44123415201-CompCertificatechecklist.pdf
- 44123415201-PhaseSubmittalChecklist.pdf

- 44123415201-ADMIN.zip
- 44123415201-CADD.zip
- 44123415201-CADD/_meta_info/ProjectProperties44123415201.xml
- 44123415201-CADD/_meta_info/ProjectQCReport.txt
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- 44123415201-PLAN-##-DISCIPLINE.pdf
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- 44123415201-CADD.zip
- 44123415201-CADD/_meta_info/ProjectProperties44123415201.xml
- 44123415201-CADD/_meta_info/ProjectQCReport.txt
- 44123415201-CADD/_meta_info/ProjectValidatorReport.html
- 44123415201-CADD/_meta_info/GeoCoordinateReport (if applicable).
- 44123415201-PLANS-##-DISCIPLINE.pdf
- 44123415201-PLANS-##-DISCIPLINE-COREBORINGS.pdf
- 44123415201-PLANS-##-DISCIPLINE-VERIFIEDUTILITIES.pdf
- 44123415201-PLANS-##-DISCIPLINE-TREESURVEY.pdf
- 44123415201-PLANS-##-DISCIPLINE.pdf
- 44123415201-PLANS-##-DISCIPLINE.pdf
- Journal.pdf
- 44123415201-CompCertificatechecklist.pdf
- 44123415201-PhaseSubmittalChecklist.pdf

REVISED PROJECT PACKAGE

Example; Project 441234-1-52-01

- 44123415201_REVISION##.zip
- 44123415201_PRODUCTION.zip
- 44123415201-ADMIN.zip
- 44123415201-CADD.zip
- 44123415201-CADD/_meta_info/ProjectProperties44123415201.xml
- 44123415201-CADD/_meta_info/ProjectQCReport.txt
- 44123415201-CADD/_meta_info/ProjectValidatorReport.html
- 44123415201-PLAN-##-DISCIPLINE.pdf
- 44123415201-PLAN-##-DISCIPLINE-COREBORINGS.pdf
- 44123415201-PLAN-##-DISCIPLINE-VERIFIEDUTILITIES.pdf
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- 44123415201-SUPP##.pdf
- 44123415201-REVISION_MEMO.pdf
- 44123415201-CompCertificatechecklist.pdf
- 44123415201-PhaseSubmittalChecklist.pdf

